UNDERSTANDING DESIGN THROUGH DECONSTRUCTING CURRICULUM:
A COMPARATIVE STUDY OF VISUAL ARTS PROGRAMS
AT THE PENNSYLVANIA STATE UNIVERSITY AND PRATT INSTITUTE

A Thesis in
Art Education

by
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This study explores conceptual meanings of design within visual arts programs at the Pennsylvania State University and Pratt Institute. The Pennsylvania State University is a research-focused, multipurpose institution, while Pratt Institute is an art-focused, independent institution in New York City. Visual arts programs are framed for this study by selecting the schools at the two institutions that contain the word art, design, or art education on their titles of programs. To understand the conceptual meanings of design at the institutions, I analyzed the text produced by the institutions. Sources of the text include institution context, institutional strategic plans, and mission. I analyzed the text through contextualizing the word design in the text to uncover how the word shapes arguments. By comparing and contrasting the text analysis, I find the word “design” in the text acts like a methodology. The notion of design as a methodology resonates with the flexible and fluid nature of the concept of design, resulting in the similarities and differences of the conceptual meanings of design between the institutions.
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Chapter 1

Introduction

In *Teaching Design: A Guide to Curriculum and Pedagogy for College Design Faculty and Teachers Who Use Design in Their Classrooms*, design educator Meredith Davis (2017) pointed out a situation of design education in which “architecture and design faculty have neither preservice nor in-service training for their role as teachers” (p. v). Her statement struck me not only because she identified a general problem in design education but also because I was one of the kind of faculty who arrived as a part-time instructor in academia without training for being a teacher. I was qualified to teach at a college, not because I have practiced teaching, but because I have a master’s degree in Communications Design and experiences in the Industry.

I majored in Communications Design and had been working in a publishing company for several years. I worked as an editorial designer for a magazine and various publishers. While working in the company, I began teaching at the college level as a part-time instructor. Knowing nothing about curriculum and pedagogy, I designed my curriculum based on what I learned from the design school and what I experienced while practicing design. Because the course I taught was a part of general education, the students came from diverse fields, such as engineering, literature, and business administration. Taking account of these students who were not from an art or a design major and might not intend to work as an artist or a designer in the future, I started to explore what these students could benefit from learning in design. I recalled the design procedure I learned from the school and observed the process of designing a magazine at work. I realized that design is composed of elements more than artifacts. Thinking of design as something beyond an artifact leads to many possibilities of conceptual meanings of design, providing a new perspective on teaching design in general education.
With this realization, I designed my course by investigating how designers provide solutions to a problem. I used projects to explain how solutions were developed and what strategies and design principles were applied. I often brought the projects I was working on into the class to describe the details of the design process and the process of communication with colleagues and clients. I practiced my teaching with this approach in mind because I believed that design is not only a product but also a process, not only a tangible artifact but also an intangible idea, and not only a discipline but also an integrative practice. As a design practitioner and educator standing between a studio and classroom, I could not help but bring my practice of design into my teaching. Design informed what I teach and how I teach.

It is critical to understand design not only for designers who practice design but also for those who adopt a design-based approach in their teaching. However, it is not easy to understand design since even professionals have difficulties in reaching consensus about the meaning of design. Like the constantly changing definition of art, if you ask two designers the definition of design, you might get very different answers. For some, design is a product that embodies expressive and functional attributes, while for others, it is a process that involves problem-solving activities. For advocates of design education, design is a discipline with its philosophy of knowing and doing.

My understanding of design builds on both training at school and practice in the industry. I studied Communications Design at Pratt Institute in New York City. This school was the first place where I started to learn design. After graduating, I practiced design in the field and experienced design processes with various projects. Meanwhile, I also got a chance to teach at the college level; therefore, I could rethink the meaning of design in education. Nevertheless, after teaching for several years, I often thought that I would become a teacher after having more and more teaching experiences, although, conversely, I did not know how to become a teacher. This
thought motivated me to enroll in an art education graduate program at The Pennsylvania State University (Penn State).

At Penn State, I paid particular attention to curriculum and pedagogy, the subjects with which I was not familiar. I intended to explore possibilities of applications on the concept of design in art and design education. In art education, the concept of design has evolved constantly and expanded its territory, from a part of art theory to a way of teaching. In the beginning, design was an art theory developed to study elements and principles of design, providing another approach to teach art (Efland, 1990; Stankiewicz, 2001). With this historical context, boundaries between design and art are blurry. To distinguish design from art, there have been many exciting and challenging discussions about the ambiguous relationship between art and design (Coles, 2007; Kraehe, 2018; Munari, 1966; Zinsmeister, 2013; Zwirn & Vande Zande, 2015), and design researchers and educators have been devoted to the study of design as a discipline (Archer, 1979; Buchanan & Margolin, 1995; Cross, 1995). Although the debates about the relationship between art and design are vehement in the field, the concept of design in visual arts programs at educational institutions, where future artists, designers, and educators are cultivated, remains few in investigations. There is little analysis of the visual arts programs regarding conceptual meanings of design within the institutional context.

Pratt Institute and Penn State are two places where I shaped my thinking. Penn State is a research-focused, multipurpose institution, while Pratt Institute is an art-focused, independent institution in the city. Despite their different focus, they both have a significant influence on what I think and how I think. As a former student at Pratt Institute and student at Penn State, I have observed differences in the climate, courses, faculty resources, as well as curricula and pedagogy. The differences come from the interaction between the institutional context and curricula, establishing different cultures of visual arts programs. Davis (2017) argued that a curriculum is the content of an educational experience, so it is essential to ensure that students understand “the
concepts at the heart of the discipline” (p. 48). Since the concepts of the discipline are so critical for a curriculum, I ask what are the conceptual meanings of design within the visual arts programs at Penn State and Pratt Institute and what are the implications for art education?

**Framing Visual Arts Programs**

Due to different systems for organizing schools, I framed the visual arts programs at Penn State and Pratt Institute relevant to the purpose of this study. The purpose of this study is to seek an understanding of the meanings of design at two educational institutions. Accordingly, I identified three keywords for searching: art, design, and art education. I searched the schools at the institutions which contain art, design, or art education in their program titles. At Penn State, most of these programs are within the School of Visual Arts and the Stuckeman School, both schools are in the College of Arts and Architecture. At Pratt Institute, these kinds of programs are incorporated in the School of Art and the School of Design. Consequently, I framed the visual arts programs under these schools for this study:

- Penn State: the School of Visual Arts and the Stuckeman School
- Pratt Institute: the School of Art and the School of Design

**Research Questions**

In *Understanding Curriculum: An Introduction to the Study of Historical and Contemporary Curriculum Discourses*, curriculum theorists William F. Pinar, William M. Reynolds, Patrick Slattery, and Peter M. Taubman (1995) argued that in order to understand curriculum, one requires reading and interpreting text and discourse produced by the field, because the curriculum field is textual, comprised of a series of intersecting and separate
discourses (p. 50). They explained that the concept of text is borrowed from poststructuralism, emphasizing the relation between human action and social reality. The concept of text implies not only “a specific piece of writing” but also “social reality itself” (p. 48). With the ideas of reading, interpretation, and meaning for understanding, I asked, what if I read closely into the text in the visual arts programs at Penn State and Pratt Institute, the places in which artists and designers are prepared. What conceptual meanings of design will emerge so that we might gain a better understanding of design? Accordingly, this study intends to satisfy my main research question:

What are the conceptual meanings of design within the visual arts programs at Penn State University and Pratt Institute and what are the implications for art education?

In this inquiry, the text that represents the visual arts programs at the two educational institutions needs to be analyzed. The text collected is analyzed in answering the following sub questions:

1. What are the similarities and differences of meanings of design within the visual arts programs at Penn State University and Pratt Institute?

