Exploring Flow in the Context of Education in Apparel Design

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Dedication

This dissertation is dedicated to my parents, Kyungsil Min and Sungsook Kim.

Abstract

This study seeks to explore the phenomenon of how students recognize a state of flow, how differently students experience flow depending on activities in an apparel design process, and what factors encourage or discourage them from reaching a state of flow. Participants of the study include students who are taking a senior level apparel studio class to design their own line of four to six ensembles. This study employs qualitative research methodology to illustrate the phenomenon under examination. It will provide educational insight to instructors and educators in the apparel design field about how students reach a state of satisfaction in the design process.

The participant sample was 12 purposefully selected individuals. Each participant was interviewed twice, once during the design process and once following the completed project. Based on the reviewed literature, survey and interview questions were designed to examine the research questions. Collected raw data were investigated through an analytical coding method to create meaningful interpretation. Finally, data were reviewed based upon the literature and merging themes.

Based on the findings from the survey and the first interview, the first research question was answered. Students reported they were able to experience flow in the apparel design process and the flow state greatly enhanced their satisfaction which created positive response. Further, participants who frequently reached and sustained flow in the apparel design process exhibited characteristics that mostly satisfy Csíkszentmihályi's preconditions of flow. First, participants who had a clear goal and design direction in the design process experienced flow. Second, participants more

frequently and easily experienced flow when working with activities in the design process that they are confident about. Third, all participants had intrinsic motives to work hard on their projects. The result shows that satisfying the preconditions that Csíkszentmihályi exerted is important in students reaching and sustaining a state of flow.

Based on the findings from the second interview, the second and the third research questions were answered. Students' flow experience depends on kinds of activity in the apparel design process: (1) flow with analytical skills, (2) flow with intuitive and repetitive skills, and (3) flow with creative skills. Factors that encourage and discourage students' flow experience are different depending on the type of activities in the design process. Including those factors, in the analysis of the second interviews the researcher found a number of general factors, such as having a working habit, knowing the level of challenge of the work in advance, establishing one's own design aesthetics, having intrinsic purposes, having a certain length of dedicated time for a project, having confidence with technology, working closely with classmates, working in a comfortable, familiar, and creative working environment, and having a positive relationship with families and clients. Three factors that were not discussed in Csikszentmihalyi's research stand out – group work, classroom environment, and technology use, so they are explored and discussed in more depth.

Since flow experience helps students be more creative and effective in the apparel design process, the study provides insight to educators in the apparel design field.

Table of Contents

List of Tables

List of Figures

CHAPTER 1

INTRODUCTION

The purpose of the study is to examine apparel design students' flow experience

in a design process and their awareness of satisfaction. This study seeks to explore the

phenomenon of how students recognize a state of flow, how differently students

experience flow depending on activities in an apparel design process, and what factors

encourage or discourage them from reaching a state of flow. Participants of the study

include students who are taking a senior level apparel studio class to design their own

line of four to six ensembles. This study employs qualitative research methodology to

illustrate the phenomenon under examination. It will provide educational insight to

instructors and educators in the apparel design field about how students reach a state of

satisfaction in the design process.

This chapter begins with an overview of the background that frames the study and

includes discussions around the following areas: (a) background of the research, (b)

statement of purpose and accompanying research questions, (c) research scope, (d)

researcher's perspectives and assumptions, (e) rationale and significance of the study, (f)

a brief concluding summary.

Background

Since antiquity there have been passionate debates regarding what makes for

human happiness. Aristotle, for example, indicated that "Happiness is the meaning and

the purpose of life, the whole aim and end of human existence. (Nicomachean Ethics, 350

BCE)" Aristotle stated that happiness is the only thing that humans truly pursue for its

own sake, unlike wealth, honor, fame, relationship, or friendship (Graham, 2011). He

observed that humans pursue wealth, honor, fame, and relationships in order to be happy.

Since Aristotle, happiness has been studied and debated by scholars for

generations. In recent years, there are two major viewpoints regarding the source of

happiness. Graham (2011) concluded that happiness is closely related to practical factors

such as a stable marriage, good health, and economic stability. In this regard, a number of

nations such as Britain, France, China, and Brazil have attempted to measure happiness to

improve overall life satisfaction of their citizens based on these factors (Cohen, 2011).

On the other hand, Csikszentmihalyi (1990) interviewed experts in their representative

fields including Nobel Prize winners. In his research, he explained that happiness cannot

be purchased by money or authority but obtained when a person's body or mind is

stretched to its limits in a voluntary effort to accomplish something worthwhile.

Csikszentmihalyi (1990) described this status as a state of flow and indicated that flow is

the process of achieving happiness through control over one's inner mind.

Prior research has shown that flow theory can be usefully applied in the field of

education (Custodero, 2002; Bakker, 2005; Sosik, Kahai, & Avolio, 2011). Prior

research, however, has focused only on the relationship between the concept of flow and

students' performance, not on the flow experience itself. We can easily find individuals

around us reaching a state of flow. Many people understand the concept of flow and have

experienced it. If they sincerely enjoy and are fully involved in the job, they are more

likely to find happiness in their life and have a successful career in their field. For example, Isabel Toledo, a Cuban-born fashion designer, has actively pursued her career in the design industry after realizing her aptitude for fashion during her education at Parsons. She experienced the act of creating as the most exhilarating, refreshing and satisfying (Toledo, 2012). In this regard, it is essential for design educators to understand the concept of enjoyment and flow to facilitate students' passion for learning and further pursuit of happiness in their lives. Thus it is critical to examine students' flow experience and whether there are factors to encourage them to reach that state in the field of apparel design.

However, there is a lack of research regarding students' flow experience in apparel design. Therefore, this study seeks to shed light on the phenomenon of how students recognize a state of flow, how differently students experience flow depending on activities in the apparel design process, and what factors encourage or discourage them from reaching a state of flow. Since Csikszentmihalyi found a variety of benefits of flow experience, this research could provide a number of important ways that the concept of flow can be utilized within an apparel design education context. Accordingly, this research has implications for instructors in apparel design. By exploring a series of research questions, instructors may help students reach a state of flow and ultimately enjoy the class.

Statement of Purpose and Research Question

The purpose of the study is to explore the experience of a concept of flow of apparel design students. To achieve the purpose, the following research questions are addressed.

1. Are students able to reach a state of flow in relation to their experience with apparel design? If so, how do students recognize a state of flow and how do they sustain it?

2. In what circumstances do students reach a state of flow? How differently do students experience flow depending on activities in the apparel design process?

3. What factors encourage or discourage students from reaching a state of flow?

Research Scope

This study defines its research scope within the context of education in apparel design. Csikszentmihalyi (1990) indicated that if people who have sufficient knowledge and skill specific to a given task engage in a state of flow, the level of their concentration, creativity, and satisfaction would be increased. Entering a flow state is important when learning to design since design is a creative, problem-solving process (Watkins, 1988). Looking at flow within apparel design education has implications for instructors who want to help students develop creative design and achieve happiness from their work.

In particular, under approval of the University's Institutional Review Board, the researcher examines the design process, specifically the flow experience of students in a senior level apparel design studio who are creating their own collections. Csikszentmihalyi (1990) indicated that one cannot expect to achieve enjoyment and reach a state of flow without cultivating the necessary skills of the task. Isabel Toledo (2013), a Cuban-born fashion designer, also recalled that she was able to design garments visualizing her own vision only after acquiring the needed design techniques and knowledge. In addition, she mentioned that students need to learn shared language in the fashion industry to communicate and execute their design ideas effectively. Thus senior students were selected as participants over freshman and sophomore as they have more in-depth techniques and knowledge and are more likely to reach a state of flow.

Csikszentmihalyi (1990) analyzed a wide range of opportunities to reach a state of flow in his participants from the use of physical and sensory skills to the development of symbolic skills. There are similarities and differences among flow experiences depending on characteristics of activities. In this respect, the study specifies the research scope as students taking a senior level apparel design studio for their own collections. To complete their own collections, students performed a variety of tasks including defining a problem, surveying, drawing, draping, patterning, sewing, etc. During the design process, students would have different flow experience depending on activities. In this study, the researcher examines how differently students experience flow depending on activities within the research scope.

The Researcher's Perspectives and Assumptions

At the time of conducting the study, the researcher was employed as an instructor and a research assistant in the College of Design at the University of Minnesota. The researcher used her prior educational knowledge and experience in the study process. The researcher acknowledges that the experiences are valuable in providing insight but present a risk of biasing the judgment regarding research design and the interpretation of findings. To address her subjectivity and strengthen the credibility of the research, various procedural safeguards were taken such as inter-rater reliability checks with professional colleagues.

Based on the researcher's experience and background as a teaching assistant and an instructor, three primary assumptions are made regarding the study. First, participants understand a concept of flow and are capable of reaching a state of flow. This assumption is based on the premise that flow phenomenon occurs in the field of apparel design. Second, students taking a senior level apparel design studio have enough knowledge to reach a state of flow. This assumption is based on Csikszentmihalyi's (1990) notion that people who have sufficient knowledge and skill specific to a given task are able to reach a state of flow. Third, students will perform a design project diligently and are willing to participate in the study.

Rationale and Significance

This study is worthwhile to explore for the following reasons. First, there is a lack of research regarding flow experience in apparel design. Thus the study can construct a

valuable database about flow experience in apparel design and provide guidance for the related research that follows.

Second, previous research has only focused on the relationship between the concept of flow and performance and has not addressed students' flow experience itself. In particular, the study of flow has mostly been limited to performance in sports (Jackson & Marsh, 1996), musical activities (Bakker, 2005; Custodero, 2002), and computer settings (Sosik, Kahai, & Avolio, 2011). Thus, it is worthwhile to explore how students in apparel design fall into a state of flow and how to help them enter into this flow state.

Third, the study has implications for instructors who want to nurture students' creativity. Creativity has become the central element in the design process (Utterback, 1994) as companies need to invent original technologies and designs to stay competitive. In this regard, fostering creativity in the design classes is highly important for design educators. Csikszentmihalyi (1997) explored creative and successful people who easily achieve happiness from their work by reaching a state of flow. Although extensive literature exists on flow and creativity in various fields (Jackson & Marsh, 1996; Jackson, 1996; Jackson, Thomas, & Marsh, 2010; O'Neill, 1999; MacDonald et al., 2006; Trevino & Webser, 1992; Novak et al., 1998; Chan & Ahern, 1999), the researcher found no evidence of the possible links between creativity in the field of apparel design and Csikszentmihalyi's concept of flow or optimal experience. It is anticipated that by carefully exploring the flow experience of design students in this study, the link between flow and creativity in the field of apparel design is more clearly understood. As a consequence, educators have a better understanding of the concept of flow in apparel

design and are able to help students enter into a state of flow. This in turn will foster

students' creativity and increase their enjoyment in their profession.

Chapter Summary

In this chapter the critical components that set in place a research study: problem,

purpose, research questions, research scope, researchers' perspectives and assumptions,

and significance are described. This study seeks to explore the phenomenon of how

students recognize a state of flow, how differently students experience flow depending on

activities in the apparel design process, and what factors encourage or discourage them

from reaching a state of flow. The research scope is defined within the context of

education in apparel design and design students in a senior level design studio class

selected as the research subjects. In-depth phenomenological study using a qualitative

research method is used to find answers to the proposed research questions. The study

provides educational insight to instructors and educators in the apparel design field.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

The purpose of the study is to examine the phenomenon of how students

recognize a state of flow, when and where students reach a state of flow, and what factors

encourage or discourage students from reaching a state of flow. In particular, the

researcher focuses on students taking a senior level apparel design studio for their own

collections. To carry out the study, it is necessary to complete a critical review of current

literature. To conduct the literature review, the researcher uses multiple information

sources, including books, dissertations, Internet resources, journals, and periodicals.

These sources are from various fields such as psychology, education, design and apparel

studies. This review is ongoing throughout the data collection and data analysis phases of

the study.

This critical review explores a concept of flow within the context of education in

apparel design. In light of this, two major areas of literature are critically reviewed: (a) a

concept of flow, and (b) general aspects of education in apparel design. A concept of

flow is reviewed to provide an understanding of major characteristics of the subject

matter. A review of general aspects of education in apparel design provides a context for

understanding what specific assigned activities are related to students' flow experience

while performing a design project. The interpretive summary that concludes the chapter

illustrates how the literature has informed the researcher's understanding of the material

and how the material contributes to the ongoing development of the study's conceptual framework.

A Concept of Flow

In this section, a concept of flow is described with an emphasis on several factors related to research questions: (a) origin and definition of the concept of flow, (b) flow through physical and mental activities, (c) conditions encouraging reaching a state of flow, and (d) flow and creativity. The chapter culminates with a brief concluding summary.

Origin and Definition of the Concept of Flow

Mihaly Csikszentmihalyi, a sociologist, is considered to be the founder of the concept of flow. Csikszentmihalyi and his fellow researchers had studied the concept of flow in the 1960s after he became inspired by artists who were fully involved in their work. They would completely lose a sense of their environment and further disregard their basic human needs such as food, water and sleep. To understand the phenomenon, Csikszentmihalyi interviewed a few hundred experts including artists, athletes, musicians, chess masters, and surgeons. From their accounts of what they feel when fully focused or concentrating on a given task, Csikszentmihalyi developed a theory of optimal experience and called the process of total involvement flow.

Csikszentmihalyi (1990) described flow as the state in which people are so involved in a task and the experience itself is so enjoyable that people do it voluntarily.

Csikszentmihalyi (1990) constructed flow into nine dimensions: sensing that one's skills are balanced to the challenges, merging actions and awareness, engaging clear goals, directing unambiguous feedback, concentrating on the task at hand, feeling in control, losing self-consciousness, transforming of time, and having an autotelic experience (Jackson & Marsh, 1996). When one enters into a state of flow, he or she would have a feeling of spontaneous joy while performing a task.

A concept of flow has been studied from various fields. In particular, the study of an optimal experience has extended to performance in sports, musical activities, and computer settings. These studies are usually associated with the relationship between participants' flow experience and their performance from an educational viewpoint.

In terms of flow in sports, Jackson (1996) investigated flow in sports to understand how this optimal state is experienced by elite athletes. 28 elite-level athletes, representing 7 sports, were interviewed on their perceptions of flow state during performance of their sport. Jackson, Thomas, and Marsh (2010) examined the relationship between flow and optimal performance. They extracted factors from Csikszentmihalyi's concept of flow to make the optimal mental state more accessible to researchers and practitioners. As a result, they found a positive relationship between a post-event flow assessment and performance criteria.

In terms of flow in musical activity, O'Neill's (1999) study made use of the flow model to examine the motivational and social factors involved in learning to play a musical instrument. MacDonald, Byrne, and Carlton (2006) also described a model for

music education which utilizes the flow concept, and also suggested that the creative output of musicians can be positively correlated with their levels of flow.

In terms of flow in computer settings, Trevino and Webser (1992) studied the interactive experience between subjective human and CMC technologies of electronic mail and voice mail which involve the user's interaction with the technology. They defined the core flow experience while interacting with CMC technology. The four characteristics of core flow experience are: feeling in control, focusing attention on the activity, feeling curiosity, and having intrinsic interest. Novak et al. (1998) defined flow as the states of feeling a seamless sequence of responses with machine interactivity, perceiving intrinsic enjoyment, loss of self-consciousness, and sensing self-reinforcing during network navigation. They structured flow experience to investigate the behavior of the consumer's navigation on the Web. Chan and Ahern (1999) applied flow theory in instructional design. While the goal of instruction was to help students acquire knowledge or skills, motivating students to learn is important in instructional design practice. Thus they explored how students are motivated to learn based on flow theory.