2. How was the word design contextualized within the text?
Chapter 2
Reconceptualizing Design in Art Education

Thinking about design always ushers me to a complicated process crisscrossed with culture and commerce, art and craft, problem and solution, product and process, form and function, as well as aesthetics and utility. In art education, the elements and principles of design were identified as key to understanding art (Efland, 1987). However, when the notion of design as a discipline was advocated, the concept of design expanded its territory to other disciplines such as technology, engineering, business, and education. Understanding design is as complicated as understanding art. To understand design, scholars have developed their own way to study design as a discipline in its own right. In this chapter, I reviewed some literature and looked for what design means across this literature and how the scholars come to an understanding of design. After analysis, I identified eight metaphors: design as (1) art theory, (2) discipline, (3) thinking, (4) culture, (5) problem solving, (6) learning, (7) collaboration, and (8) pedagogy, on which I elaborate below.

Design as Art Theory

Teaching design in art education has been a central feature of the art curriculum. The concept of design was a theory developed for a systematic study of ornament and natural motifs (Efland, 1990; Stankiewicz, 2001). Art educator Nancy R. Johnson (1992) examined the concept of design through reviewing selected design literature because she found the concept of design remained unexamined although instruction in design was popular at that time. She reviewed historical concepts in design as a basic art concept and argued that design is a human concept, a
product of socially constructed thought that varies with time and place. She discussed various meanings of design that have prevailed at different times and places in Western cultures by using changing root metaphors. She explained that metaphors could function on either a surface level in language or a deeply embedded cognitive level so as to inform thought and construct knowledge. The root metaphors she suggested included the following: disegno/dessin, nature, ornament, order/geometry, and visual grammar and expression.

Johnson (1992) described these root metaphors in detail. Design-as-disegno/dessin assumes that the value of ideas and ideal forms exist as reflections of underlying truths in nature. Design at this point can be understood as something intrinsic to a work of art with which the artwork can be deconstructed into its constituent parts to study apart from the idea that these parts are meant to reflect. The notion of design-as-nature indicates a gradual shift from the ideal form to God to the material world, resulting in the identification of individual elements and principles that could be utilized to create and evaluate artifacts human beings design. Design-as-ornament reveals the relation to concerns of designers and manufacturers in the late nineteenth and early twentieth centuries. A popular approach in design education was the use of pattern books, those pattern books that show historical styles, decorative moldings, ornamental patterns from natural forms, and motifs from the textiles and crafts from various cultures (Dresser, 1873/1973). Design-as-order/geometry emphasized order, proportion, and geometry in the model that nature provides. Design is something not only grounded in the material world but also described abstractly, the abstractions that can be conceptualized in principles. The last root metaphor Johnson characterized is Design-as-visual grammar and expression. Design in this metaphor is thought of as a visual language through which the parts are constituted and organized in the art form, communicating ideas composed by design grammars.
After Johnson’s study about design, design educator Kees Dorst (2006) wrote a book, *Understanding Design*, including 175 essays on the subject of design. He also used metaphors to help him understand design. Dorst wrote the book from his experiences as a designer, design researcher, and design educator and tried to find a balance between practice and theory. He provided a panoramic view from qualities inside design, from issues about design, from a designer’s perspective, from design context, and from design in the real world. Throughout the book, he has used several metaphors to describe design, such as applied creativity, problem-solving, learning, evolution, a social process, a game, and a way of thinking. Moreover, he argued that the metaphor a designer chooses would shape how the designer works and deals with others because the designer actively uses metaphors in design work. The metaphor influences designer’s response in a design situation. Therefore, when he searched for a fruitful metaphor for looking at design, he liked design as an exploration and suggested that any metaphor could be analyzed in terms of design knowledge, design strategies, design frames, and the judgments that designers make.

Although both Johnson and Dorst adopted the same approach to understand design, they suggested different kinds of metaphors. Unlike Johnson, who considered design as part of art theory developed for understanding art, Dorst saw design as a discipline with its way of knowing and doing. Similarly, to distinguish design from other activities, particularly fine art, museum educator Helen Charman (2013) located design within three taxonomies. These taxonomies were design history, design culture and design studies, interpreting how design has emerged as a discipline in its own right. From her point of view, design history focuses on single objects and creative individuals, while design culture explores design through human experiences within broader social networks. Design studies seek to understand what positions design take and
proposes design as a systematic discipline distinct from other related fields. Charman (2013) argued that these perspectives formulate a disciplinary context for understanding design.

Both design culture and design studies draw attention to social interactions in broader contexts of design, but design studies take a more critical approach moving the focus of research away from just making things look functional and stylish. Design studies scholars argued that design is a discipline with its principles and methods (Archer, 1979; Buchanan & Margolin, 1995; Cross, 1995). Design scholar Nigel Cross (2006) aimed to establish the theoretical bases for proposing design as a coherent discipline of study, a form of design education not necessary to prepare students for a profession in design practice but relevant for everyone. He argued that design is a valid subject of study for everyone, underlined by the intrinsic values of design. He investigated intrinsic values of design through elaborating design processes and design products. In design processes, designers rely on their abilities to resolve ill-defined problems, adopt solution-focused cognitive strategies, employ abductive or oppositional thinking, and use of non-verbal modeling media. When considering design products, designers examine how objects are made because in our material culture, objects are a form of knowledge about how to satisfy specific requirements and about how to perform certain tasks. They are the intrinsic values of design, which not only designers should develop but also everyone can learn through studying design.

There are different purposes for conceptualizing design as a discipline. Building upon his practices and studies, Italian designer Massimo Vignelli provides his rationale for design as a discipline. He has said, “If you can design one thing, you can design everything.” He characterized this ethos as “design is one,” signifying that no matter what the content, the methodology is the same (Remington, 2012). It is not saying that the methodology per se is the same but the nature of design, which is the intrinsic value of design, is the same so that diverse design problems can be solved through designing. In Vignelli’s book, The Vignelli Canon (2015),
he explained that there is a design discipline that designers should master to be able to design anything, a design discipline essential on every project. He wrote, “Design is one - it is not many different ones. The discipline of Design is one and can be applied to many different subjects, regardless of style” (p. 22). For Vignelli, design is a discipline, a creative process with its own rules so that this process can control the consistency of its output, leading toward its objective in an expressive way. This idea has an implication in which the boundaries that we used to recognize discrete design disciplines such as product, graphic, interior, and fashion design have continued to dissolve, indicating that design has progressively not differentiated by its form of product.

Design scholars Paul A. Rodgers and Craig Bremner (2016) also noticed these dissolving boundaries in design. They posited that the terrain of design practice, education, and research are continuing to extend beyond the boundaries of the single discipline that divided by traditional design practices such as product, graphic, textile, and fashion design. These professional boundaries now exist in indeterminacy and fluidity. Rodgers and Bremner (2011) exemplified the Rem Koolhass and IDEO collaboration in the Prada Store in New York City, in which the lines between product design, interior design, and service design did not exist. They argued that in many contemporary projects the boundaries among design disciplines are blurry. Furthermore, they observed that modern design pursuits activities supported by other disciplines such as fine art, engineering, anthropology, computer science and business. For example, mobile phone companies offer not only a physical artifact but also subscription to their services of music and video downloads. Because of blurry lines among traditional design disciplines, they suggested a new paradigm, a new perspective of thinking design as an “Alterplinarity – Alternative Disciplinariness”.

Alterplinarity, as Rodgers and Bremner (2011) argued, is a space where the creative practitioner travels through signs and formats, the passage that refers to “a contemporary
experience of mobility, travel and transpassing” (p. 9). The aim of this passage is not on destinations but on materializing trajectories, and the form of the work expresses not a fixed space-time but a course, a wandering. Availability of digital technology catalyzes this creative expression. The explosion of digital possibilities enhances individuals’ capacity to mix technical and creative knowledge. Creative workspaces increasingly resemble scientific laboratories, and contemporary creation increasingly mixes digital design and production technologies across fashion, performing arts, cinema, music, video games, and architecture. This is what Rodgers and Bremner (2016) stated as an “other” dimension, so they suggested moving beyond multiple disciplinary perspectives, cross-disciplinary pursuits, interdisciplinarity, transdisciplinarity and to “alter-disciplinarity” or “undisciplinarity,” because the connection is “no longer ‘in the middle of …,’ cannot be measured ‘across,’ nor encompass an ‘entire system’” (p. 22). Thus, design research and practice should accordingly transform from a discipline regulated by the academy to an alternate dimension that has not yet been disciplined.

**Design as Thinking**

Design as thinking is derived from scholars who advocate design as a discipline with its distinct way of knowing. It was studied by a research project, *Design in General Education*, led by Bruce Archer at the Royal College of Art in 1979. The researchers in this project developed an understanding of design as a third area by contrasting it with sciences and humanities concerning the phenomenon of study, appropriate methods of inquiry, and belief systems and values of the culture (Table 2.1: Cross, 2006, p. 2). These two domains of knowledge have long been dominating our culture, social, and education systems, while design as the third domain is not easily recognized. The researchers concluded the study with the nature of design: Design is “the conception and realization of new things” coming from “the appreciation of material culture and
the application of the arts of planning, inventing, making and doing” (Cross, 2006, p. 1). The core of design is the “language of modeling” and its own “distinct things to know, ways of knowing them, and ways of finding out about them” (Cross, 2006, p. 1).

Table 2-1: Contrast of design with sciences and humanities

<table>
<thead>
<tr>
<th></th>
<th>Science</th>
<th>Humanities</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenomenon of study</td>
<td>The natural world</td>
<td>Human experience</td>
<td>The artificial world</td>
</tr>
<tr>
<td>Appropriate methods</td>
<td>Controlled experiment, classification, analysis</td>
<td>Analogy, metaphor, evaluation</td>
<td>Modeling, pattern-formation, synthesis</td>
</tr>
<tr>
<td>Values</td>
<td>Objectivity, rationality, neutrality, and a concern for “truth”</td>
<td>Subjectivity, imagination, commitment, and concern for “justice”</td>
<td>Practicality, ingenuity, empathy, and a concern for “appropriateness”</td>
</tr>
</tbody>
</table>

Design as a distinct way of knowing drew attention to the study of how designers think. According to the design scholar and educator Nigel Cross (2006) and Bryan Lawson (2006), several characteristics of what designers are thinking while designing are identified:

- Designers tackle and resolve ill-defined problems.
- Designers are solution focused rather than problem focused.
- Designers frame their problems in a way that is unique to the problem at hand.
- Designers focus on synthesis.
- Designers use non-verbal, visual language as a tool.
- Designers employ abductive or forward thinking.
- Designers engage in continuous evaluation and reflection.
- Designers take a broad systems approach to the problem.
- Designers take a human-centered approach.
Designers adopt an integrative and collaborative team-based approach. (Cassim, 2013, p. 197)

The design and innovation consulting firm IDEO and Stanford d. School adapted this type of thinking for broader application in business and problem-solving and expand the terrain of design beyond the creation of artifacts. IDEO (2013) published a toolkit of design thinking for educators. In this toolkit, design thinking is defined as a “mindset, believing we can make a difference, and having an intentional process to get to new, relevant solutions that create positive impact” (p. 11). Based on IDEO’s (2013) definition, design thinking is human-centered, collaborative, optimistic, and experimental. IDEO further identified 5 phases of design process that puts design thinking into action. This design process is a structured approach to generating and evolving ideas.

However, design thinking with this kind of structured approach has been criticized because the implementation of this approach often results in “preoccupation with executing steps in a particular order, rather than engaging with important aspects of the challenge and its context through activities and thinking that are especially appropriate to the task” (Davis, 2017, p. 83). Emphasis on the method of executing steps in a particular order obscured the meaning of thinking embodied in design. Design educator Lucy Kimbell (2011) problematized the idea of design thinking in organizations. She concerned three main accounts in design thinking: design thinking as a cognitive style, as a general theory of design, and as a resource for organizations. She contended several issues undermine the claims made for design thinking. First, accounts of design thinking often rely on a dualism between the thinking and action and between the designer and the context in which they are designing; Second, there is something shared by all designers while not acknowledging essential differences in how design professions and their institutions have emerged. Third, design thinking rests on theories of design that emphasize and privilege designers as the primary agents in designing. In conclusion, she proposed an alternative approach
to rethink design thinking, drawing on extensive work in anthropology, sociology, history, and science and technology studies. These propositions attend to the routine practices involved in design, the practices that include not only designers but also known and unknown users and other stakeholders.

**Design as Culture**

Many scholars understand design by studying material culture (Cross, 2006; Highmore, 2009; Julier, 2007; Kimbell, 2011; Molotch, 2003). Molotch (2003) argued that design culture explores human experiences in social, cultural, political, and economic aspects, the experiences that produced through networks of designers, designed objects, their intermediaries, and consumers. Likewise, Highmore (2009) addressed this network which extends design studies beyond the products designers make and into interconnections “between the material and immaterial, between humans and things, and between the organic and the inorganic” (p. xiv). Design as culture can be recognized as a study of the rich interconnections between humans and the designed surroundings, where meanings and knowledge are embedded.

Also, Nigel Cross (2006) studied the knowledge in material culture. He argued that the objects of our material cultures carried a vast wealth of knowledge. He explained that these designed objects are “a form of knowledge about how to satisfy certain requirements, about how to perform certain tasks,” and this form of knowledge is available to everyone (Cross, 2006, p. 9). Immersed in this material culture, designers develop the ability to “read” and “write” in this culture. Designers understand “what messages objects communicate, and they can create new objects which embody new messages” (p. 9). Designers are skilled in reading objects and unveil initial abstract requirements of those objects through design codes with which designers are able
to write in our material culture. This form of knowledge is everywhere in the world and affects everyone around it.

Philosopher Vilém Flusser (1993/2007) also discussed design culture, but he was interested in interpreting culture through understanding design. By investigating the etymology of the word *design*, he asked why this word has been significantly attached in contemporary discourse about culture. According to philosopher Vilém Flusser (1993/2007), the word design in English is both a noun and a verb. Used as a noun, it means “intention”, “plan”, “intent”, “aim”, “scheme”, “plot”, “motif”, “basic structure.” He argued that all these meanings are connected with “cunning” and “deception”. As a verb, design meanings include “to concoct something”, “to simulate”, “to draft”, “to sketch”, “to fashion”, “to have designs on something” (p. 55). He examined other words falling into the same category: *machine, technology, and art* and suggested that the words *design, machine, technology, and art* are closely related to one another. He argued that it is impossible to think of one term without the others because they all derive from the same existential view of the world. The word *design* forms a bridge between the world of the arts and that of technology and machines. In contemporary life, design more or less indicates the site where art and technology come together as equals, making a new form of culture possible. For Flusser, to design is to deceive nature using technology, to replace nature things with artificial products, and to build a machine from a human being who acts like a god. The design behind culture has to be deceptive enough so that a human being can turn themselves from mammals by nature into free artists.

**Design as Problem Solving**

Although Flusser took a critical standpoint to interpret design culture, he did not address the motivation behind a design activity. That is, in what situation does a human being design an
artificial product by means of technology? Most of the time, designers solve a problem through designing a tangible or intangible product, so several scholars assert that design is a process of problem-solving activity (Dorst, 2006; Rand, 2007; Vande Zande, 2011). Designing is a problem-solving process that clarifies, synthesizes and dramatizes a word, an image, a product, or a service (Rand, 2007, p. 34). The core task of designers is the tackling of a problem. The idea of design as problem-solving is led by phases and models of the design process. In the design process, a designer defines a problem and analyze it to formulate requirements so that the problem can be solved (Dorst, 2006). Lawson (2006) found that designers are solution-focused rather than problem-focused. Problems designer tackle are ill-defined. Design scholar Richard Buchanan (1992) indicated ill-defined problems in design thinking as wicked problems, formulated by mathematician, designer, and teacher Horst Rittel in the 1960s. According to Rittel’s ideas, wicked problems are a “class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing” (Buchanan, 1992, p. 15). Wicked problems in design have a “fundamental indeterminacy”, the indeterminacy that implies “there are no definitive conditions or limits to design problems” (p. 16). These ill-formulated, defined, or even wicked problems are a cause of a solution-focused strategy designers adopt.

Due to insufficient necessary information available to designers, designers are not likely to analyze these ill-defined problems and guarantee to generate “correct” solutions. What designers tend to do is to work within the limits of a problem and to propose a solution that would satisfy the aimed users. As a consequence, the problem-solving process in design rests on producing a satisfactory solution rather than on persistently analyzing the problem (Cross, 2006). It is a process of “satisficing” rather than optimizing, producing a range of satisfactory solutions rather than seeking to generate the one hypothetically-optimum solution (Simon, 1996). These ill-
defined and wicked problems cause designers to work with constraints, to choose one while neglecting others, and make a decision on limitations.