In conclusion, the previous researchers have found evidence of participants' flow experience with factors extracted from Csikszentmihalyi's concept of flow (Jackson & Marsh, 1996; Jackson, 1996; Jackson, Thomas, & Marsh, 2010; O'Neill, 1999; MacDonald, Byrne, & Carlton, 2006; Trevino & Webser, 1992; Novak et al., 1998; Chan & Ahern, 1999). In addition, previous researchers have focused on the relationship between participants' flow experience and their performances or responses, not on their

flow experience itself. Moreover, there is a lack of research regarding students' flow experience in apparel design.

Flow through Physical and Mental Activities

Csikszentmihalyi (1990) analyzed a wide range of opportunities to reach a state of flow from the use of physical and sensory skills to the development of symbolic skills. He explained two kinds of flow: flow through the use of physical and sensory skills and through the development of symbolic skills. The two categories are interconnected to a certain degree.

In terms of flow through the use of physical and sensory skills, Csíkszentmihályi examined a variety of physical activities in which the performer can reach a state of flow such as performing sports, dancing, having sex, doing yoga, appreciating works of art, listening to music, and tasting food. Flow experiences based on the use of physical skills occur to people who want to surpass the limits of the body. To reach a state of flow during these physical activities, several conditions need to be satisfied.

> Even the simplest physical act becomes enjoyable when it is transformed so as to produce flow. The essential steps in this process are: (a) to set an overall goal, and as may sub-goals as are realistically feasible; (b) to find ways of measuring progress in terms of the goals chosen; (c) to keep concentrating on what one is doing, and to keep making finer and finer distinctions in the challenges involved in the activity; (d) to develop the skills necessary to interact with the opportunities available; and (e) to keep raising the stakes if the activity becomes boring. (Csíkszentmihályi, 1990, p.97)

To get enjoyment and achieve a state of flow during the activity, one's mind should be fully involved in physical activity without distractions. Accordingly, the one

should have a set of appropriate skills that make one concentrate on the activity. Csíkszentmihályi (1990) also mentioned that everyone is able to reach a state of flow through physical activities. In this regard, people would reach a state of flow through performing physical activities in apparel design such as cutting fabric, operating a sewing machine, or fitting a client.

Csikszentmihalyi, on the other hand, differentiated between flow experience through physical and mental activities. Interviewees in Csikszentmihalyi's study responded that mental operations, such as reading, solving problems, interpreting symbols, or appreciating works of art, were able to provide their own particular form of enjoyment (Csikszentmihalyi, 1990). To enjoy mental activity, similar conditions that make physical activity enjoyable are required. "There must be skill in a symbolic domain; there have to be rules, a goal, and a way of obtaining feedback. One must be able to concentrate and interact with the opportunities at a level commensurate with one's skills (Csikszentmihalyi, 1990, p.118-119)".

In addition, one should not be distracted from internal or external stimuli to experience mental flow. To avoid distractions and establish order in the mind, Csikszentmihalyi suggested that having good habits that give control over mental processes is important. As one good example, he mentioned daydreaming. Daydreaming helps people rehearse imaginary situations, thus people are able to prepare strategies or alternative options for unexpected situations in advance. Habits, just like daydreaming, help people establish odder in the mind and further enter into a state of flow when

performing mental activities. To explore what factors encourage students to reach a state of flow, questions regarding their habit needs to be asked. `

Furthermore, Csikszentmihalyi (1990) pointed out the importance of memory, language, logic, and rules of causation when enjoying mental activities. According to him, when remembering something based on patterns or regularities, theoretical thinking, analyzing linguistically, people feel a sense of enjoyment because it entails fulfilling a goal and so brings order to consciousness.

Apparently, there are similarities and differences among flow experiences depending on characteristics of activities. In this respect, the study specified the research scope as students designing a collection in their senior level apparel design studio. To complete their own collections, students should perform a variety of tasks including defining a problem, surveying, drawing, draping, patterning, and sewing. During the design process, students have different flow experiences depending on activities. Thus this researcher is able to examine how differently students experience flow depending on activities within the research scope.

Conditions Encouraging Reaching a State of Flow

There are several conditions that encourage people to enter a flow stage (Csikszentmihalyi, 1996). First, one must be involved in an activity with a clear set of goals. In flow, one always knows what needs to be done. Thus one who has a clear goal is able to concentrate on a given task without hesitation. More, if one knows the goal completely, he or she can modify the goal whenever the reasons are no longer plausible.

Second, one must have a good balance between the perceived challenges of the task and his or her perceived skills and have confidence in his or her own ability. A balance must be struck between the challenge of the task and the skill of the performer to achieve a flow state. If the task is too easy or too difficult, flow cannot occur. Both the skill level and challenge level must match and be high; if skill and challenge are low and unmatched then apathy results.

Figure 1 illustrates the relationship between the perceived challenges of a task and one's perceived skills. If the level of perceived challenge is too high, the person becomes frustrated, then worried, and eventually anxious (figure 1). If the level is too low, the person begins to feel too relaxed, then bored, and finally apathetic. When high challenges are coordinated with high skills, however, then the person is deeply involved in the task and can reach a state of flow.

Sources: Adapted from Massimini & Carli 1988; Csikszentmihalyi 1990.
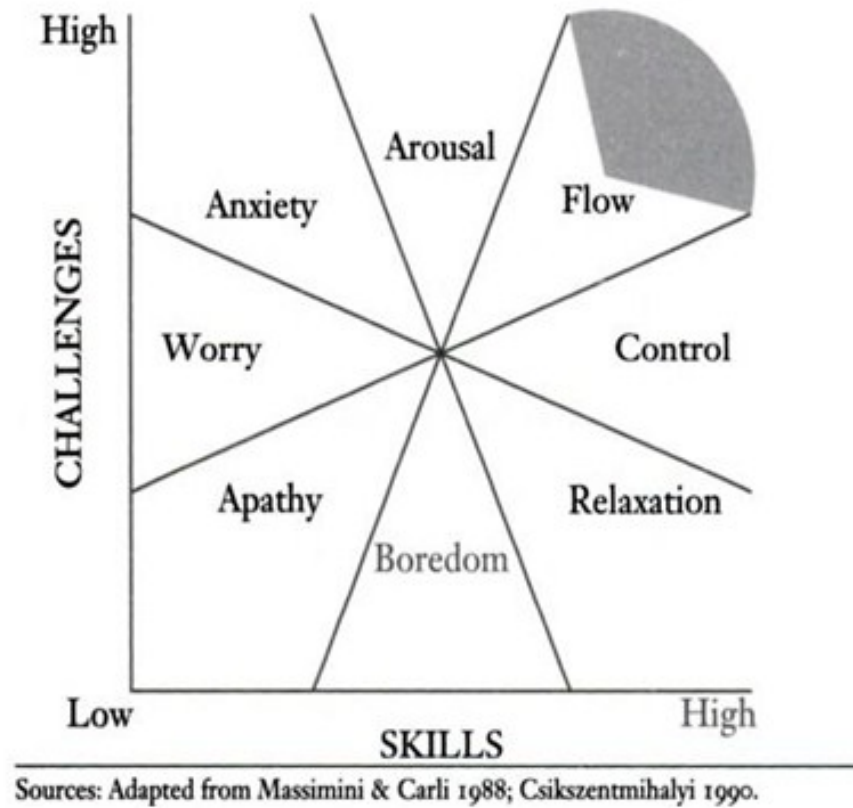
Figure 1.

The relationship between the perceived challenges of a task and the perceived skills

(Csíkszentmihályi, 1997; p.31)

Third, the task at hand must have clear and immediate feedback. To enter into a state of flow, one should know how well she or he is doing. Thus feedback should be logically related to a goal and its appropriate form varies depending on activities. Thus one in flow needs to get an appropriate form of immediate and continuous feedback from the performer's five senses or an instructor, while performing a given task.

Fourth, a flow state is most likely to occur when one is wholeheartedly performing a task or activity for intrinsic purposes. Intrinsic motivation refers to motivation that is driven by an interest or enjoyment in the task itself, and exists within the individual rather than relying on any external pressure or reward (Psychology Dictionary, n/d). Extrinsic motivation, on the other hand, refers to the performance of an activity in order to attain an outcome, such as fame, financial rewards, or relationship (Psychology Dictionary, n/d). To reach a state of flow, thus, one needs to be driven by one's own interest while performing a given task.

Fifth, Csíkszentmihályi explained the personality type of those who often experience flow. He said that individuals with an autotelic personality interpret their negative circumstances in a positive way, continually challenging and enriching themselves, and taking ownership of their choices, making them more dedicated to their goals. In addition, he explained the importance of ownership of one's decisions and comprehensive recognition of goals. If a person has a feeling of ownership of the decision, the person is more strongly dedicated to the goals.

Sixth, Csíkszentmihályi claimed that developmental communication with colleagues is critical to enter into a state of flow (1997). Relationships with colleagues

and family help people achieve emotional balance and further reach a state of flow. To

maximize its effect, there are two conditions. First, one should find an agreement point

between one's own and colleague's goal. Second, one needs to pay attention to the

other's goal.

Seventh, one must avoid distractions to reach a state of flow. The only thing the

performer in flow should be concerned about is what is relevant to the task. For example,

if a sewing machine operator thinks of his financial problems when sewing, he is likely to

make mistakes when operating his sewing machine. While performing mental activities,

in particular, people are unable to focus on their thoughts for a long time due to external

as well as internal distractions (Csíkszentmihályi, 1990) Thus, one must develop habits to

control the mind as well as intentionally avoiding external distractions to enter into a state

of flow.

Flow and Creativity

The concept of a new, novel, innovative, inventive and not previously known idea

has been studied by a number of creativity scholars. These terms appeared while

discussing a creative individual (Csíkszentmihályi, 1996; Liu, 2000; Portillo, 2002) and

the creative process (Csíkszentmihályi, 1996; Cross, 1997; Giaccardi, 2006). According

to Csikszentmihalyi (1996), "creativity is any act, idea, or product that changes an

existing domain or that transforms an existing domain into a new one." He indicated that

there are three different phenomena regarding creativity: (1) people who express unusual

and stimulating thoughts; (2) people who experience the world in novel and original

ways; and (3) people who have changed our culture in an important respect. Creativity helps people recognize problems that were not previously considered and provide new perspectives (Dohr, 1982). The general notion of creativity is a critical component in the development of breakthroughs and the solving of problems (Gardner&Weber, 1990; Liu, 2000).

In particular, the importance of creativity has been significantly emphasized in the field of design. Cross (1997) claimed that creative thinking is critical to designers when they have difficulties with developing ideas or solving problems in the design process. As demands of creative experts have been increased, design educators have attempted to find ways to improve students' creativity (Portillo, 1996).

To increase one's creativity, understanding a concept of enjoyment and flow is important because positive emotions are critical to learning, curiosity, and creative thought (Norman, 2004). Norman (2004) also indicated that relaxed people in a pleasant mood are more creative and able to cope with problems, so people in flow have more possibilities to be creative. More, Csikszentmihalyi (1990) specified that if people who have sufficient knowledge and skill specific to a given task enter into a state of flow, the level of creativity would be increased. Thus conditions of flow are closely related to creativity.

FLOW

(Csíkszentmihályi, 1990)

Conditions of Flow
- Sense of time
- Balance between skill and challenge
- Intention and passion
- Clear goal
- Immediate feedback
- Environment
- Motivation (intrinsic and extrinsic)
- Enjoyment
- Way of interpreting situations
- Ownership of decision
- Internal and external distractions
- Communication with colleague

Physical Activities
- Walking
- Running
- Swimming
- Seeing
- Tasting
- Listening

Mental Activities
- Reading
- Solving problems
- Studying
- Interpreting
- Learning

Figure 2. Summary of reviewed literature regarding

Csíkszentmihályi's concept of flow

Summary

A concept of flow is reviewed to provide an understanding of major characteristics of the subject matter. In this section, a concept of flow was described with an emphasis on several factors related to research questions: (a) origin and definition of the concept of flow, (b) flow through physical and mental activities, (c) conditions encouraging reaching a state of flow, and (d) flow and creativity. Csikszentmihalyi described that flow is the state in which people are so involved in a task and the experience itself is so enjoyable that people will do it for voluntary effort. Csikszentmihalyi analyzed a wide range of opportunities to reach a state of flow from physical to mental activities. In addition, Csikszentmihalyi constructed the concept of flow into nine dimensions: sensing that one's skills are balanced to the challenges, merging actions and awareness, engaging clear goals, directing unambiguous feedback, concentrating on the task at hand, feeling in control, losing of self-consciousness, transforming of time, and having an autotelic experience. Reviewed literature regarding a concept of flow is summarized in figure 2. The researcher developed questions regarding students' flow experience and creativity to ask participants. It is anticipated that students who fall into a state of flow and get enjoyment from their efforts would be able to create effective results.

Education in Apparel Design

The primary goal of education in apparel design is to nurture passionate designers who will work in the fashion industry. In school, an apparel design student learns how to control the aspects of design to create a desired appearance (Elsasser & Sharp, 2013). Students may experience flow while performing activities in the design process. Thus it is critical to explore what activities students perform in the design process to examine students' flow experience in an educational context.

Goals of Education in Apparel Design

Archer (1979) claimed that one of the major goals of education is the transmission of essential skills. To transmit educators' skill and knowledge effectively, pedagogical procedures must be carefully planned, continuously examined, and directly related to the subject taught (Bickle, Carroll, & McKenna, 2005). They also indicated that educators need to stimulate active learning and encourage students to be critical, creative thinkers (Bickle, Carroll, & McKenna, 2005). The importance of education has been dynamically discussed throughout time and among various disciplines. Disciplines of design education, however, have not been discussed for long since the design discipline has been dynamically discussed only during the past 60 years (Bye, 2010). Design disciplines have been constructed over time and continuously developed through the discourse of a number of design scholars. As a result, the role of professional designers has evolved and been changed.

Roth (1999) indicated that the role of the professional designer is changing from a creative stylist with knowledge and talent to a team member who is skilled in communication and problem solving and has the ability to manage and synthesize knowledge from different domains. Archer (1979) mentioned that an important goal of design education is to develop students' abilities to understand and handle ideas which are expressed through the medium. Gray and Malins (2004) highlight the importance of visual thinking and visualization in the learning process in art and design education. Elsasser & Sharp (2013) explained that professional designers should be able to create a product satisfying the needs of a target consumer. Good designs, according to Norman (1998), have an appropriate balance and harmony of aesthetic beauty, reliability and safety, usability, cost, and functionality. Thus educators in design need to teach how to create good design.

From these writers' explanations, the goal of current design education is to develop students' ability to (1) communicate with colleagues, (2) solve a problem creatively, (3) express their ideas thorough visual medium, and (4) create a good product with an appropriate balance and harmony of aesthetic beauty, reliability and safety, usability, cost, and functionality.

Apparel Design Process within the Education Context

Design is both a process and a product (Elsasser & Sharp, 2013). The design process involves all the steps needed to create a product. The object of this section is to clarify what activities take place in each stage of the design process.