**Design as Learning**

When we refer design problems to ill-defined ones, the ambiguity of problems seems to account for the difficulty of design. However, scholar Glenn Parsons (2016) contended that the difficulty of design could not be attributed to entirely to ill-defined problems, for designers do confront genuine problems that need a rational approach. As he argued, in fact, the difficulty of design lies in how such a rational approach is possible. In other words, how can designers come up with solutions that are likely to solve a design problem?

Kees Dorst (2006) discussed this question by criticizing a structured approach in describing design problems. With this approach, design theorists seemingly cannot address the way designers experience their work. He suggested seeing design as a process of going through the learning cycle (propose-experiment-learn, propose-experiment-learn, again and again) until designers create a solution to the design problem. Designers gradually gather information about the nature of design problems and explore the best routes towards design solutions by trying out different ways of looking at the problem and by experimenting with various solution possibilities. Designers propose, experiment, and learn from results until arriving a satisfactory solution. This movement aims to generate a matching problem-solution pair, and in this way, designers learn their distinct way towards a solution.

The learning cycle in the design process towards designer’s ways of knowing is similar to Constructionist theory. Kafai and Resnick (1996) suggested a strong connection between design and learning. They asserted that designing provide a rich context for learning. Designers connect features of an object and conditions of a context into a coherent unity. When design is viewed as
a process through which designers come to understand not only constraints but also subjective meanings, design theorists focus on the construction of meaning in line with the constructivist learning theories. Constructionist theory asserts that learners construct meaning as engaging in building external and sharable artifacts. Thus, design and learning converge on a natural intersection of learning-through-design.

**Design as Collaboration**

As Constructionist theorists argue that meaning-construction happens particularly well when learners participate in building shareable artifacts, designers collaborate and share ideas to deal with design problems. Nowadays, because design problems are never easy, designers have to work with different groups of people who have different points of view to design problems and design solutions (Dorst, 2006). Designers often work in teams and with community participants to generate possible solutions (Vande Zande, 2011; Zwirn & Vande Zande, 2015). Before a product is produced, designers rely on and work with diverse people (Caplan, 1982). For instance, an editorial designer working in a publishing company always collaborates with people from a variety of fields, such as journalists, reporters, editors, photographers, illustrators, infographic designers, and producers. Because of the complexity of design problems in industry, it is beneficial for designers to establish connections among those specialists in different areas.

The more collaboratively designers work with multifunctional teams, the more interdisciplinary ideas contribute to proactive solutions. Anthropologists, psychologists, and sociologists are invited to IDEO’s projects because those at IDEO believe that collaboration and teamwork will trigger better ideas (Zwirn & Vande Zande, 2015). Dorst (2006) explained that design is “a process of negotiating a consensus among all the participants who have differing interests in the design” (p. 18). Design has become a social process. People who participate in the
Design projects not only bring what they know to the design project, as well as their own viewpoints, expectations, and interests. Designers are learning to become skilled negotiators while working with constraints and teams in design projects.

**Design as Pedagogy**

Based on attributes of design such as thinking, learning and problem-solving, design has developed a pedagogy in education. Signature pedagogy is characteristic forms of teaching and learning that organize the fundamental ways in which future practitioners or scholars are educated within a field (Shulman, 2005). Design educator Meredith Davis (2017) identified the notion of studio as the signature pedagogy of design. However, she pointed out that although studio as the signature pedagogy of design has received increasing attention from other fields as useful models for teaching and learning, it can be at odds with emerging paradigms in design practice. Due to increasing large-scale problems involving more interdependent variables and systems, art-based, artifact-oriented view of design is not sufficient to deal with issues of behavior, user experience, and complex technological and social systems. She argued that coursework should be defined not by what students make but by the nature of the problem.

Moreover, one research studied how pedagogy in higher education affects a student’s curiosity, especially in the studio setting. This research revealed that the studio environment affects less student curiosity than other settings such as travel, internships, family and non-studio courses (Smith, 2011). This research implies we should reconsider the notion of the studio in its conceptual meaning, focusing on how we grapple with studio projects rather than what we make in the studio environment.

As Davis (2017) suggested, design projects are also the signature pedagogy of design. According to Davis, good design projects are holistic challenges and long-term activities with
implications from the world so that action is able to associate with some theoretical premise. She identified several essential characteristics of good design projects. Good design projects are open-ended and situated. In these design projects, students are accountable for responding to the audience and context while reconciling competing constraints against some value system. The nature of work in good design projects will show integrative of skills and knowledge from a variety of fields. By using these qualities, how students define the problem can be developed into performance criteria through which students are assessed.

Design projects are designed as a part of the curriculum and play a role as pedagogy in art education. There is much research about design projects adopted by art education, such as programs in primary and secondary education, after-school, community outreach, and pre-service teacher courses (Appleby & Cox, 2003; Carroll et al., 2010; Coutts & Rusling, 2002; Taieb, Hammami, Msahli, & Sakli, 2010; Vande Zande, 2007; Vande Zande, 2010). Most of these design projects emphasized collaboration and teamwork. In these design projects, young design students collaborate with either primary or secondary students. Within the project, students also learn how to negotiate with team members. All these design projects began with a problem related to social or environmental issues. Students tackle these problems by connecting them to their daily life so that they can be aware of what is happening in their surroundings.

Grounded by these design projects, design as pedagogy brings art class out of studios. Conversely, art pedagogy also informs design education. Art educators Dónal O’Donoghue and Marie-France Berard (2014) proposed six qualities of socially engaged design, acknowledging a similar movement in art. They have observed a growing interest not only in art processes and projects that promote participatory and collaborative art making but also in potential ways in which artists and designers collaborate and offer their respective practices. In light of these design projects, design as pedagogy enriches art education, while art education informs design
pedagogy. This interaction between art and design motivates us to consider more possibilities in art education.

In this chapter, I have reviewed some ideas from various scholars from diverse fields. The idea about design is prevalent from our daily conversations to contemporary discourses in any disciplines; the term design has been expansively used and continuously stretched its terrain. The adoption and application of design have expanded from objects and spaces we consume for everyday life to cities, landscapes, nations, cultures, bodies, genes, political systems, and has attended to the way these things are produced and experienced (Rodgers & Bremner, 2016). Over the past decade, the notion of design has gradually transformed to an intangible form of a strategy to device a business and of a way of thinking (Cross, 2006; Kimbell, 2011). Just like the word design, design is both noun and verb, referring to both product and process (Flusser, 2007; Lawson, 2006; Terzidis, 2007; Vande Zande, 2011). Design has expanded its conceptual meanings from tangible making to intangible ways of knowing and thinking. It seems to be very difficult to have one definition of design but many meanings of it. Hence, I wonder what is the conceptual meanings of design within the visual arts programs at educational institutions where those who practice this discipline reside. In the following chapter, I begin to explore the possibilities and my interpretations and understandings of design.
Chapter 3

Methodology

I reconceptualize design in art education by reviewing literature from various fields in Chapter 2. The review helps me understand how the concept of design has developed. These understandings facilitate interpretation of the meanings of design when I analyzed the text from Penn State and Pratt Institute in this study. In this chapter, I elaborate on how I conducted the research, beginning with an explanation of a framework to select relevant texts from Penn State and Pratt Institute. Next, I list the sources of texts in data collection. Last, I illustrate the text analysis.

Framework

In Chapter 1, I have framed the visual arts programs for this study. They are programs under the School of Visual Arts and the Stuckeman School at Penn State, and the School of Art and the School of Design at Pratt Institute. Nevertheless, before data collection, a framework is required to identify the most relevant text because the range of text could be extensive. According to Pinar et al. (1995), the term text means more than a piece of writing. It implies the interaction between human action and social reality, as well as the social reality itself. Taking this definition into account, the text that represents visual arts programs means various contexts. It would be helpful to set up a framework for establishing boundaries and for aiming for the most relevant text.

Design educator Meredith Davis (2017) developed a framework of a curriculum design process including a cycle of projection, planning, implementation, and evaluation (p. 51).
Although she listed four stages, I only considered projection and planning because my research focused on visual arts programs at different institutional contexts rather than implementing and evaluating curriculum. Davis suggested information sources at the projection stage include institutional plans, program context, social/cultural trends, professional practice, accreditation standards, and peer institutions. For the planning stage, she enumerated components such as mission statement, goals and objectives, learning outcomes, pedagogies and projects, and evidence/measures (Davis, 2017). With this framework as a reference, while considering the text that would be more relevant to the program context, I selected (1) institution context, (2) institutional strategic plans, and (3) mission as they influence education and research and guide decisions and policies for academic programs.

**Data Collection**

The text was collected from the Web sites of the institutions on May 20, 2018. Table 3-1 shows Web sites where the text was placed.

Table 3-1: The selected text sources

<table>
<thead>
<tr>
<th>Institution Context</th>
<th>Penn State-College of Arts and Architecture <a href="https://artsandarchitecture.psu.edu/">https://artsandarchitecture.psu.edu/</a></th>
<th>Pratt Institute <a href="https://www.pratt.edu/">https://www.pratt.edu/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution Context</td>
<td><a href="https://artsandarchitecture.psu.edu/about">https://artsandarchitecture.psu.edu/about</a></td>
<td><a href="https://www.pratt.edu/the-institute/pratt-glance/">https://www.pratt.edu/the-institute/pratt-glance/</a> <a href="https://www.pratt.edu/the-institute/history/">https://www.pratt.edu/the-institute/history/</a></td>
</tr>
</tbody>
</table>
Text Analysis

The purpose of this text analysis is to satisfy two subquestions I asked for text analysis in Chapter 1. I reviewed these questions: (1) What are the similarities and differences of meanings of design within the visual arts programs at Penn State University and Pratt Institute? (2) How was the word design contextualized within the text? To answer these question, I deconstructed the text.

In *Curriculum Development in the Postmodern Era: Teaching and Learning in an Age of Accountability*, scholar Patrick Slattery (2012) noted the use of deconstruction with any text and suggested some ways that deconstruction might be applied, including problematize, question, interrupt, contextualize, challenge, historicize, expose, engage, trouble, and evoke (p. 3). Because my purpose for this study is to look into conceptual meanings of design within the visual arts programs at Penn State and Pratt Institute, I intend to find out the conceptual meanings of design within the programs. In doing so, I investigated how the word design and its suffixes were contextualized.
While reading the text, I attempted to analyze contextualization. Slattery (2012) stated, to contextualize is “to critically evaluate and analyze arguments from the perspective of race, class, gender, sexuality, religion, culture, ability, language, age, ethnicity, geography, psychology, and nationality in order to understand and appreciate the complex forces that shape and influence a text” (p. 3). I perceived the word design as if it were a protagonist playing in the text. My intention for this perception was to know how the word design was situated. I tended to examine the intensity of the word art, design, and their suffixes in the text to analyze how these words shape the arguments.

In addition to reading, I used a text analysis tool Voyant (http://voyant-tools.org/) to visualize the text. This tool facilitated reading by looking up word frequencies, contexts, and word clouds, offering an alternative way to see through the text. The rank of the most frequent word shows on what words the most stress was placed. I mainly searched the frequencies of the word art, design, and their suffixes because I would like to analyze how these words functioned in each text. I wondered whether these words were particularly addressed in some contexts. If I could get this kind of data, I might be able to speculate on the reason why these words were used in the text.

In this chapter, I stated the approach and I frame the text relevant to this study. Along with this framework, I selected the text about institution context, institutional strategic plans, and mission from both Penn State and Pratt Institute. I detailed the sources from which I collected the text. Lastly, I explained the method and tool I applied for reading the text. I applied deconstruction as reading into the text and used a text analysis tool Voyant (http://voyant-tools.org/) to assist me with visualizing the text so that I could consider the text from another perspective.
Chapter 4

Results

In the previous chapter, I described the methodology of this research. I conducted this research through reading into the text by deconstructing and analyzing it with comparing and contrasting the text from two differently focused academic institutions. This chapter presents the results of the text analysis and illustrates what the text shows. I show the results in three parts: First, I show the structure of visual arts programs at Penn State and Pratt Institute, providing an overview of how these two institutions organize their visual arts programs. Second, I present the results of the text visualization and analyze the text through locating the word design to find where the word “design” was placed in the text. Third, I reveal the frequency of the word art, design, and their suffixes to analyze how these words function in the text.

The Structure of Visual Arts Programs

Figure 4-1: The organization of the College of Arts and Architecture at Penn State
Figure 4-2: The organization of Pratt Institute.

Figure 4-1 and 4-2 show the organization of visual arts programs at Penn State and Pratt Institute respectively. At Penn State, the College of Arts and Architecture incorporated the Department of Art History, the School of Music, the School of Theatre, Integrative Arts Program, the Stuckeman School, and the School of Visual Arts. The programs within the Stuckeman School and the School of Visual Arts were selected to study. Under the School of Visual Arts, the programs were categorized into three areas of study: Art Education, Digital Arts and Design, and Studio Art. They offered various degrees, including Bachelor of Arts (in Art), Bachelor of Fine Arts (in Art), Bachelor of Science (in Art Education), Bachelor of Design (in Interdisciplinary Digital Studio and in Professional Photography), Digital Arts and Design (Online), Master of Fine Arts (in Art), Master of Science (in Art Education and in Art Education and Women's, Gender, and Sexuality Studies), Master of Professional Studies (in Art Education), Doctor of Philosophy (in Art Education, in Art Education and Women's, Gender, and Sexuality Studies, and in Art Education and African-American and Diaspora Studies), and Post Baccalaureate Certification (in Art Education).

Under the Stuckeman School, the programs were also divided into three areas of study: Architecture, Landscape Architecture, and Graphic Design. They provided Bachelor of
Architecture, Bachelor of Science (in Architecture), Integrated Bachelor of Architecture and Master of Science in Architecture, Bachelor of Landscape Architecture, Bachelor of Design, Master of Science (in Architecture and in Landscape Architecture), Master of Landscape Architecture, Master of Professional Studies and Graduate Certificate (in Geodesign), Professional Master of Architecture, and Doctor of Philosophy (in Architecture).

As Penn State organized the programs into the three areas of study, Pratt Institute placed its programs similar to the three areas under the School of Art and the School of Design. At Pratt Institute, the School of Art consisted of Bachelor of Fine Arts (in Art and Design Education, in Digital Arts, in Film, in Fine Arts, and in Photography), Master of Arts (in Art and Design Education), Master of Professional Studies (in Arts and Cultural Management, in Design Management, and in Art Therapy and Creativity Development), Master of Science (in Dance/Movement Therapy), Master of Fine Arts (in Digital Animation and Motion Arts, in Digital Imaging, in Interactive Arts, and in Fine Arts).

Although the School of Art and the School of Design at Pratt Institute provided similar degrees, such as Bachelor of Fine Arts, Master of Fine Arts and Master of Science, each program at the School of Design used the term design within their program titles. Those programs were Communications Design, Fashion Design, Industrial Design, and Interior Design. In the programs, the school conferred Bachelor of Fine Arts (in Communications Design, in Fashion Design, and in Interior Design), Bachelor of Industrial Design, Master of Fine Arts (in Communications Design and in Interior Design), Master of Science (in Package Design and in Communications Design), and Master of Industrial Design.

At Pratt Institute, the program related to art education was titled Art and Design Education and offered Bachelor of Fine Arts and Master of Arts. The degrees offered were different from Penn State, which conferred Bachelor of Science and Master of Science. The area of Digital Arts and Design at Penn State was inclined to interdisciplinary design practice and
offered a degree with Bachelor of Design. Unlike Penn State, at Pratt Institute, Digital Arts and Animation was incorporated in the School of Art and provided Bachelor of Fine Arts and Master of Fine Arts. Except Industrial Design, most of design-related programs offered Bachelor of Fine Arts or Master of Fine Arts. Fashion Design conferred Bachelor of Fine Arts, while Interior Design offered both. In addition to Bachelor of Fine Arts and Master of Fine Arts, Communications Design provided Master of Science degree.