As the importance of the design discipline significantly increased after the Industrial Revolution, educators have attempted to teach students materials closely related to industry practice (Watkins, 1988; LaBat & Sokolowski, 1999). Professional designers in industry today create products based on a design process (Elsasser & Sharp, 2013). In this respect, teaching how to design based on a design process is an effective way of helping students to prepare for their forthcoming career in the industry.

As part of the effort, a number of researchers have studied a design process in apparel design (Watkins, 1988; Lamb & Kallal, 1992; LaBat & Sokolowski, 1999; Bye, 2010). Watkins (1988) described a designer's roles in a design process as following.

> The designer is asked to accept the problem (to get motivated and find reasons to devote time and effort to a problem), to analyze it (to find out everything possible about the problem), to define it (to decide what the most important aspects of the problem are), to ideate (to develop as many ways to solve the problem as possible), to select the best idea, to implement (to take action and try out the best idea), and to evaluate (to analyze what happened when action was taken) (p.10).

In this respect, designers create objects based on a design process consisting of accepting a problem, analyzing a problem, defining a problem, selecting an idea, ideating, implementing, and evaluating.

Furthermore, LaBat & Sokolowski (1999) explored a three- stage design process consisting of problem definition and research, creative exploration and development, and implementation (Figure 3). The first step of LaBat & Sokolowski's process is 'problem definition and research'. This step is the expansive segment of the process and includes defining a preliminary problem, investigating user needs, the market, and characteristics of the current product, and redefining a problem based on accumulated information

(LaBat & Sokolowski, 1999). The second step is 'creative exploration'. This step consists of a variety of activities such as generating many preliminary ideas, narrowing possibilities, developing, evaluating, and refining prototypes, and redefining a problem (LaBat & Sokolowski, 1999). The last step is 'implementation'. This step includes producing the final product considering constraints of cost to produce, time to produce, methods of production, and sales potential (LaBat & Sokolowski, 1999).

LaBat & Sokolowski's design process was used to explore specific tasks assigned to students while performing a design project because it contains the common aspect of a design process (LaBat & Sokolowski, 1999). Through analyzing tasks assigned to students during a design project, how, when, and where students reach a state of flow was explored
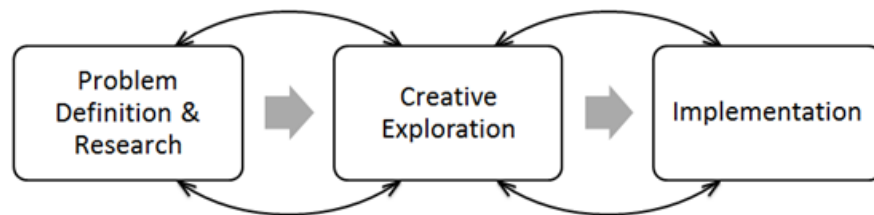
Figure 3. LaBat & Sokolowski's design process (1999)

Process of a Design Project

Most college fashion programs require students to create a group or collection of garments as a final project for graduation (Elsasser & Sharp, 2013). When creating a collection of garments, a student generally follows a design process. The researcher explored students' assigned tasks while performing a design project based on LaBat &

Sokolowski's design process, since it contains the common aspects of design process (LaBat & Sokolowski, 1999).

The first step of LaBat & Sokolowski's process is 'problem definition and research'. In this step, students define a preliminary problem, investigate user needs, the market, and characteristics of the current product, and redefine a problem based on research (LaBat & Sokolowski, 1999). To conduct design research, Gray and Malins (2004) claimed that designers need to plan their journey. The plan of the journey should contain information regarding what the research problem is, why the research is needed, how the research is conducted, and the significance of the research contributions will be (Gray and Malins, 2004). In this respect, students define the problem, find user's needs (function, aesthetic, economic), research characteristics of current designs, establish design criteria and redefine the problem through reading, surfing the internet, visiting a museum collection, interviewing users, or conducting survey.

The next step is 'creative exploration'. Students generate several preliminary ideas, develop, evaluate, and refine prototypes, and redefine a problem in this step (LaBat & Sokolowski, 1999). To explore preliminary ideas, students would brainstorm rough ideas, mind-map, or create a mood board which is a type of poster design consisting of images, text, and samples of objects. Students also draw sketches, purchase sample fabrics, drape the fabric, create patterns, and sew to develop prototypes. More, students communicate with classmates, analyze design elements and principles of prototypes, and consider user and context to evaluate prototypes. A time is scheduled to meet with their mentors to get feedback as well as for a formal critique of their work as they progress.

Traditionally the study of design includes examination of both design elements and principles (Elsasser & Sharp, 2013). The design elements include line, space, form, light, color, and texture. Design principles including repetition, rhythm, contrast, emphasis, proportion, scale, balance, harmony, and unity involve the manipulation of design elements to create an effect (Elsasser & Sharp, 2013). In order to develop a prototype effectively, students need to understand design elements and principles of the whole design (Elsasser & Sharp, 2013).

The last step is 'implementation'. In this step, students incorporate information that they accumulated in previous steps to decide the final design of their garments. After that, students create a final product considering constraints of cost to produce, time to produce, methods of production, and sales potential (LaBat & Sokolowski, 1999). When they are creating a final garment, students should pay close attention to sewing quality and details to improve quality of the final garment.

This design process is structured chronologically. After the last step, students' final garments will be evaluated from the perspective of an instructor, colleagues, or audiences. Although evaluation of students' final garments is the very last step in the design process, it is essential to critically evaluate progress at each step (Elsasser & Sharp, 2013). Students often go back and forth within a design process in the given time frame to create garments effectively visualizing their ideas.

The process of the apparel design project and assigned tasks in each step are summarized in Figure 4. Through analyzing what activities students perform for their

own collections, in what circumstances students reach a state of flow and how differently

students experience flow depending on activities in apparel design process are explored.

Problem Definition & Research		Creative Exploration		Implementation

- Defining the problem
- Finding user's needs (function, aesthetic, economic)
- Market research
- (current products)
- Establish design criteria
- Reading
- Surfing the internet
- Visiting museum
- Interviewing users
- Conducting survey

- Exploring preliminary ideas (brainstorming, drawing, mind-mapping)
- Design refinement (Solving the problem, considering user constraints and production constraints)
- Prototype development (Buying fabric, drawing, patterning, draping, sewing)
- Evaluation of prototype (communicating with classmate, analyzing with design elements and principles, considering user and context)

- Decision of the final design of the garment (incorporating information, communicating with classmate and an instructor)
- Making the final garment (Buying fabric, drawing, patterning, draping, sewing, lining, putting details)

Figure 4. Activities within the apparel design process

Summary

In this section, the researcher explored what activities students perform in the design process to examine students' flow experience in an education context. A primary goal of education is the transmission of essential skills. In particular, important goals of current design education are to develop students' ability to communicate with colleagues, solve a problem creatively, express their ideas thorough visual media, and create a good product with an appropriate balance and harmony of aesthetic beauty, reliability and safety, usability, cost, and functionality. To achieve the goals, design educators introduce a design process to students. Most college fashion programs require students to create a group or collection of garments as a final project for graduation. When creating their own collections, a student generally follows a design process. The researcher explores what activities students perform to create their own collections based on LaBat & Sokolowski's design process, since it contains the common aspects of a design process. LaBat & Sokolowski's design process consists of problem definition and research, creative exploration and development, and implementation. Based on their design process, the process of an apparel design project and assigned tasks in each step may be analyzed to examine students' flow experience within it.
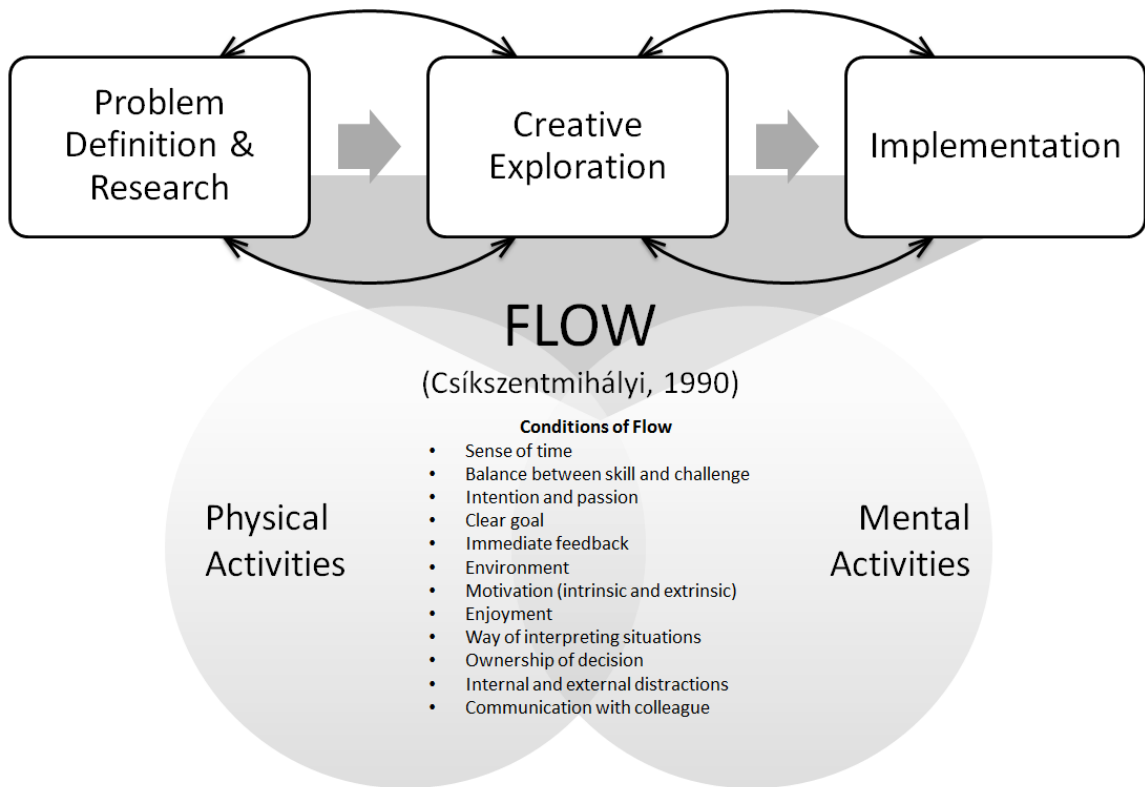
Figure 5. Relationship between flow and the apparel design process

CHAPTER 3

METHOD

Introduction

The purpose of the research is to explore how senior level apparel design students recognize flow, how differently students experience flow depending on the activities in apparel design process, and what factors encourage them to reach a state of flow. In seeking to understand this phenomenon, the study addresses three research questions: (a) Are students able to reach a state of flow in relation to their experience with apparel design? (b) In what circumstances do students reach a state of flow? How differently do students experience flow depending on activities in the apparel design process? (c) What factors encourage or discourage students from reaching a state of flow?

This chapter describes the research methodology and includes discussions around the following areas: (a) rationale for research approach, (b) description of the research sample, (c) methods of data collection, (d) analysis of data, (e) ethical considerations, and (f) issues of trustworthiness. The chapter culminates with a brief concluding summary.

Rationale for Qualitative Research Design

Creswell (2005) explained that researchers "conduct qualitative research because we need a complex detailed understanding of the issue. This detail can only be established by talking directly with people, going to their homes or places of work, and allowing them to tell the stories unencumbered by what we expect to find or what we have read in the literature." (p.40) To answer the three research questions the researcher needs to (a) understand the processes by which flow takes place, (b) develop detailed understanding of the phenomenon, and (c) understand the context of participants.

Thus, the study is most suited for phenomenological study within the framework of a qualitative approach. According to Creswell (2005), phenomenological study focuses on describing what all participants have experienced individually and in common; and then analyzing commonalities regarding a certain phenomenon. Bloomberg and Volpe (2008) indicated that "the purpose of phenomenological research is to investigate the meaning of the lived experience of people to identify the core essence of human experience as described by research participants (p.11)." The present research fits well with Creswell's phenomenological study because it seeks to better understand how students recognize flow, when and where they reach a state of flow, and what factors encourage students to reach a state of flow.

Research Sample

Purposive sampling, such as is used in this study, is the most commonly accepted phenomenological sampling method (Creswell, 2005). The criteria for selection of all participants are:

1) Participants are taking a senior level Apparel Design Studio and involved in a design project for their own collections.

2) Participants are capable of reaching a state of flow.

3) Participants are willing to volunteer to participate in the research.

First, participants taking a senior level Apparel Design Studio are selected by the researcher to ensure their adequate skill and knowledge in apparel design. Since senior students are more skillful in terms of apparel design than freshman and sophomore students, it is assumed that senior students are more capable of reaching a state of flow.

Second, Csikszentmihalyi described that flow is the state in which people are so involved in a task and the experience itself is so enjoyable that people will do it for voluntary effort. According to him, passionate individuals who interpret their negative circumstances in a positive way, who continually challenge and enrich themselves, and who take ownership of their choices are more strongly dedicated to their goals and more likely to enter a state of flow. The following three questions extracted from Csikszentmihalyi's concept of flow are asked of participants to examine their experiences in reaching a state of flow. (a) Have you ever lost a sense of time and forgotten your environment when engaging in a certain activity? (b) When you encounter difficulties, how do you feel and react? Do you stay positive? Are you passionate about solving

problems? Are you negative? Do you let it go? Do you take some time to think about it? Do you overcome? Are you discouraged? Please describe your experiences. (c) How do you think about the class project you will engage in? Are you passionate about it? The researcher selects participants based on their responses to the questions.

Third, all participants should be performing a design project for their own collections, since the research examines students' flow experience during design activities regarding the concentration of their attention. A design project process includes a variety of activities such as defining the problem, researching, exploring ideas, developing prototypes and etc. Thus the research delimits participants as students performing a design project for their own collections.

Polkinghorne (1989) stated that it would be enough to interview from 5 to 25 individuals who have all experienced the phenomenon, thus the research sample includes the potential of having 15-20 participants. The procedure involves in-depth interviews with 12 students who are taking a senior level Apparel Design Studio from a Midwestern university. One senior level apparel design studio was scheduled for fall 2012 at the University of Minnesota; ADES 4225 Apparel Design Studio V. Due to convenience, the researcher conducted in-depth interviews with senior students taking ADES 4225 Apparel Design Studio V who responded positively to the three questions.

Data Collection Methods

The interview was selected as the primary method for data collection. Creswell (2005) stated that a researcher could determine a person's perspective on a phenomenon or experience through the interview method. In this regard, participants' personal experience regarding flow can be examined through the interview method.

Procedure

Series of questions were developed to examine the research questions. In a pilot study, the researcher interviewed 1-2 professional apparel designers individually for approximately 1 hour using these questions. Results from the pilot study then were used to refine interview questions.

After the pilot study, interviews with participants were conducted. The researcher sent individual e-mails to prospective participants describing the purpose of the study and invited their participation. Moreover, the researcher visited a senior level apparel design studio to recruit participants at the beginning of the fall semester. An interview with each participant was conducted twice in the semester. Fifty dollars were paid to each participant as compensation – 20 dollars paid at the first interview and the rest paid at the second interview. For the first interview, questions regarding students' past flow experience, their aptitude in apparel design, and their garment making skills were asked (Appendix B). Before conducting the first interview, students were asked to respond to a brief survey regarding their happiness with their life and major (Appendix A). After the first interview, students performed tasks to make their own collection for one semester. The researcher asked the students to pay attention and try to write journals when they

think that they had entered a state of flow. For the second interview, questions regarding how they recognize the concept of flow, when and where they experience a state of flow, and what factors encouraged them to reach a state of flow were asked (Appendix C). Each interview was conducted for approximately an hour.

The interviews were conducted between September 2012 and March 2013. All interviews were conducted and recorded in a neutral setting such as an office. A total of 12 students participated in the first interview. For the second interview, 11 of the 12 students (91.67%) participated. One student did not respond to the second interview request. On completion of each interview, the audio tape was transcribed.

Analysis of Data

Qualitative raw data are records of complex observation and interaction with participants and not easily reduced immediately to numbers (Richards, 2005). Thus a qualitative researcher's role is to transform raw data into meaningful inference by "analyzing them and making inferences from these discrete pieces of information (Bloomberg & Volpe, 2008, p, 95)." In this regard, the researcher analyzed raw data to create meaningful interpretation through the following steps.

First, the researcher read transcriptions of the interviews thoroughly, line by line. After that, the researcher focused on an interesting phrase or sentence, jotted down what she learned, and placed a link (Richards, 2005). Second, the researcher conducted analytical coding. To conduct analytical coding, the researcher followed Richard's direction considering: "the meaning in context, creating categories that express new ideas about the data, coding to gather and reflect on all the data related to them (Richards, 2005, p.94)." Several categories developed for each research question. For each created category, the researcher wrote a thick description. Third, the researcher examined and compared patterns with categories. In addition, the researcher compared connecting patterns across categories. Fourth, the current study was placed with respect to prior research; thus the researcher compared and contrasted it with issues that have been discussed in the broader literature.

Based on the analysis, the researcher was able to discover and develop the broader inferences of the research.

Ethical considerations

To protect participants, ethical issues were considered in various ways. First, the

research was approved by the U of MN Institutional Review Board to protect

participants' autonomy and rights. Before the interview commence, the participants were

asked to review and sign a consent form required for participation in this study

(Appendix D). Written consent to voluntarily proceed with the study was received from

each participant. Second, participants were informed about the study's purpose. Third,

participants' rights were of primary concern when choice was made regarding the

reporting and dissemination of data. Participants' personal information and other

significant identity characteristics were kept confidential. All data were stored securely

and nobody other than the researcher had access to this material.

Issues of Trustworthiness

In qualitative research, trustworthiness features consist of any efforts by the

researcher to address the more traditional quantitative issues of validity and reliability

(Bloomberg & Volpe, 2008). In seeking to establish the trustworthiness of a qualitative

study, Guba and Lincoln (1998) used the term credibility, dependability, confirmability,

and transferability, arguing that the trustworthiness of qualitative research should be

assessed differently from quantitative research.

Credibility

The criterion of credibility suggests whether the findings are accurate and credible

from the standpoint of the researcher, the participants, and the reader (Bloomberg &

Volpe, 2008). To enhance credibility (methodological validity) of the study, the research triangulated data collection methods (Bloomberg & Volpe, 2008). Gathering data from multiple methods yields a fuller and richer understanding of the phenomenon (Guba & Lincoln, 1998). To enhance the interpretive validity of this study, the researcher employed various strategies; 1) the researcher clarified her assumptions; 2) the research findings were reviewed and discussed by professional researchers (Lincoln & Guba, 1985).

Dependability

Reliability refers to the extent that research findings can be replicated by other similar studies (Bloomberg & Volpe, 2008). To achieve dependability of the study, the researcher described how the research was planned and executed on a strategic level; the researcher addressed what was done in the field (Shenton, 2004).

Confirmability

The concept of confirmability relates to the notion of objectivity in quantitative research (Shenton, 2004). The implication is that the findings are the result of the research, rather than an outcome of the biases and subjectivity of the researcher (Bloomberg & Volpe, 2008). To achieve this, a researcher needs to identify how the findings originate. To achieve confirmability of the study, the researcher offered the reader an opportunity to assess the findings of the study through presenting transcription of one participant's interviews (Bloomberg & Volpe, 2008).

Transferability

Transferability is the way in which the reader determines whether and to what extent this particular phenomenon in this particular context can transfer to another particular context (Lincoln & Guba, 1985).To achieve transferability, the researcher attempted to address the issue of transferability through describing participants and the context (Bloomberg & Volpe, 2008).

Summary

This chapter provided a detailed description of the study's research methodology. To understand the phenomenon of students' flow experience in apparel design, qualitative phenomenological study methodology was employed. The sample was selected from 12 purposefully selected individuals. The interview method was employed to collect data. Each participant was interviewed twice: the first interview conducted during the design process and the second interview conducted after the completion of the design process. Each participant was compensated 50 dollars for the two interviews. Based on reviewed literature, questions were designed to examine the research questions. Collected raw data was investigated through an analytical coding method to create meaningful interpretation. Finally, data was reviewed based upon the literature and merging themes.

Chapter 4

FINDINGS AND ANALYSIS FROM SURVEY AND FIRST INTERVIEW

Introduction

The purpose of this phenomenological study is to explore apparel design students' experiences of flow during the design process and their awareness of satisfaction. This research used naturalistic inquiry to collect qualitative data by conducting two in-depth interviews with participants during the apparel design process. Participants in the study included 12 students who were taking their senior apparel design studio to make four to five ensembles to represent their expertise. The interview data were coded, analyzed, and organized first by research procedure and then categorized and subcategorized by research questions and conceptual framework, as depicted in chapter 2. The researcher believes that a better understanding of this phenomenon would allow educators to help students reach a state of flow and ultimately find more enjoyment in their projects. To achieve the research purpose, the study was based on the following three research questions.

1. Are students able to reach a state of flow in relation to their experience with apparel design? If so, how do students recognize a state of flow and how do they sustain it?

2. In what circumstances do students reach a state of flow? How differently do students experience flow depending on activities in the apparel design process?

3. What factors encourage or discourage students from reaching a state of flow?

This chapter presents key findings of survey and first in-depth interviews with twelve apparel design students who designed collections for the senior fashion show. The survey and the first interviews took place at the beginning of the semester. After presenting findings from the survey and first interviews, the first research question was invited and answered.

Data from the survey and the first interview were coded and presented in this chapter. By way of "thick description" (Denzin, 1989), the researcher set out to document a broad range of experience, and thereby provide an opportunity for the reader to enter into this study and better understand the reality of the research participants. The emphasis throughout is on letting participants speak for themselves. Illustrative quotations taken from interview transcripts help to portray multiple participant perspectives and capture some of the richness and complexity of the subject matter.

In the analysis of data from the survey and the first interview, the researcher searches primarily for connecting patterns within the analytic categories, as well as the connection or themes that may emerge among the various categories based on the research questions. Throughout the process, the elements that continued to frame the analysis were (a) connective threads among the experiences of the research participants, (b) ways in which participants understand and explain these connections, (c) unexpected as well as anticipated relationships and connections, (d) consistency or inconsistency with the literature, and (e) ways in which the data go beyond the literature (Bloomberg & Volpe, 2008).

The analysis takes into consideration the literature on flow, creativity and education. The implications of these findings are intended to augment the understanding of the flow phenomenon in the field of apparel design.

Findings from the survey

Students were asked to answer a short survey before the first interview. The interview consisted of questions regarding students' happiness, flow, work load, and demographic information (see Appendix A).

In terms of happiness, students were asked how they are happy with their life, major, and their senior line project selection. Students' mean score of happiness in their life was 7.5 out of 9 while their mean score of happiness with their major was 7.91 out of 9. In addition, students responded that they are quite happy with their senior line project selection (8.08 out of 9) and they reported that their design works are very creative (7.25 out of 9) although their senior line project is challenging (7.62 out of 9). Detailed results are summarized in Table 1.

From these results, it appears that students are very happy with their life, their major (which is apparel design), and their senior line project selection. One student answered that she is not very happy with her senior line project (5 out of 9) because she wants flawless designs for her collection. It appears that her pursuit of perfection affects her happiness with her senior line project. In terms of demographic information, two students are married and each has four children, while ten students are single with no

children. Three students do not have internship experiences, while nine students have had

various internship experiences in the field of apparel design.

	Survey questions	Mean	Max	Min	SD
1	How happy are you with your life?	7.5	9	6	0.87
2	How happy are you with your major?	7.91	9	6	0.86
3	How happy are you with your senior line project selection?	8.08	9	5	1.11
4	How challenging do you think your senior line project will be?	7.62	9	6	0.94
5	How creative do you think you are in your design work?	7.25	9	6	0.72

Table 1. Summary of survey results

No.	Participant	Gender	Marital status	Location
1	Participant A	Female	Single	MN, USA
2	Participant B	Female	Single	MN, USA
3	Participant C	Female	Single	MN, USA
4	Participant D	Female	Single	MN, USA
5	Participant E	Female	Single	MN, USA
6	Participant F	Female	Single	MN, USA
7	Participant G	Female	Married – four children	MN, USA
8	Participant H	Female	Single	MN, USA
9	Participant I	Female	Single	MN, USA
10	Participant J	Female	Single	MN, USA
11	Participant K	Female	Single	MN, USA
12	Participant L	Female	Married – four children	MN, USA

Table 2. Characteristics of participants' demographics

Findings from the first interview

The first interviews were conducted after the beginning of their studio. Before the first interview, the researcher explained briefly that flow is based on Csikszentmihalyi's theory. For the first interview, questions were asked regarding students' past flow experience, their aptitude in apparel design, and their garment making skills. Below is a discussion regarding participants' responses from the first interviews.

Finding 1: 12 participants (12 of 12 [100%]) reported having experienced flow state in the apparel design process. Further, all participants mentioned that they experience flow state more frequently when performing activities in the field of apparel design than when performing other activities.

A primary finding of the study is that all participants were able to experience flow state during the apparel design process. This finding is highly significant in terms of the proportion of participants (12 of 12 [100%]) who experienced flow during the apparel design process. Participants expressed this in the following ways:

> Definitely when I am designing, that (flow) mostly happens because I am actually enjoying the activity. (Participant A)

> Yes, I find this (flow) when I'm sketching and drawing. I really enjoy the sketching phase and the ideation phase. Over the summer I was drawing and sketching and I didn't even realize that so much time has passed by. And I didn't realize that I was spending the whole day with sketching. So I think that I lose the most sense of time with ideating and sewing. (Participant E)

> I came here on Saturday and I spent nine hours for patterning. It seems that I was in there probably only three hours but I was there for nine hours. I also love sketching and ideating. I can lose sense of time when sketching and ideating. (Participant J)

Yes, there's definitely a certain point of being really into it and kind of forgetting about everything around you. (Participant D)

Based on the participants' descriptions, it appears that they experience flow frequently because they have enough design skills to carry out their design ideas and apply them to real garments. The activities in the design process that participants were most and least confident about varied from person to person. The more confident participants feel with a particular activity, the more frequently they experience flow during that activity. In this regard, all participants mentioned that they experience flow state more frequently when performing activities in the field of apparel design than when performing other activities.

Before when you were learning how to draw and how the body looks, I think you have to think more about what it looks like... Now I know how to draw it properly so I don't have to think about how to draw the body. So I can spend my time and energy to express my design ideas. (Participant J)

When we are learning patterns at the beginning, we always have text book open for everything and getting all these measuring stuff. Now I am able to make patterns without my textbook and I understand what hip curve looks like versus before when I would have to figure it out. I know what it looks like and it is easier for me to figure it out what I want and then move forward to actually doing the pattern verses drafting out a really basic pattern and then altering that to make it work and then fitting it. (Participant J)

In my major, I love to sketch. I love to put my hands in the sketch book. …. It could be words and pictures. I have sketchbook. That is where I put all the ideas and pictures. I definitely lose sense of time with this. (Participant A)

I find this (flow) often when sewing and patterning. (Participant K)

Few participants were able to lose a sense of time when working with the activities about which they were least confident. For such activities, participants said that

they had to make a greater effort to start the activity and experience flow state during the

activity.

> My weaknesses would definitely be my sketching which is very straight forward.
> It looks fine, but that is definitely one of my weaknesses. I'm never completely
> satisfied with it but I can lose a sense of time with this. (Participant J)

It turned out that students easily experience flow when working with activities in

the design process about which they are confident. At the same time, they are also able to

experience flow state with challenging activities and activities about which they are the

least confident. It appears that the difference in participants' ability to attain a flow state

during activities they are most and least confident about is a difference of frequency and

degree.

Finding 2: 12 participants (12 of 12 [100%]) reported that they were more

creative when they experience flow state.

Participants were asked to define creativity based on their own experience. The

most common definitions of creativity reported by students were 'an activity of thinking

outside the box and creating something different that people have never thought of

before' and 'an original activity of creating something surprising from basic elements'.

Participants defined creativity as following:

> It means thinking outside the box and creating something that people have never
> seen before. (Participant E)

> Original idea that is hard to define. Even in apparel, we work from blocks, which
> is basic shape. So someone can take that and turn it into surprising to make
> people stop and look at it. Creativity is taking something and changing it into

something completely new that related to their ideas and personalities. (Participant D)

Creativity is how you put things together and what you are going to do with it and what element of surprise is. (Participant C)

Each participant (12 of 12 [100%]) described herself as a creative person.

I think that I am very creative because I am able to look at problems and situations in different ways. People tell me I am so it must be true. I am definitely able to come up with new ideas in different ways to approach to things. (Participant G)

Participants said that creative ideas come unexpectedly and organically when they are aware of the fact that they need to design their collection. If they have clear design aesthetics and understand their expectations of the collection, they tend to experience flow easily and frequently. Having a concrete direction and idea for their collection helps them come up with relevant and creative designs.

Usually creative ideas just come to me randomly. (Participant L)

The concepts I did over the summer, it was not like I told myself "You're going to sit down and think this." It just kind of happened organically. It would just pop up when I don't expect to get inspiration is when it comes up. I get a lot of ideas on the bus. (Participant C)

I would start sketching again. And then I would get bored of it or something distracts me. And then I would have to go away. … But it kept drawing me back and I wanted to go back because that idea was not finished. (Participant C)

All participants also agreed that they could be more creative in the flow state.

Definitely, I can be more creative when losing sense of time. So much of my brain focusing on being creative, part of my brain cannot be used. (Participant A)

Interestingly, three students (3 of 12 [25%]) mentioned that deadlines encourage their creativity. They indicated that deadlines encourage them to work on the project and come up with creative design ideas. In particular, one participant mentioned, "I always need deadlines."

> I know I've always liked working under pressure. I hate when I have so much time to do something. But when it comes down to it, under pressure I feel more creative. I feel more focused. (Participant L)

> Stress from deadline makes me more creative and focused. (Participant G)

> I feel like my most creative work comes from when I am on the deadline and due very soon, so I need to get it done. I feel like that is when I am most creative. (Participant A)

On the other hand, five students (5 of 12 [41.67%]) indicated that if they have a deadline they have to narrow down their design ideas even though they want to ideate more designs. At the same time, one participant indicated that flexible deadlines are important for encouraging students' creativity. This student wanted to have flexible deadlines to have time to explore creative designs and try several experiments with their designs. At the same time, one participant (8.33%) indicated that a flexible deadline is important to encourage students' creativity.