The program at Penn State that was relevant to Communications Design at Pratt Institute was Graphic Design. The undergraduate Graphic Design program, which offered Bachelor of Design, was incorporated in the Stuckeman School, but the graduate Graphic Design program, which conferred Master of Fine Arts, was administered through the School of Visual Arts. The Graphic Design at the School of Visual Arts at Penn State was a concentration area of Studio Art. It was the only concentration that used the word design in its title. Other concentration areas were Ceramics, Drawing and Painting, New Media, Photography, Printmaking, and Sculpture. Likewise, at Pratt Institute, the areas of emphasis in undergraduate and graduate Fine Arts programs included Ceramics, Drawing, Integrated Practices (Installation, Public Art, Performance), Jewelry, Painting, Photography, Printmaking, Sculpture. None of the program emphasis used the word design.

The programs at Penn State used the word design on programs’ titles less frequently than the ones at Pratt Institute. The School of Visual Arts at Penn State had an online program, Multimedia Design, and the Stuckeman School had Graphic Design. All programs at the School of Design at Pratt Institute used the word design as part of their titles such as Communications Design, Fashion Design, Industrial Design, and Interior Design. Besides the programs at the School of Design, the School of Art had some programs that used the term “design,” including Art and Design Education and Design Management. The word design used in titles of Pratt’s programs functioned as linking to subjects related to everyday life, such as communication,
advertising, clothing, interior decoration, and industrial artifacts. Compared to Pratt Institute, Penn State seemed to derive design from technology connecting a variety of media with a virtual approach. For example, Bachelor of Design concentrated on interdisciplinary digital studio, and Digital Arts and Design was an online program.

Locating “Design”

The College of Arts and Architecture at Penn State is committed to artistic and scholarly creativity, research, and the preparation of specialized practitioners in all of the arts and design disciplines.

Figure 4-3: Penn State-College of Arts and Architecture Web page. (n.d.). ©2017 The Pennsylvania University. Retrieved May 20, 2018, from https://artsandarchitecture.psu.edu/.
Figure 4-3 and 4-4 present the Web sites of two institutions. The composition and components on the sites looked similar; however, by using the text analysis tool Voyant (http://voyant-tools.org/), the text from the sites of the institutions revealed different perspectives concerning design. The visualization of text generated an alternative image of the institution to provide another avenue for interpreting what design stood for at these institutions. I explained the results by comparing and contrasting the two institutions in the framework of the text: (1) institution context, (2) institutional strategic plans, and (3) mission.
Table 4-1: Penn State-College of Arts and Architecture

Most frequent words in the corpus: arts (9); college (8); architecture (6); penn (6); state (5)

Frequency of the word art, design, and their suffixes: arts (9); art (4); design (2); artistic (1)

Retrieved from http://voyant-tools.org/?corpus=e2eba2be450dc1130306641b473b72f&panels=cirrus,reader,documentterms,summary,contexts

(The number in parentheses: frequency)

Table 4-2: Pratt Institute

Text source: https://www.pratt.edu/the-institute/pratt-glance/
https://www.pratt.edu/the-institute/history/
In this section, at Pratt Institute both the words design and art were on the list of most frequently used words in the third and fifth place respectively, while at Penn State the word design was not on the list. Instead, at Penn State, the term “arts” was most frequently shown, while design was used only twice as a noun when the text described facilities and disciplines. Similarly, the word design used in the text at Pratt Institute also described design disciplines and titles of programs. Design was situated with other disciplines such as art, architecture, and engineering. Designers was mentioned once with other professionals such as artists, architects, writers, and scholars. Unlike the text at Pratt Institute, the text at Penn State did not have words about professionals, but it had words about professions such as architecture showed three times.
The frequency of the word arts represented emphasis not only on visual arts but also on a great diversity of art forms. At Pratt Institute, the word arts was used in a context in which liberal arts, fine arts, and arts and cultural management were discussed.

**Institutional Strategic Plans**

**Table 4-3: Penn State-College of Arts and Architecture**

<table>
<thead>
<tr>
<th>Most frequent words in the corpus: arts (21); design (12); penn (12); state (10); research (9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of the word art, design, and their suffixes: arts (21); design (12); art (4); artist (3); designer (2); artists (1); artistic (1); designers (1)</td>
</tr>
</tbody>
</table>


(The number in parentheses: frequency)
Like the text in the “Institution Context”, Penn State had the same most frequent word, “arts.” Surprisingly, the word “art” or “design” at Pratt Institute was even not on the list of most frequent words. Instead of the words depicting disciplines and studio practices, academic words,
such as “programs,” “education,” and “research,” occupied most frequent words. The word “research” was also frequently used in Penn State’s statement. Another frequently used word in the statement was “design.” The word “design” was employed to describe a kind of pedagogy. Most of the time, the word “design” was utilized with “arts.” “Arts and design” were shown separately, signifying that “design” was viewed as an individual discipline outside arts. In the context of Landscape Architecture, the word “design” was placed with “ecological”, and “environmental designers” were mentioned in linking to scientists. Likewise, the strategic plan at Pratt Institute addressed the term “sustainable design studies.” In the text, when it talked about alternative residencies and learning communities, “design” was used as a verb to describe an action for establishing a space to meet a growing DIY sensibility.

Mission

Table 4-5: Penn State-College of Arts and Architecture-School of Visual Arts

| Text source: https://sova.psu.edu/About |
Most frequent words in the corpus: visual (26); arts (22); design (17); sova (12); creative (11)

Frequency of the word art, design, and their suffixes: arts (22); design (17); art (5); artistic (5); artists (4); designers (4)

Retrieved from http://voyant-tools.org/?corpus=8f175a832eacdc58001f946fa1a3c000&panels=cirrus,reader,trends,summary,contexts

(The number in parentheses: frequency)

Table 4-6: Penn State-College of Arts and Architecture-the Stuckeman School

Text source: http://stuckeman.psu.edu/stuckeman/overview
http://stuckeman.psu.edu/sites/default/files/stuckemanschoolstrategicplan.pdf
Most frequent words in the corpus: architecture (17); research (12); school (11); students (11); faculty (9)

Frequency of the word art, design, and their suffixes: design (3); arts (1); designs (1)

Retrieved from http://voyant-tools.org/?corpus=39288a85191c44c268478c773b63e93e&panels=cirrus,reader,trends,summary,contexts

(The number in parentheses: frequency)

Table 4-7: Pratt-School of Art

Text source: https://www.pratt.edu/academics/school-of-art/
Most frequent words in the corpus: professional (4); faculty (3); pratt (3); art (2); artists (2)

Frequency of the word art, design, and their suffixes: art (2); artists (2); designers (2); arts (1); design (1)

Retrieved from http://voyant-tools.org/?corpus=93fec44a20edcf5e850f19f433dd3273&panels=cirrus,reader,trends,summary,contexts

(The number in parentheses: frequency)

Table 4-8: Pratt Institute-School of Design

Text source: https://www.pratt.edu/academics/school-of-design/
In the category of the “Mission,” it was clear to notice the focus of each school through the list of most frequent words. At Penn State, while the School of Visual Arts placed great emphasis on visual arts, design, culture, and creativity, the Stuckeman School was engaged in architecture, landscape, environment, collaboration, and research. However, according to the organization of schools at Pratt Institute (Figure 4-2), architecture practices were not at either the School of Art or the School of Design but at the School of Architecture. Although it was discernible that the School of Art and the School of Design focused on dissimilar disciplines, they aimed for similar goals and objectives. Both the School of Art and the School of Design intended to prepare professional artist and designers. They both encouraged practices that promote critical
thinking, creativity, and collaboration. The School of Design particularly underscored interdisciplinary collaboration and exploration. Like the two schools at Pratt Institute, the School of Visual Arts and the Stuckeman School at Penn State stated critical, creative, and collaborative practices. The statement at the School of Visual Arts highlighted learning communities and social practices, a process that discovers from within the self to among others.

After examining how the word “design” played in the text by analyzing how it was contextualized, I counted the words “art” and “design” and their suffixes shown in the text. Table 4-9 shows the result. Some might argue that the result is not precise to represent the intensity of the use of words because there are many variables affecting word counts. The length of writing, for instance, will have an effect on a specific word used. A long paragraph might need to address a word or term more frequently than a short one, resulting in the misinterpretation as comparing the text. However, by focusing on the most and least used words in relation to the words “art” and “design,” this result provides an overview of the differences about how they describe the programs and what they intend to emphasize at two institutions.

The Function of the Word “Design”

Table 4-9: Frequency of the word art, design, and their suffixes

<table>
<thead>
<tr>
<th>Institution Context</th>
<th>Institutional Strategic Plans</th>
<th>Mission</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Penn State</td>
<td>Pratt</td>
</tr>
<tr>
<td>art</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>arts</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>artist</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>artists</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>artistic</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>design</td>
<td>2</td>
<td>10</td>
</tr>
</tbody>
</table>
In the “Institution Context” section, the most frequent word at Penn State was “arts,” while at Pratt Institute, term was “design.” Since this section was about an introduction of the institution, Penn State took the stance lying stress on the diversity of art, setting art in a broad definition. Pratt Institute, on the other hand, talked about design a little more frequently than it did about art or arts. It suggested that Pratt Institute put comparable emphasis on art and design, meaning that design is not a part of arts but a distinct subject. Design at Penn State was seen as art and an area of the arts, whereas Pratt Institute was design-oriented, reinforcing design’s identity with its own methodology.

In the “Institutional Strategic Plans” section, at Penn State, the result of the frequency of “art and design” and their related words was similar to the one in the “Institution Context” section. Arts was the most frequent word in the text. Design was used several times more in this section than it was in the “Institution Context” section, and designer and designers were mentioned. Because one of the purposes for an institutional strategic plan was to articulate what kinds of professionals the programs are going to prepare and how institutions will prepare students, it is reasonable that professionals such as artists and designers were stated in the text. Interestingly, those art and design related words are utilized less frequently in the “Institutional Strategic Plans” at Pratt Institute. In my opinion, it was the result of the differences between the writing strategy of the two institutions. As I read the text, I found the text written by Pratt Institute tended to explain and describe design by using adjectives that imply and associate with design. Instead of just saying artists and designers, or art and design, the description pointed out traits of artists and designers and learning experiences the institution was going to create. These

*SoVA: School of Visual Arts*
words included aesthetic, professional, collaborative, technical, academic, expanding, and dynamic.

In the text of the “Mission”, at Penn State, the term arts was still the word used most frequently at the School of Visual Arts. It is evident that the School of Visual Arts was in line consistently with the strategy in other sections. In addition, the text used the word design more than the text of previous sections. One of the reasons was that design was one of the three areas of study at the School of Visual Arts. Stuckeman School at Penn State apparently focused on design education, resulting in addressing design more frequently than other art-related words. One point worthy to discuss is that this text used the word “designs,” design in a noun with a plural form. Just as arts refers to a diversity of disciplines, the word “designs” implies not only products and objects designed but also implies a variety of disciplines that design embodies.

At Pratt Institute, the text at the School of Design also used the word designs. It is recognizable that the School of Design at Pratt Institute put great emphasis on the ownership of design, arguing design as a discipline in its own right. In the text of the School of Design, art and its related words were not shown at all, but design was used in various forms, a noun (design), a plural noun (designs), and a verb (designed). On the contrary, at the School of Art, the art-related words used in the text is not much more frequent than the design-related words used in it.
Chapter 5

Discussion

Chapter 4 revealed the results of the text analysis by comparing and contrasting the text from Penn State and Pratt Institute. The analysis focuses on how the word art, design, and their suffixes were contextualized in the text in order to find out how the word design was situated and how it functioned in the text. With this analysis, in this chapter, I elaborate on the conceptual meanings of design emerging from this study in response to the research question proposed in Chapter 1. Next, I incorporate these meanings into those I learn from the literature review in Chapter 2 so as to provide implications of this study. Finally, I would like to address limitations of this study.

Design as Methodology

When I read the text by contextualizing design, the dynamic relationship between design and other disciplines seemed to emerge. At both institutions, there was no individual program named design but only an area of study, such as Digital Arts and Design at Penn State. All the programs were titled design with other domains. For example, Pratt Institute had Communications Design, Fashion Design, Industrial Design, and Interior Design, whereas Penn State contained Digital Multimedia Design and Graphic Design. In this context, design was less like a discipline than a methodology. Design acted as a vehicle for interpretation. It was a methodology to interpret communications, fashion, Industrial manufacture, and interior decoration. Through design, design practitioners defined the domains in their own interpretation. Design is a process of interpretation.
Although no individual design discipline was incorporated in visual arts programs at both institutions, the word design was frequently used individually in the descriptions of both institutions. In these descriptions, design was mentioned along with other disciplines, such as art, architecture, engineering, information and library science, liberal arts and sciences. Design was indeed viewed as a discipline, but it was still uncertain what design means in the descriptions. Nevertheless, it was evident that design remained a flexible activity and no single definition (Buchanan, 1992). The nature of design comprises fluidity, abstraction, and imagination, the qualities defined by those who practice and interpret it in their own right.

The qualities of design cause an ambiguity when we consider what degree a design-related program should confer. The School of Design at Pratt Institute offered Bachelor of Fine Arts, Bachelor of Industrial Design, Master of Fine Arts, Master of Industrial Design, and Master of Science. At Penn State, the School of Visual Arts and the Stuckeman School offered Bachelor of Design and Master of Fine Arts. By investigating degrees that the institutions provided, it is noticeable that there was the equivocal nature in design. This equivocal nature allows design to play between arts and sciences and even to become a bridge across distinct disciplines. The design itself is an interdisciplinary discipline.

The notion of design as an interdisciplinary discipline can be justified in reading into the statement of Industrial Design program at Pratt Institute (https://www.pratt.edu/academics/school-of-design/graduate-school-of-design/industrial-design-grad/). It described some observations of dramatic changes in the field of Industrial Design. The first observation was industrial design has been converging with scientific research from biology and genetics to artificial intelligence and robotics. The second observation was industrial design has tried to solve problems of poverty, hunger, energy, health, and other troubling issues of the disadvantaged world. The third observation was the responsibility of industrial designers for the climate and limited resources and for the environment, industry, and agriculture. With such
observations, Industrial Design program should prepare students to be able to not only make products but also create systems and environments that tackle the complexity of design problems. In order to resolve the design problems in the 21st century, design practitioners need to be adaptable and flexible to a great diversity of disciplines.

The Look of a Designer

Throughout the text I examined, the word design was rarely used as a verb. The verb form was used twice in different statements at Pratt Institute. The first one was the statement in the “Institutional Strategic Plans” when it claimed that the institution was going to launch a new type of residency and learning community, a blended direct and on-line education designed to meet a do-it-yourself awareness. The second one was stated in the “Mission” section at the School of Design. The verb form of design was utilized to announce a multidisciplinary complex designed by a firm headed by Pratt School of Architecture dean. The motivation of building this complex was to put design disciplines together under one roof and to enhance the interdisciplinary collaboration and exploration.

Although the verb form of design was not frequently deployed, the meaning of designing could be grasped through contextualizing design and its related words, such as designers, design, arts, artists, and artistic. I tried to deduce the conceptual meanings of design by contemplating this inquiry: What kinds of designers were these institutions preparing? I believe the meaningful interpretation about design would emerge from the positionality of designers. After reading and analyzing the text, I identified two looks of designers: critical thinkers and creative makers.
Critical Thinkers

Both institutions address critical thinking in the selected text. Critical thinking, as Scholar Robert H. Ennis (2018) defined, is the concept of “reasonable reflective thinking focused on deciding what to believe or do” (p. 166). Scholars Michael Scriven and Richard Paul (1987) articulated further how a reasonable reflective thinker would think and act. They explained that critical thinking is an intellectually disciplined process when a critical thinker actively and skillfully conceptualizes, applies, analyzed, synthesized, and/or evaluates information gathered from, or generated by observation, experience, reflection, reasoning, or communication. For a critical thinker, critical thinking serves as a guide to belief and action. These definitions of critical thinkers resonate with the artists and designers whom the two institutions tend to prepare.