> Sometimes, it is good to have deadlines so you can get stuff done. But also sometimes deadlines make us get it done to show results so we should end up and narrow it down anyway. We can tell teachers that this is where I want to go and can do a little bit more than that, but we just should get it done to reach the deadline. (Participant D)

> I think it is important to have deadlines but also it is important to make it flexible because I do think there are people who have a problem. Sometimes you really need to work on an individual case especially with something that is time-consuming or one little thing can draw everything off. I think that it is important to be flexible. (Participant D)

Finding 3: 12 participants (12 of 12 [100%]) reported that they were more productive when they experience flow state.

All participants (12 of 12 [100%]) reported that they are able to work on their project more productively when they experience flow. The productive experience makes them feel confident with themselves. Participants expressed this in the following ways:

> When I'm very absorbed in something, I feel like I've really done something. I feel productive. (Participant B)

> I was able to lose a sense of time when working very effectively. I was not able to recognize how time goes fast on Saturday. The experience makes me more confident. And I feel better because I have done my work. (Participant A)

In particular, deadlines help most participants (11 of 12 [91.66%]) be decisive with their designs, even though they also cause stress. Deadlines motivate participants to decide on the final design and direction of the project. One student mentioned that design ideas are floating around her and a deadline motivates her to put all her ideas together.

> Yes, I mean sometimes deadline helps you get to work efficiently and I can be detrimental. (Participant G)

> I always lose a sense of time no matter what I'm doing just because now at this point it's so close to our deadline that I feel there is not enough time and I feel time is going too fast. (Participant I)

> I had all my ideas floating around over the summer. I didn't know what exactly my designs were going to be until this semester. Even now I'm changing things here and there. But I definitely had a solid concept in the summer and I had the colors I wanted to use. But I didn't know what silhouettes I was going to use or how I was going to put them together. (Participant I)

> If I have too much time, like 2 weeks, I can never decide what I want to do. But when it comes down to 2 or 3 days, I have to make a decision. I just have to go for it. I would be best under pressure, that's why I'm always staying up late to do stuff. … It doesn't give me time to think about other things, but the project at

hand. It just keeps me focused and it makes me make a decision right away. I have to commit to it and I have to execute it and get it done. (Participant L)

If I have lots of time, I cannot think of anything. I think the stress really helps me get things done. (Participant A)

If participants have clear design ideas in mind, it appears that they are rarely stressed out by deadlines but even enjoy them. However, if they do not have any clear design ideas or a direction for their collection, a deadline is more likely to cause them stress.

I did feel really stressed out because I changed my concept. My teacher told me that if you do not love your concept, you should think about changing your concept. This is due in a week. I was so stressed out at that point. (Participant A)

Finding 4: Participants are motivated towards working hard on their senior projects due to intrinsic purposes.

All participants (12 of 12 [100%]) indicated that they work hard on their project not out of concern for financial rewards or good grades. Although the project is four - credits, participants were spending a significant amount of time outside of class on their project. Students took a one-credit course in Apparel Design Research during the spring 2012 semester to start the research process for their collections. After summer vacation, they took a three-credit course called Apparel Design Studio V to develop their design ideas for the February 2013 fashion show. One participant (8.33%) mentioned that she has not thought about the grade she will get because she thinks her effort and time is not measurable by the grade system.

I just want to prove to everyone that I deserve to be here, because I actually didn't get accepted into the program right away. They told me that they didn't have

enough spots. They were interested in my work, but they didn't have enough spots. Then, two weeks later I got this email saying that they opened up a spot for me, because they wanted to see where I was going to take my designs. And, I think what I want to do is to prove to everyone that I am worthy of this and I'm a good designer. (Participant H)

This is much more about you proving who you are as a designer. It is about four years' blood sweat and tears that you went through. It is about showing what you've learned for four years. [Laughs] Yeah. It's incredibly important. (Participant F)

(This project is) very important, it sort of feels like it's a baby. (Participant K)

The senior line project holds a significant meaning for all the participants. They mentioned that it is their first opportunity to introduce their work to the public and to introduce themselves as fashion designers. Their passion for the project stimulates their flow in the design process. They are willing to devote themselves to the project.

Finding 5: Activities outside of school fostered participants' flow experiences.

Six participants (50%) reported that they established their design aesthetics from several out-of-school activities such as studying abroad, working at an internship, and traveling around the world. Due to the clear design aesthetics they developed from various experiences outside of school, these participants are able to experience flow easily, are able to be more creative, and have a clearer design aesthetic.

I actually came up with the creative idea when I was studying abroad in London. (Participant B)

I think I tend to find inspiration in a lot of different places and I think I'm pretty good at finding it no matter what situation I'm in. I studied abroad last semester in Florence Italy and that was very-very inspiring. I've never been out of the United States before, so that was very inspiring and I was creatively fueled. (Participant I)

Tyra, my mentor, has taught me how to be more creative and how to hone my creativity, how to create, how to design with more specific design brand. (Participant F)

Finding 6: Participants' family and friends affect their flow experience and creativity.

Six participants (50%) indicated that their family and friends affect their flow experience and creativity. For example, one student reported that she always experiences a flow state when she works on her project, because otherwise, she is usually so busy with her four children. Since she does not have enough time to work on her project, she always loses her sense of time when she does work on it.

I have a busy lifestyle. I'm busy either at school or at home. … I don't have a lot of time. After school I go to work, and then I come home. And then I have other things like cooking or helping kids because I have 3 kids in school now. … So I always want to spend time effectively. (Participant L)

Three students (25%) mentioned that their parents are engaged in fields that require creativity. Thus they seem to have acquired their creativity through heredity. This helps them think to experience flow when working with creative activities.

I think I'm creative because both of my parents are artists. My dad was an actor so he wasn't a visual artist but my mom, she painted and drew and wrote songs. She was a costume designer for many years in Chicago and so she was very well-rounded with position that required creativity. I think I get it from her. It is just a genetic thing because ever since I was little even without the influence of my mom I always liked drawing and visual art and expressing myself. I always paid a lot of attention to details I think that's just naturally in me. I think of the influence of my parents growing up. (Participant I)

I grew up in the creative field. I wanted to be a designer. … My dad is a painter. My mom, she's not in a creative field, but we always would do projects outside of school, just for fun. And, my grandparents are very creative people. My

grandmother has been sewing since she was very young. So, I got that from her. She would help us sew and we would make our own outfits. She always helped us with that stuff. So, I think that just got me there. (Participant H)

One participant indicated that her supportive family makes her feel comfortable and relaxed when she is with them. According to her, she is able to focus on her project completely, because she can get lots of energy from her family.

I think my family plays a lot into that (creativity) because my parents are always open-minded not closed-minded. They let me have the freedom that I need to be creative. That is really important. Because if your family puts you in the box, that is what you are used to. My family always is very supportive to everything. (Participant A)

Interestingly, one participant explained that her boyfriend often interrupts her flow. She said that she has to spend enough time with her boyfriend to maintain a relationship with him. Sometimes even text messages from her boyfriend interrupt her flow.

I think my friends and my boyfriend interrupt the flow. My boyfriend text me and call me and I feel like I should be paying attention to him or rushing to go and meet him. So I feel that he is not really helpful. (Participant E)

Analysis of findings from the survey and the first interview

Based on the findings from the survey and the first interview, the answer to the first interview question is explored. The findings were summarized in Table 3. Following is a discussion of the findings with details that support and explain the first research question.

Research Question 1: Are students able to reach a state of flow in relation to their experience with apparel design? If so, how do students recognize a state of flow and how do they sustain it?

The first research question sought to determine how flow can occur in the field of apparel design. The concept of flow has been studied in the field of art and science (Csíkszentmihályi, 1996), music (Bakker, 2005; Custodero, 2002), sport (Jackson & Marsh, 1996), literary writing (Perry, 1999), activities in the computer setting (Sosik, Kahai, & Avolio, 2011), and other activities. However, since there is little literature regarding flow in the field of apparel design, the research question needs to be addressed before the phenomenon is explored.

1) *Students are able to experience flow in the apparel design process and the flow state greatly enhances their satisfaction which creates positive feedback.*

From the first interview, it was found that all participants have experienced flow during the apparel design process. Csíkszentmihályi (1990) described the state of flow as stretching one's body or mind to its limits in a voluntary effort to accomplish something

worthwhile. Such a state of flow is accompanied by a sense of loss of time, environment or even oneself. Although frequency of occurrence may vary, all the participants (12 of 12) have indicated having gone through an experience during the apparel design process that matches characteristics of a state of flow. All the participants said they have had an experience when they were fully emerged in their apparel design activity that they lost the sense of time and their environment all together.

Experiencing flow is found to greatly increase the satisfaction of the participants in the apparel design process. Csíkszentmihályi explained that happiness cannot be purchased by money or authority but obtained when one experiences a state of flow. In agreement with Csíkszentmihályi's assertion, participants associated the experience of flow with positive feelings. They described that the flow experience makes them enjoy the activities, feel happy, therapeutic, and proud of themselves. Further, participants responded that they do not experience stress from their work in a state of flow.

Enhanced satisfaction from experiencing flow in the apparel design process creates a positive feedback that leads the participants to pursue the field of apparel design and be productive. Participants described that the flow experience is highly rewarding and their ability to reach a state of flow makes the apparel design process joyful. Participants were happy with their senior line project selection (mean score 8.08 out of 9), with their major (mean score 7.91 out of 9), and with their lives (mean score 7.5 out of 9). All the participants responded wanting to pursue their career in the field of apparel design and said experiencing flow in the design activities positively impacted their decision. Moreover, participants said they are more productive during the state of flow.

The fact that all the participants have experienced flow during the apparel design process and also successfully completed making their collection by the ultimate deadline strongly speaks for itself. In this regard, flow in the design process plays an important role in improving the learning satisfaction of the students and helping their pursuit of a successful career in the field of design.

2) *Participants who frequently reached and sustained flow in the apparel design process exhibited characteristics that mostly satisfy the preconditions of flow as exerted by Csíkszentmihályi.*

Participants who experienced flow more frequently and easily showed characteristics that largely meet Csikszentmihalyi's preconditions. Csikszentmihalyi explained several preconditions of a flow experience. First, one must be involved in an activity with a clear set of goals. Second, one must have a good balance between the perceived challenges of the task and his or her perceived skills and have confidence in his or her own ability. Third, a flow state is most likely to occur when one is wholeheartedly performing a task or activity for intrinsic purposes.

First, all participants had a clear goal and design direction in the design process. As required by the curriculum, all participants took a one credit course, Apparel Design Research, during the spring semester before taking Apparel Design Studio V (Figure 21) in the fall. Apparel Design Research is a short course dedicated to specifically help students in preparation for the upcoming senior line project in the fall. With early exposure and introduction to the senior line project, all participants had sufficient time to

develop their design ideas during the spring semester and summer break. Thus, all the

participants were able to have a clear design direction when the first interviews were

conducted in the beginning of the fall. According to Locke (2001), people should act to

bring their vision into reality to achieve happiness. He also mentioned that happiness has

to be earned by thinking, planning, and the constant pursuit of value in work. It is not

surprising that the participants' level of happiness was high as they had clear goal and

strived to achieve it in their work senior line project.

Second, participants experienced flow more easily when working with activities

in the design process that they are confident about. Contrary to the researcher's

expectation, it was found that participants were able to experience a flow state even for

activities that they are not confident with. But what differentiated their flow experience

between more confident and less confident activities was the easiness of reaching the

state. Participants mentioned that they had to make more effort to start and experience

flow state with an activity for which they were less confident. On the other hand, they

responded reaching flow more frequently and easily for confident activities. Based on the

interviews, individual's personality, experience, and aptitude are highly related to which

activities one is most and least confident.

Third, all participants had intrinsic motives to work hard on their project. From

the responses, it was clear that participants were motivated more by intrinsic factors

rather than external factors such as good grades or financial rewards. Although the course

is a four-credit course, participants were spending a significant amount of time outside of

class on their project. Two intrinsic motives were common among the participants. First,

participants had a concrete career goal in the field of apparel design. Second, they placed

a significant meaning to the senior line project. Participants mentioned that it is the first

opportunity to introduce their work to the public and in a way making a debut as a

fashion designer. With these intrinsic motives, participants were willingly devoting

themselves wholeheartedly to the project which helped them to reach the state of flow.
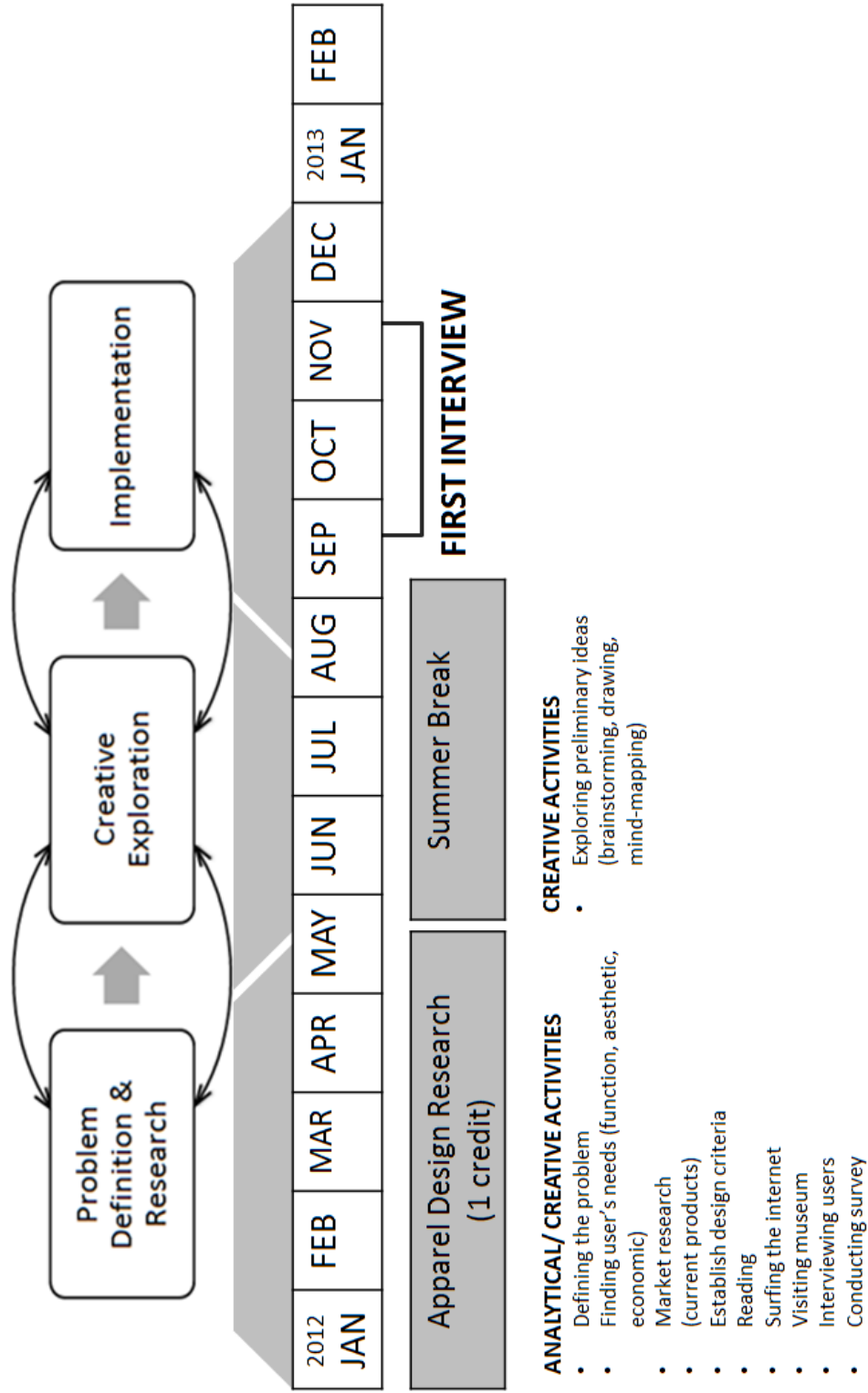
Figure 21. Activities in the apparel design process and students' time schedule according to the first interview

Findings	Percentage
Finding 1:	
Experience a flow state in the apparel design process.	12 of 12 [100%]
Experience a flow state more frequently in the field of apparel design	12 of 12 [100%]
Finding 2: Be more creative in flow	12 of 12 [100%]
Deadline encourage creative flow	3 of 12 [25%]
Deadline restricted creative flow	5 of 12 [41.67%]
Finding 3: Be more effective in flow	12 of 12 [100%
Deadline encourage effective flow	11 of 12 [91.66%]
Finding 4: Intrinsic purposes	12 of 12 [100%]
Finding 5: Activities outside of school (6 of 12 [50%])	
Studying abroad	3 of 12 [25%]
Working at an internship	4 or 12 [33.33%]
Traveling around the world	4 or 12 [33.33%]
Finding 6: Family and friends (6 of 12 [50%])	
Busy lifestyle due to children	1 of 12 [8.33%]
Creative family influence	3 of 12 [25%]
Distracting boyfriend	1 of 12 [8.33%]

Table 3. Summary of findings from the first interviews

Chapter Summary

This chapter presented the findings from 1) A survey regarding students' happiness and flow; and 2) The first interviews. Data from individual interviews and survey revealed how participant satisfy Csikszentmihalyi's preconditions of flow. Findings are supported by survey results and quotations from participants' interview.

The primary finding of the study is that all participants were able to experience flow state in the apparel design process. Further, all participants mentioned that they experience flow state more frequently when performing activities in the field of apparel design than when performing other activities. Second, All participants reported that they could be more creative and productive when they experience flow state. Third, the majority of participants reported that they prefer to work with their collection in their own space, because they can work whenever they want in their own private space without distraction from classmates. Fourth, all participants work on their senior projects due to intrinsic purposes. Fifth, activities outside of school fostered participants' flow experiences. Lastly, their family and friends affect their flow experience and creativity. The findings were summarized Table 3.

Students are able to experience flow in the apparel design process and the flow state greatly enhances their satisfaction which creates a positive response. Further, participants who frequently reached and sustained flow in the apparel design process exhibited characteristics that mostly satisfy Csíkszentmihályi's preconditions of flow. First, all participants had a clear goal and design direction in the design process. Second, participants more frequently and easily experienced flow when working with activities in

the design process that they are confident about. Third, all participants had intrinsic motives to work hard on their project. The result shows that satisfying the preconditions that Csíkszentmihályi exerted is important in students reaching and sustaining a state of flow.

Chapter 5

FINDINGS AND ANLYSIS OF FIDNINGS FROM THE SECOND INTERVIEW

Introduction

The purpose of this phenomenological study is to explore apparel design students'

experiences of flow during the design process and their awareness of satisfaction. To

achieve the research purpose, the study was based on the following three research

questions.

1. Are students able to reach a state of flow in relation to their experience with

   apparel design? If so, how do students recognize a state of flow and how do

   they sustain it?

2. In what circumstances do students reach a state of flow? How differently do st

   udents experience flow depending on activities in the apparel design process?

3. What factors encourage or discourage students from reaching a state of flow?

This chapter presents findings from the second in-depth interviews with eleven

apparel design students who designed collections for the senior fashion show. After the

first interview, students performed tasks related to making their own collection during

one semester. The researcher asked the students to pay attention and try to record when

they think they have entered a state of flow. The second interview, held at the completion

of the project, asked questions regarding how the participants recognized the experience

of flow, when and where they experienced flow, and what factors encouraged them to

reach a state of flow. Participants were asked to choose the most creative, the least

creative, the most effective, and the least effective design among their collection and explain the reason during the second interview.

Data from individual interviews revealed how participants experience flow in the apparel design process. Data from the second interview were coded and presented in this chapter. Findings are supported with quotes from participants' interviews and images of their collections. By using participants' own words, the reality of the persons and situations were accurately represented.

After presenting findings from the second interview, the second and the third research questions were revisited and answered. In the analysis of data from the second interview and images of the students' collections, the researcher searches primarily for connecting patterns within the analytic categories, as well as the connection or themes that may emerge among the various categories based on the research questions.

Participants' collections related to flow

During the second interview, participants were asked to choose the most creative, the least creative, the most effective, and the least effective pieces among their four to five design collections and explain their choices. All the images have been approved for use by participants and a photographer. Participants' responses are presented based on the order in which they were interviewed.

Participant A's collection

Participant A indicated that the brocade dress (Figure 6-1) is the most creative piece among her collection. Since the dress is her favorite and represents the mood of her collection, she spent a lot of time and effort on the dress. She designed the dress in her bedroom where she can experience flow.

> When I was the most relaxed, my mind is able to flow. Those places are where I can be relaxed and not think about all the stresses of life. I am just able to think. Things come to me more easily in the bedroom. (Participant A)

She explained that the ensemble (Figure 6-2) is the least creative since its pattern is less complicated than the other three pieces. When she made the least effective piece, she struggled with its elastic fabric.

> It (making the least effective piece) was really challenging for me. The fabric was super light and elastic so maneuvering fabric is very difficult. Embellishing was also time-consuming. (Participant A)

In particular, she reported that patterning is the most challenging activity in the design process since she does not have enough pattern experience.

I found patterning was really challenging because it was really hard to visualize three-dimensional objects into two-dimensional and see how these things go together exactly. That was really challenging for me. (Participant A)

| Figure 6-1. Participant A's most creative piece | Figure 6-2. Participant A's least creative piece | Figure 6-3. Participant A's most effective piece-pants | Figure 6-4. Participant A's the effective piece |

Figure 6. Images of Participant A's collection

Participant B's collection

According to Participant B, hand-made fabric jacket (Figure 7-1) is the most creative piece among her collection. Participant B explained that she was able to experience flow after figuring out how to construct the jacket and being familiar with knitting techniques.

I cut these leather strips and knit them into fabric by hand. It took a long time. It was easiest when I started to experience flow when I figured out the technique I'm using and I'm starting to grasp how to make it come together. But in the initial stage that's not necessarily a flow experience. (Participant B)

She made the jacket twice to achieve the shape she wanted. She got stressed

deciding whether or not to make the jacket again. Once she decided to make the jacket

again, she was able to experience flow because it was what she wanted to do.

> There was a lot of stress involved at that time, but it was also a relief to just
> decide that I was going to re-do it instead of letting it keep bothering me. I would
> say it was a flow experience. (Participant B)

The least creative piece among her collection was pants. She just made pants from

the basic blocks and did not alter the design. She said that the material was easy to work

with and the pattern was simple.

> I think the least creative one is the pants which were really simple and it didn't
> really bother to make a test garment because I knew that more complicated pieces
> were going to take up a lot of time. So these, I really whipped out, I just made a
> real basic pattern and altered the final garment to fit. I didn't do a test garment.
> (Participant B)

She explained that she spent her time effectively when making a jacket (Figure

7-4) because its design was straightforward. She wanted to put more effort into it but she

did not have sufficient time to do that.

> I think this one (is the most effective), because the body of the coat was pretty
> fairly straight forward it's just a basic tailoring technique. I wanted to change it
> but didn't really have time to totally revamp it in the way that I did with that one.
> (Participant B)

When she made the jacket (Figure 7-5), she did not have a clear design direction,

so she spent her time ineffectively with this.

> It was the one that I hadn't fully sort of flushed out in my head as much I guess.
> (Participant B)

Figure 7-1. Participant B's most creative piece – a jacket

Figure 7-2. Participant B's least creative piece - pants

Figure 7-3. Participant B's least creative piece – pants

Figure 7-4. Participant B's most effective piece-a jacket

Figure 7-5. Participant B's least effective piece- a jacket

Figure 7. Images of Participant B's collection

Participant C's collection

Participant C explained that she went through a different process to come up with the most creative piece (Figure 8-1).

I definitely have to think differently with that (Figure 8-1). (Participant C)

When making the least creative piece (Figure 8-2), she did not have sufficient time to design it for the client. She also reported that she was discouraged with the design.

When I originally had my sketches, I did two boys' looks and two girls' looks. But I couldn't find another boy model. So I had to use Mila. So, making hers was really fast and just kind of last minute throw it together thing." I got discouraged with this (Figure 8-2). They had an idea about doing more zippers or more details with it. (Participant C)

She was able to spend her time effectively when making the dress (Figure 8-3), because constructing and fitting the dress was straight forward and not challenging.

Sewing part of it probably is the most enjoyable because that was fast and then you get back to designing. (Participant C)

Also, she reflected that making the dress was very enjoyable because the client was happy with her design.

I really enjoyed fitting the curve because it was so easy and she liked it. She was really excited about wearing it, so that was really an enjoyable thing that my design makes her happy. (Participant C)

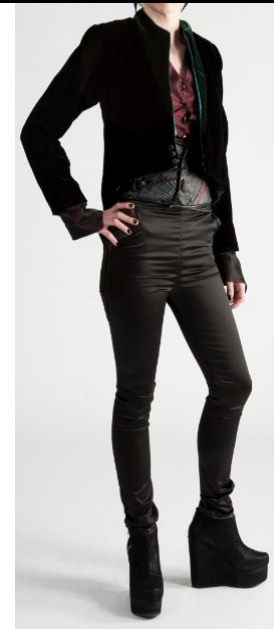| Figure 8-1. Participant C's most creative piece | Figure 8-2. Participant C's least creative piece | Figure 8-3. Participant C's most effective piece | Figure 8-4. Participant C's least effective piece (left) |
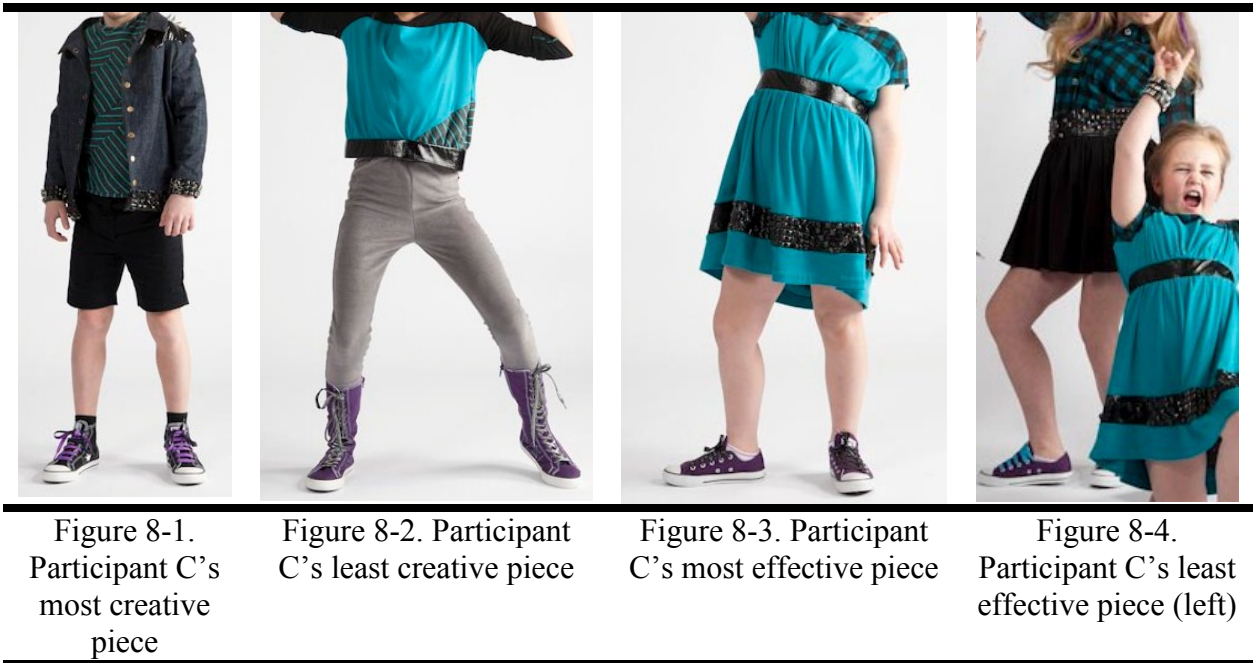
Figure 8. Images of Participant C's collection

Participant D's collection

Participant D explained that the most creative piece among her collection is the one (Figure 9-1) that carries out her design intention most successfully. She was able to experience flow frequently and easily when making the most creative piece.

> It (the most creative piece) ended up being the most visually interesting. I was really trying to make it have movement. (Participant D)

When she was doing her favorite activity, researching, in the design process, she was able to experience flow. The flow experience helps her research deeper.

> I was doing research in the library sometimes I forget about the time. When searching through the internet, I just keep finding and trying to find something deeper. (Participant D)

She also explained that she were able to spend her time effectively with making

the pants (figure 9-3) because she had a clear direction about it.

> They're really difficult to put together because there are so many points. I had the fabric spread out and came up with something really quickly and had already done some patchwork with other stuff already, so it wasn't too difficult. (Participant D)

She made the least effective piece (Figure 9-4) at the first try, so she did not know

how to construct the garment exactly. When she made the top, she made several mistakes

with construction and was frustrated.

> It was the first piece I did. I took the most time on it but it was most frustrating. It was the beginning and I didn't really know how to work with patches on that one yet. There's definitely a step you have to follow to make sure everything fits and it took lots of time. (Participant D)
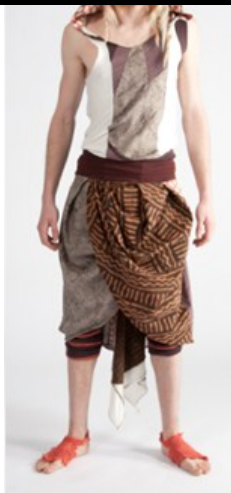
| Figure 9-1. Participant D's most creative ensemble | Figure 9-2. Participant D's least creative piece – top | Figure 9-3. Participant D's most effective piece-pants | Figure 9-4. Participant D's least effective piece - pants |
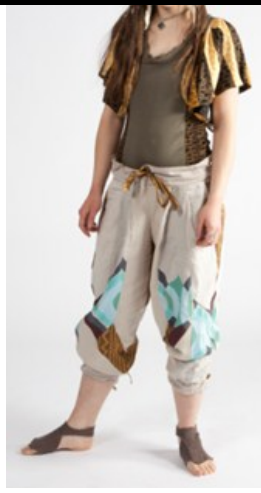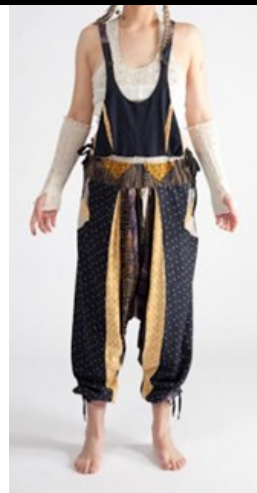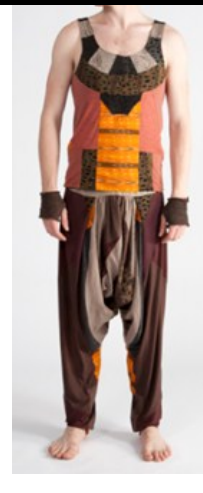
Figure 9. Images of Participant D's collection

Participant E's collection

Participant E reported that her favorite piece (Figure 10-1) is the most creative

piece among her collection.