The School of Visual Arts and the Stuckeman School at Penn State stressed on critical thinking in several statements. In the Stuckeman School’s “Mission”, it aimed to educate in the areas of ethical behavior, critical thinking, life-long learning, and service to society. The School of Visual Arts’ “Mission” indicated that the school is a place where creative and critical thinkers, makers, and educators shape awareness about possibilities around the world. It is crucial for learner’s educational experiences when creative and critical perspectives are informed by learner’s individual experiences. The school encouraged artists and designers to think and reflect intellectually, actively, and skillfully to be aware of information around the world. Programs at the School of Visual Arts aimed to stimulate critical capacities, one of human resources and individual capabilities that future artists and designers should have. Creative and critical thinking was emphasized across the curriculum because the school believed that visual arts and design teaching and learning had the capacity to increase individual cultural agency.

Similarly, the School of Art at Pratt Institute wrote about the critical judgement. In the “Mission” at the School of Art, it argued that development of the critical judgement and historical
perspective for learners is imperative so that the professional expertise is not simply technical training. The critical judgement and historical perspective are required to become a critical problem solver. As art and design history is blended with studies in the liberal arts and sciences, having the historical perspective is able to acknowledge the context for encouraging intellectual and creative inquiry.

Creative Makers

Both institutions tended to prepare learners to become creative makers, future artists and designers who would be working in the creative economy. At Penn State, for learners at the Stuckeman School, creative making could mean a life of creative engagement and fulfillment in the chosen profession. Building maker cultures was one of the major missions at the School of Visual Arts since artists and designers have been shaping how we see for a long time. Making is exploratory, a lifelong search of self-discovery gained from new possibilities or valuable failures. Creative makers participate in learning communities as socially engaged practitioners and enhance the use of material processes and resources. The impulse of creative making can be motivated by curiosity, inquiry and purpose.

At Pratt Institute, to educate artists and creative professionals was also one of the missions. It prepared artists and professionals to be creative and to be responsible to society. Creative making indicates not only dexterity in technical skills but also flexible in social interaction. The social interaction in creative making supports academic collaboration so that creative makers can access and share creative resources. The availability of flexible spaces increases collaboration and encourages learners to create dynamic environments for learning. Creative makers blend theory with application and collaborate with resources to make the space dynamic, while the dynamic space facilitates and improve the quality of creative maker’s life.
Because of the social interaction between the space and creative makers, it is inexorable for creative makers to become contributors to society. The School of Visual Arts identified visual arts practitioners with those who explore ideas, probe issues, raise questions, question answers, solve problems, and educate others about how art experience can help us see and think differently by using the media, processes, and contexts of visual arts and design. With this definition in mind, creative makers can be characterized as problem-solvers, trouble-makers, and critical inquirers. Pratt Institute had similar mission about problem-solving skills to prepare students in today’s pressing challenges. To solve today’s real-world problems, creative makers need to go beyond traditional academic thinking. It is imperative to push the boundaries of either innovation or problem-solving and to question the status quo. Creative makers are responsible for challenging the status quo to develop new solutions.

At both institutions, creative makers represented a variety of identities. Creative makers can be viewed as artists, designers, scientists, and engineers, but the core characteristics they all share is that they are artistic interpreters. Although Pratt Institute divided art and design in two schools, both schools frequently used words in relation to art and design. The School of Art included designers in the faculty, while the School of Design confers most of degrees with Bachelor of Fine Arts and Master of Fine Arts. Art is still the starting point and the impulse of design, just as graphic designer Paul Rand (1981/2007) has stated, “the designer’s overriding motivation is art: art in the service of business, art that enhances the quality of life and deepens appreciation of the familiar world” (p. 34). Designers are creative makers who interpret things with artistic approaches.

At Penn State, artists and designers were shown separately in text. Designers were differentiated from artists, but artists and designers were incorporated into the group of visual arts practitioners. The meaning of gathering into the same group is that artists and designers have some similarities that allow artists and designers to collaborate so that they can interchange
resources. Meanwhile, artists and designers learn from one another by working together. Due to the similarities, artists and designers were categorized into a group; on the other hand, the differences between artists and designers enriched the learning community. Thus, arguments between art and design might lie not in the differences between art and design but in the relationship between them. How artists and designers collaborate might be a more practical inquiry than what differences between artists and designers are because artists and designers might create a better solution when they interact in a new way.

Either to create a better solution or to challenge the status quo, creative makers have pivotal dispositions so as to enhance and expand their capacity for creative making. In the “Mission” of the School of Visual Arts at Penn State, it stated that the programs focused on developing the habits of mind that enable students to increase their competence for invention, adaptation, reflection, risk-taking, and openness. It pointed out the importance of open-mind to communicate in a multiplicity of visual cultures and of taking risk to appreciate productive failures. Creative making is a process of trial and error, exploration, and learning from failures. It requires critical thinking to take risk as questioning situations that we take for granted.

**Implications**

This study explored the conceptual meanings of design through analyzing the text from visual arts programs at Penn State and Pratt Institute. In this study, I found some conceptual meanings of design that help me understand design so that I am able to articulate what design means for me and for the field of art education. It was evident that some meanings resonated with current studies about design, while others informed some implications for future research.

Current studies have revealed several conceptual meanings of design. I identified them as eight metaphors: design as (1) art theory; (2) discipline; (3) thinking; (4) culture; (5) problem.
(6) learning; (7) collaboration; and (8) pedagogy. All these meanings were more or less addressed in the selected text at Penn State and Pratt Institute. However, I found three conceptual meanings of design, which might push further for future research. These meanings are (1) design as methodology; (2) designers as creative thinkers; and (3) designers as creative makers.

Design as methodology is a major finding of this study. Scholar Phillip Vannini (2015) explained that methodologies are “bodies of knowledges” accumulated by scholars over time as they exercise judgement and make explicit choices of methods and strategies throughout the research process (p. 11). I found the word design used in the titles of the programs always went along with other domains, such as communications, fashion, industrial, interior, digital multimedia, and graphic. Design, in this context, is like “bodies of knowledges” so that design practitioners can think critically and creatively throughout the process of interpreting the domains.

When design is seen as methodology, it brings out great potential in curriculum development. Not only do artists and designers benefit from learning design, but also those who are professionals from other fields can learn design to strengthen their abilities. Since I found both institutions tended to prepare their students as critical thinkers and creative makers, the notion of design as methodology can be developed to a program cultivating critical thinking and creative making by practicing design. This program should not be limited to artists and designers but open to anyone who wants to practice critical thinking and creative making. Because I found there was no such program in visual arts programs at these two institutions, future research is needed to study what curriculum should be incorporated in the programs.

In addition, design as methodology implies the nature of flexibility. I found the word design was frequently used individually in the descriptions of both institutions without explicit definition, but design was certainly viewed as a discipline because many programs at the institutions were titled with design. Design as methodology signifies a flexible activity and no
single definition in design. It is a concept connecting and integrating knowledge from the arts and sciences alike, an integrative discipline that complements the arts and sciences in order to enrich human life (Buchanan, 1992). As a result, the concept of design in art education can be viewed as a bridge across other disciplines. Teaching design includes not only teaching a skill but also cultivating a methodology with which design has its own ways to work with other disciplines. However, how design works with other disciplines and how art and design collaborate still require future research.

Limitations

This comparative study includes analyses of selected text within visual arts programs at two different focus institutions in order to understand the conceptual meanings of design within the programs. The results of this study, therefore, cannot be generalized as the meanings of design in visual arts programs at other institutions. Moreover, although I tried to select the text as thoroughly as I could, there were still some omissions I could not avoid. For example, I left out descriptions of each course in the programs because these details would make the text too complicated to concentrate on the most relevant text. However, although I did not collect many details for this study, I would collect the text from more sources if I conducted this research again. I would like to collect the text from social events and cultural activities happening within the programs. In addition to the text, I would like to interview with faculty and students. This kind of data also have lots of possibilities to reveal social and culture trends in the field, which might reflect additional meanings of design. There are so many interesting and valuable data to collect, but the field of design is too broad to study all of them. Just as data collection has limitations, understanding design through research is ever evolving and is a work in process.
References