> I honestly think my most creative piece was this one (Figure 10-1) and because
> they were completely embellished. It's my favorite piece. Making this pant was
> hard because of fitting of it. It was not fitting correctly and so I had to make sure
> that it fits perfectly and pattern was ok. I had to adjust the pattern at least two
> times and they got perfect. But I really thought that the beading itself was really
> enjoyable although it was very time consuming. (Participant E)

She also explained that the cocktail dress (Figure 10-2) is the least creative among

her collection because it was constructed with basic simple blocks.

> I would say this cocktail dress is the least creative. I think it's the least creative
> only because of the silhouette. I felt it was the easiest to construct. I think that
> patterning the silhouette and working with the fabric was so easy. (Participant E)

When she made the chiffon blouse (figure 10-3), she spent her time effectively

because she planned every step specifically to prevent making mistakes.

> I knew that this was the most challenging pieces to make because it was chiffon,
> and chiffon moves and it's so hard to sew it because if you don't know how to use
> it and if you don't know how to sew it, it is going to turn out terrible. So I made a
> plan for it, and I made myself focus only on this and take my time because if you
> rush it, you mess up the fabric. It's such a delicate fabric and even if you see it
> you might make a tiny hole in it and even the hand you need like to be even you
> need to iron it and sew it evenly because it's like see through and people might
> see where you messed up and like this you need to be perfect. I would make
> myself sit down and do the pleats; then I would be done and then the next day I
> would focus on only making the sleeves and then I would give myself two days
> break. (Participant E)

She did not have a clear vision for the dress (figure 10-4), so she changed its

design several times. Thus she was not able to spend her time effectively with the dress.

I think that this one was the least effective just because my vision for it was not clear. This one, I had the most trouble designing because I wanted my last piece to be really great. But I was having trouble getting the vision for it. I had trouble patterning for it. At first I thought it looks okay, and then I did not like it anymore. But I kept it anyway and doing my second critic everybody hated it and so I had to take it all out and I completely changed it. (Participant E)

Because I had so many ideas of what I wanted it to be, I wanted to put like 5 good ideas into one dress. But one dress only has one or two focal points. If you saw my other garments, it just focused on a couple of things. My other dress, the main focus was the lace at the bottom and the shorts. (Participant E)

Figure 10-1. Participant E's most creative piece -shorts	Figure 10-2. Participant E's least creative piece - dress	Figure 10-3. Participant E's most effective piece- blouse	Figure 10-4. Participant E's least effective piece

Figure 10. Images of Participant E's collection

Participant F's collection

Participant F explained that her most creative piece among her collection is the dress (Figure 11-1) because she thinks its material and silhouette is experimental.

> I like the way it moves a lot and like the leather on the bodice. I think this one is a little bit more experimental and a little bit more trying new things - mainly the fabric and the shape of it. I like the color of the leather and the way the leather was applied. I like the chiffon - that was a little bit of metallic. It moved really well around her. (Participant F)

In terms of the least creative piece (Figure 11-3), she explained that she did not have sufficient time to explore creative designs for the dress. Also, she mentioned that the least creative piece is the least successful.

> I think this one is probably the least successful. There should be something more, but I was just so exhausted at that point. … I do feel I needed something, but at that point I was just so avoid of creative chooses that I couldn't come up with something better. (Participant F)

She explained that she was able to spend her time effectively with the A line skirt (Figure 11-4). She mentioned that she was able to hone her sewing skill from internship experience. Since she was good at sewing, she was able to sew the skirt precisely and professionally without any mistakes.

> It is cotton wool and it's of French seamed, so, I sew it twice. The difficult part was bringing it to meet precisely. So, at that point, I did not know if I can make it so I practiced it and I just made it fine. I felt like relieved and triumphed. I was very careful with pressing it and just very diligent in clipping in. So, I think that it was effective as far as showing my sewing ability. I took my time as very precise about everything to make sure it was good. (Participant F)

She indicated that when she made the bodice of the dress (Figure 11-3), she was not able to spend her time effectively because she was not sure how it looks. She also

reported that fitting the bodice was very challenging so she had to spend significant amount of time with it.

> I think that one (the bodice of Figure 11-3) was probably the least effective mainly because of fitting the bodice and fitting it to her shape. I was not sure of how it was going to come out. I was not sure of how it was going to look at the day of show. … I think that was the last one that I had finished. That one was the one I was most nervous about. (Participant F)

| Figure 11-1. Participant F's most creative piece | Figure 11-2. Participant F's creative piece | Figure 11-3. Participant F's least creative piece & least effective piece | Figure 11-4. Participant F's most effective piece | Figure 11-5. Participant F's least effective piece |

Figure 11. Images of Participant F's collection

Participant G's collection

Participant G reported that her favorite piece (Figure 12-1) is the most creative piece among her collection. She explained that constructing and lining the dress was challenging because there were no direct guidelines that could solve her problems. Thus she had to come up with her own creative method to put lining on the dress.

> This is my favorite piece. I didn't do traditional hand stitch tailoring. Also there was no book that tells me how to do the lining because it's actually quite challenging. But anyways I was happy how everything turned out. I really enjoy seeing the final product even if I might be suffering a bit. (Participant G)

She indicated that pants (Figure 12-2) were the least creative piece because they were made with basic blocks. She indicated that she needed to have one simple piece for the ensemble to emphasize the vest and the blouse.

> The pants were probably the least creative. They were just simple and they had no extra details. But it was not necessary because the detail was up in the shirt and the focus was on the collar and everything on the top. So I was really happy to have one piece that was relatively simple. But I guess it was my least favorite because it just so plain. (Participant G)

In terms of the most effective piece among her collection, she selected the dress (Figure 12-1) again. Since she had a clear design vision for the dress, she was able to spend her time effectively when choosing the fabric or constructing the dress.

> It was the easiest one to put together because I had the design in my head almost. I had this concrete idea for this dress. When I found that fabric, I was excited. So the dress was so easy that it came out. (Participant G)

She mentioned that she spent most of her time effectively when making other three pieces, because she had very a clear design direction in her mind. She did not change her original designs that she developed during the summer.

| Figure 12-1. Participant G's most creative piece The most effective piece | Figure 12-2. Participant G's least creative piece-pants | Figure 12-3. Participant G's effective piece | Figure 12-4. Participant G's effective piece |

Figure 12. Images of Participant G's collection

Participant H's collection

Participant H explained that the most creative piece among her collection is her favorite and visually appealing piece.

> I loved it (Figure 13-1). I just stand back and admire it. That is what I really like the most. I think it was really simple to make. I think it is my favorite and it was so beautiful. (Participant H)

On the other hand, she also explained that her least creative piece is the jacket (Figure 13-2). She indicated that she did not know how to construct a jacket exactly, so she was not able to come up with a creative design nor experience flow with it.

> It would be probably the jacket. It was my least favorite thing to make. I never made a jacket. I was in London when we need to take tailoring class. … I wanted it to look like the way I had it in my head but it did not work out. I definitely struggle with how to put it together. It was kind of the math problem. That was awful. (Participant H)

She explained that close relationship with her client encouraged her flow experience. In addition, she was able to spend her time effectively when making the dress for the client. She wanted to see how the dress fit her, so it motivated her work effectively.

> (When making the most effective piece), I see them every day so they are like my sibling sisters. So I worked with them and I guess I really enjoy making them to try on and see the process. The last girl who was my favorite and her mother and I really just became good friends because of this experience. So I really liked making that for her with her mother because her mother and I talk all the time. (Participant H)

On the other hand, she also indicated that an unfamiliar relationship with the client discourages her flow experience. She explained that since she did not know the client, she was not able to spend her time effectively when making the dress for her.

> This outfit was the last one that I did because I didn't have that great relationship with her mother. I didn't text her and go to things with her mother. I didn't talk to her much, so it wasn't really the most excited thing ever because I wasn't really getting it to make for her. (Participant H)

| Figure 13-1. Participant H's most creative piece | Figure 13-2. Participant H's least creative piece | Figure 13-3. Participant H's most effective piece | Figure 13-4. Participant H's least effective piece |

Figure 13. Images of Participant H's collection

Participant I's collection

Participant I explained that her most creative piece among her collection is a jacket (Figure 14-1). She indicated that it is the most unconventional in terms of the material and the silhouette. She developed the rest of her collection based on the jacket.

> I think that's probably the most creative piece, probably because I put the most work into it. It's probably the most unconventional. When I was designing my line, the jacket was the first thing I thought of. That was my first idea I had and I kind of built the rest of my line around the idea of the jacket. (Participant I)

The jacket is her favorite piece among her collection. Since she wanted to make the jacket perfectly, she saved it to make for last moment.

> I knew it was going to be the biggest challenge and so I designed that one first based everything off of that, but I actually saved the jacket for last like making it

because I was nervous about it. I was avoiding it because I was afraid to mess it up. (Participant I)

Her least creative piece is an ensemble made with same details as the most creative piece (Figure 14-2).

I think probably this one (Figure 14-2) because this one I did basically the same thing that I did on the jacket it's basically a dress version of the jacket. I kind of just like transferred that idea to the dress. The silhouette's not crazy it's just a basic bodice and A line skirt. (Participant I)

She explained that she spent her time least effectively when beading on the ensemble because she did not know how to put beading effectively on the plastic fabric.

That was stupid I don't know why I did it that way, but the reason it was the least effective is because that was the one I started making first and so I hadn't quite figured out like how to –the best way to do everything yet and I also was eager to like see how it was going to look because I didn't know how the beading was going to turn out and so I rushed through that one. I was really like excited to see the final result so that was definitely the least effective (giggles). (Participant I)

After doing number of experiment with the ensemble, she was able to figure out how to put beading effectively and productively. After that, she was able to spend her time effectively when making a dress with beading (Figure 14-3 and Figure 14-4).
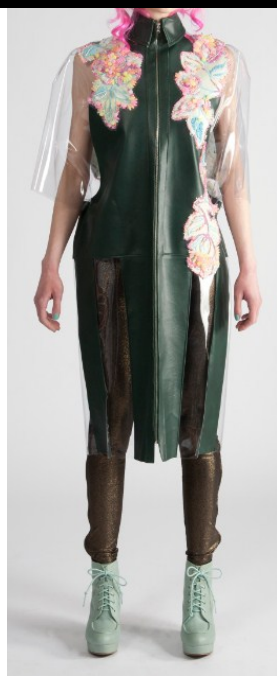
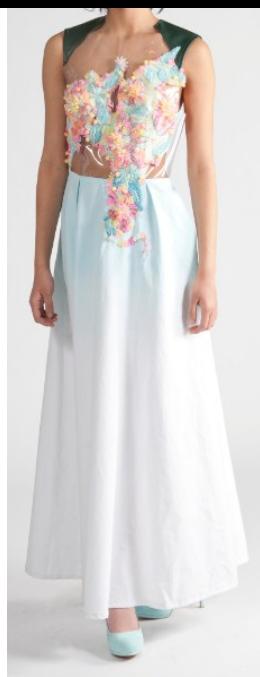| Figure 14-1. Participant I's most creative piece - jacket | Figure 14-2. Participant I's least creative piece / Participant I's least effective piece | Figure 14-3. Participant I's most effective piece | Figure 14-4. Participant I's effective piece |

Figure 14. Images of Participant I's collection

Participant J's collection

Participant J explained that she spent lots of time to make patterns for the most creative piece. Since the body shape of her client was different to the typical woman, the pattern shape was different and creative.

> I did a lot of research to figure out the design. So when I did patterning I knew the shape that I wanted. But when you learn patterning, it is typically for someone who is pretty thin and also straight up and down and not super curvy. She (her client) is very curvy; she has a large bust and small waist. I was trying to figure out how to pattern it to look the way I wanted and I had to figure out a completely different way to do it. So pattern pieces look very-very odd and they didn't look like pattern pieces that I worked with before. I love all of them but I think this is my favorite one (Figure 15-1) because I did spend a so much time on it and I am really happy with how it turned out. (Participant J)

Her clients' various body size is one of the most creative aspects of her collection. She wanted to make dresses fit perfectly on her clients, so she spent lots of time on them. She reflected that seeing her clients with her dresses was the most rewarding and happy moment in the design process. In this regard, she explained that the dress (Figure 15-1) is the most creative piece among her collection because it fits perfectly to the client.

> I was focusing on the something that is different body size which is not typically focused on in the fashion industry. I wanted to make it really good. I wanted to focus on it and I really wanted to do fitting really well. I was trying to figure out how to make it work on the body type. Doing the test garments and then redoing and redoing it. I think that finally when I was getting it to fit her and then it was so awesome, it was like fit her and that is so fantastic. I think honestly the most enjoyable part is the design part for all this is putting all my girls in their dresses and having them love them because they won't be typical models because they have different sizes. (Participant J)

She indicated that the close and intimate relationship with her clients encouraged her flow experience and helped her work more creatively and productively.

She is my really good friend. I am friend with all my models because it is nice that they all came in for fitting a lot so that was definitely helpful because we have a lot of other people whose models drop out or would not come in on time. … I know a lot of my friends in class worried about their models. Then they can't get into the creative flow. But my girls were always to come in fittings. They never complained to me about taking 20 minutes to figure out one theme. They really liked what they look like so that just makes me feel awesome. (Participant J)

She reflected that she was able to experience flow when making dresses for her

collection.

I think when I was sewing this fabric or any of these; I think the sewing process is definitely full of flow experience because it was just huge themes because there are full length dresses for the girls like 6 feet tall. So they are super long and just getting into the flow of the things. (Participant J)

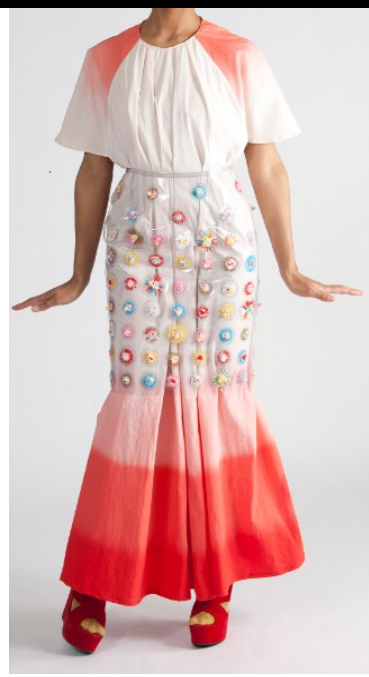| Figure 15-1. Participant J's most creative piece | Figure 15-2. Participant J's least creative and least effective piece | Figure 15-3. Participant J's most effective piece | Figure 15-4. Participant J's least effective piece |

Figure 15. Images of Participant J's collection

Participant K's collection

Participant K explained that the top (Figure 16-1) is the most creative among her collection because her design idea of the top was executed successfully.

> I think that it is most creative because I have an idea in my head I knew that I want to executive that way. I wanted to execute this one perfectly. It is the most creative because for me it was the most complex one to start with. I think this one has a lot of components and I was able to execute successfully. (Participant K)

She explained that the least successful piece is the least creative among her collection (Figure 16-2). She was not satisfied with the fit of the top.

> I think it is least creative because I wasn't 100% satisfied with it which is exactly the definition of the least creative. It didn't have the front fits. It didn't fit quite well. It was like I am done. I think there was a point where I think that I am done. (Participant K)

She reported that she was able to spend her time effectively when she made the dress (Figure 16-3). When she made the dress, she skipped some processes because she already did similar activities for the other three pieces. Since she knew how it turned out, she skipped the processes and made it quickly.

> That one was pretty straight forward. I fitted her and I didn't need to make many changes. I skip some of the processes that I normally do because I knew that I can do without testing. The process was really quick. (Participant K)

She was not able to spend her time effectively when she made the top (Figure 16-4). She had to make the top (Figure 16-4) several times because she had troubles with fit of the bra and construction techniques.

> The bra took long time because I was not sure. I did it multiple times and I did something wrong and then I have to do redo it. The side seam on this one was fine at the first time, but it was not for the second one. So I had to fix the side seam. (Participant K)

| Figure 16-1. Participant K's the most creative piece | Figure 16-2. Participant K's the least creative piece | Figure 16-3. Participant K's the most effective piece | Figure 16-4. Participant K's the least effective piece |
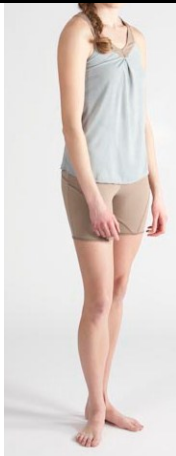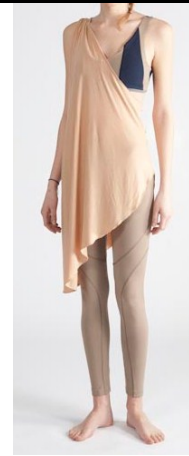
Figure 16. Images of Participant K's collection

Findings from participants' collections related to flow

During the second interview, participants were asked to choose the most creative, the least creative, the most effective, and the least effective pieces among their four to five design collections and explain their choices. As a result, they all were able to experience flow when making the most creative, the least creative, the most effective, and the least effective pieces for their collection. They all completed their collections before the ultimate deadline—the fashion show.

Participants reported that the most creative pieces in the collections were their favorites. They also indicated that the most creative pieces were the most successful visually, different from garments already existing in the market and representing the overall image of each collection. Participant J explained that she went through a design process that was different from the typical one. Participant B said she put lots of effort into achieving the design she wanted, so she regarded the jacket she made as the most creative. 11 participants (11 out of 11 [100%]) enjoyed the design process and were satisfied with the results.

Participants also indicated that the least creative pieces were their least favorites and the least successful pieces among their collections. Three participants explained that they regarded pieces as least creative because they were made in basic, simple blocks without any functional or decorative details. Since they had a limited amount of time to construct four or five garments, they had to make those decisions anyway. Four students explained that even though they thought their pieces were not satisfactorily creative, they

had to make decisions and execute them to meet deadlines. Six students said that it was really hard to motivate themselves to complete those pieces.

Participants defined their most effective pieces as those on which they spent their time most efficiently. The majority of students explained that they were able to spend their time effectively when they had a clear direction in mind. This meant that they did not make many mistakes during the process. Often, they lost their senses of time in making those pieces, and that gave them confidence in themselves. Participant E indicated that she had made lots of plans to prevent mistakes and spend her time effectively. Understanding the characteristics of different fabrics helped her make specific plans for each piece. In addition, three participants mentioned that they had a close relationship with their clients and wanted to see how well the pieces would suit their clients. These close relationships with the clients encouraged them to use their time effectively. Also, seeing their clients being happy with the garments in progress motivated them to work quickly.

In terms of the least effective pieces among their collections, if they did not have a clear direction for a piece, they were not able to spend their time well. Since they did not know what they wanted, they had to do several experiments with test garments and think about what they really wanted. The process involved in making the least creative pieces caused lots of stress for participants.

	Able to experience flow?	Reason to choose the piece
The most creative piece	Yes	The most favorite
		Different process
		Represent the image of collection
		Visually appealing
		The most challenging
The least creative piece	Partially	The least favorite
		Not challenging- constructed with basic blocks
		Did not have sufficient time to explore creative designs
The most effective piece	Yes	Intimate relationship with clients
		Have a clear direction and vision for the piece
		Familiar with construction technique
The least effective piece	Partially	Not familiar with techniques and fabrics
		Did not have a clear direction and vision for piece

Table 4. Summary of findings from participants' design collection related to flow

Findings from the second interview

The second interview, held at the end of the semester, asked questions regarding how the participants recognized the experience of flow, when and where they experienced flow, and what factors encouraged them to reach a state of flow. Participants were asked to choose the most creative, the least creative, the most effective, and the least effective design among their collection and explain the reason during the second interview. Below is a discussion regarding participants' responses from the second interview.

Finding 1: All participants (11 of 11 [100%]) felt positive feelings while in flow state. They indicated that that they decided to pursue a career in the field of apparel design due to these positive feelings.

All participants (11 of 11 [100%]) described that flow experiences are therapeutic and make them feel happy and proud of themselves. When they experience flow, they do not feel any stress from work. One participant described that the experience of flow is rewarding because she feels she is improving.

> (I feel) Confidence and pride… I am just like beaming. It does make me feel happy. It's very rewarding to see the final result. (Participant G)

> I feel much focused and I'm forcing myself to do it. It's very therapeutic. (Participant I)

Furthermore, three participants (25%) indicated that they decided to pursue their career in the field of apparel design due to their extremely positive and rewarding flow experiences during the design process.

I feel very confident. In terms of all of those problems I mentioned, I am actually looking forward to solving them. I just love to create problems and solve them. I love solving problems and that is why I love this major. Stressful? Yes. But it is exciting, always dynamic … That is why I love my major. I know this is where I am supposed to be because I am constantly proving to myself you can do this. And it makes me feel really good. I love it. I could not even imagine being in any other major. (Participant A)

Participants said that after they worked hard to complete the project, they were temporarily tired and sick of the activities of the apparel design process. After a while, however, they missed those creative activities significantly. This is why they want to pursue their career in a design field that requires creativity.

Even when I was making this (one garment of her collection), I was like "I hate it and I don't want to look at it again. Don't make me look at it again". Even when I presented it, I was like "Uh! These are terrible [laughter]". But then I cook for my family and celebrate the Christmas and then I was like "Hey! This is a pretty cut" and then when I saw my models I was like "Uh, these are so good". … For a while, I was not in mood to create… During the spring break, I made this baby blanket for one evening. You know there was not a lot of creative process but still I love seeing the final products and like touching the fabric. I wish I had it with me, the softest yarn so, anyway. I missed this process a lot because I will be proud of how it turned out because I got better techniques. (Participant G)

It's a kind of addicting. (After flow experience) I was so proud of myself and I am so much more confident that I can do this. I proved myself. (Participant C)

Finding 2: In the design process, participants reported they watched television or listened to music during intuitive and repetitive tasks to foster their flow experience.

Ten participants (90.90%) indicated that they watched television when working with repetitive tasks to avoid boredom and foster their flow experience. This finding is highly significant in terms of the overwhelming number of participants (10 of 11 [90.90%]) who reported it. Participants expressed this in the following ways.

> Watching TV makes me feel not alone in my apartment. It is kind of keeping me company while I'm working. (Participant G)

> I always need something going on in the background whether I'm talking with someone or music or TV shows or something. So, I like to have that because you don't think about what you're doing. It takes a lot of stress off when you have something just going on, and I think that kind of helps. (Participant C)

Five of 10 participants (45.45%) said that they always watched TV shows or movies that they had already seen. Since the story was not new to them, they were able to focus on the work that they were doing without significant interruption.

> I am watching something that I've seen before or that I'm not really that interested in. Movies like *Lord of the rings* or *Harry Potter* that I know. (Participant C)

> I think it's just having noise. I wanted to watch something kind of light and silly. Because I was concentrating on what I was doing so I didn't want to get distracted. I would probably go crazy, I think, without TV. (Participant I)
> I just put movies on a lot. Maybe I should say I heard all of the *Lord of the Rings* or all of the *Harry Potter* movies. So I could put on all my favorite movies that really I already know and kind of have memorized so I know what's going on even without watching it. (Participant F)

Furthermore, participants were not able to be aware of background noise from a television or an audio player when they experienced flow state. When they got out of the

flow for a little while, they diverted themselves by watching television. This helped them

avoid boredom in the design process.

> I would probably forget the TV and just totally focus on what I am doing.
> (Participant J)

> I have that Flicks in the watch instantly subscription. So, the whole time that I
> was making my line, I watched all the seasons of *Bones* that's on Fox. I can get
> most of the story line while I'm still working but then I'm not distracted by it. For
> instance, I watched Harry Potter's movie. Because I know them, so I'm not
> distracted by it but it is still background noise. I worked better with story lines
> versus just music. (Participant F)

> I think it helps me continue to work. I think without it I won't work as long or I'll
> distract myself with something else then or like go online or something. So, I
> think it helps me continue to work longer and take less breaks. (Participant F)

Participants indicated that they were watching TV shows when working with

repetitive and intuitive activities such as beading, knitting, and sewing. For example,

Participant A explained that when she put beads and flowers into her garment (Figure 4),

she was watching TV. Participant I also watched numerous TV shows from Netflix when

she was putting beads on her garment (Figure 18, 19, & 20).

However, when they needed to work on analytical activities to solve problems

requiring careful consideration, participants usually turned off the television or audio

player.

> I'd probably turn it (TV) off. If it requires thinking, I need to have everything
> quiet to be able to think. I can't read and I can't write papers with background
> music. So, if I have to write a paper, everything has to be off. (Participant F)

> I can sit in silence when I'm constructing, when I'm patterning or doing more
> construction type of stuff. I don't really like that distraction. I won't watch TV
> when I'm doing it because that takes more brain power for me. (Participant I)

Figure 17. A cultch bag of
Participant A's collection
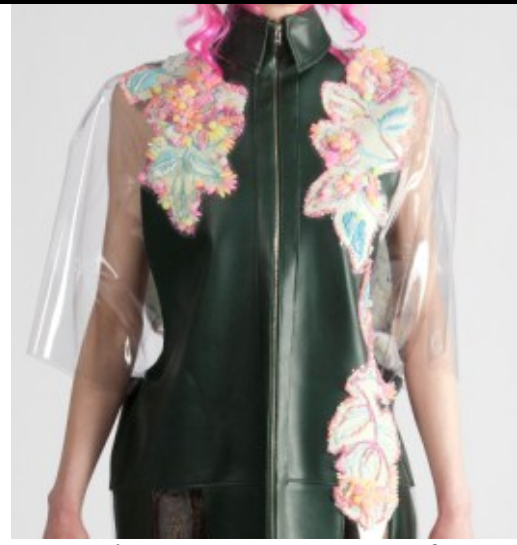
Figure 18. One garment of
Participant I's collection

When putting beads and pearls on the clutch bag and the garment, Participant A and
Participant I were losing a sense of time while watching television program.

Finding 3: The majority of participants (10 of 11 [90.90%]) reported that they

prefer to work with their collection in their own space, because they can work whenever

they want in their own private space without distraction from classmates. Two

participants (18.18%), however, said that they prefer to work in the classroom studio as

well as in their own spaces. One (9.09%) among the two participants explained that she

can be more creative in her bedroom, but she can be more productive in the classroom

studio.

Participants described their preferred working environment that encourages their flow experience. The majority of participants (10 of 11 [90.90%]) reported that they prefer to work in their own space, such as a private studio, bedroom, or living room, rather than the classroom studio. Participants reported that they could be more focused on their work in the comfort of their own private space. Also, they can work on their projects in a private space whenever they want. One student said, "I do not want to change clothing and drive to school at midnight to work."

> When I was the most relaxed, my mind is able to flow. It always seems to be when I laid down in the bed right before getting sleep or right after getting a shower. Those places are where I can be relaxed and not think about all the stresses of life. I am just able to think. Things come to me more easily when I am not stressed out. (Participant A)

> When I'm going to bed, I have a sketchpad. While I go to sleep, I am thinking of things. I don't know why, but I design things in my head before I go to bed and I just sketch them out in the bedroom. (Participant I)

> I can't really think when people are around. That goes for any kind of homework. I can't think when other people are talking, or anything. So, I like to be alone. (Participant H)

> I still like to be able to work as late as I want. I don't like the idea of being on campus and then having to get in my car at 3 in the morning. I just feel safer when I am at my apartment. (Participant G)

> If I'm really focusing on what I'm doing, I don't really like to be around anybody else. I get really easy distracted. If I'm casually working in the studio I like having few people. (Participant I)

> I don't like to work in studio is because sometimes they (classmates) talk a lot about their life to catch up each other and they talk to me but I don't want to talk to them. I want to work on my stuff and I think it is distracting so it is really hard to get focused when am talking to them. I feel like I am wasting my time. (Participant E)

Two participants (18.18%), however, said that they prefer to work in the classroom studio as well as in their own spaces. They indicated that if they want to work on creative activities, they do that in their apartment by themselves. On the other hand, if they need to complete technical activities, they go to the classroom studio to use various tools such as mannequins, sewing machines, and sergers. One student (9.09%) explained that she can be more creative in her bedroom, but she can be more effective in the classroom studio.

> I found that I am a lot more productive and I get a lot more done if I physically come to the studio and work in the studio because then I don't have any distractions of my house around me. So I always like to bring all of my stuff to studio and just work all day. (Participant J)

> Studio is really good because it has a good atmosphere. Just everyone else is thinking about the same things as you. I love to work at home, but the studio space is just so nice with those windows, and everything. You've got the nice tables, so if I can meld those two together, I would do it. That would be the perfect place. (Participant C)

Two participants (18.18%) reported that they designed their studio by themselves using favorite colors or inspiring decorations. They said these working environments stimulate their creativity as well as their flow experiences.

> Bright colors make me happier and more creative. My apartment looks like a rainbow blue up in there because of my bed-spread. I painted the walls like the pretty tortoise blue and I have bold color decorating it, you know, like purple-yellow, pink and blue. So, it's like I am a rainbow girl I guess. (Participant G)

> The other reason I like my sewing room is because I have a bad back so it has a cutting table that has the right height. (Participant G)

Participants also reported their preferred working time. Five participants (45.45%) said they experience flow state more frequently when working at night, while

three participants (27.27%) said they more frequently experience flow in the morning.

Four participants (36.36%) indicated that they can experience flow state at night or in the

morning.

> Definitely not morning. I am an evening/ night girl. Like I said, I will just stay up
> until I complete what I have to. I will stay up until 7 in the morning if that's how
> long it takes me. (Participant G)

> I can be creative at night. Usually when my kids are asleep and I have time to
> myself. (Participant L)

The four participants (36.36%) who said they are able to experience flow

whenever they want mentioned that the design activities during which they experienced

flow were different depending on time. Interestingly, one participant (9.09%) indicated

that she is able to be more creative when falling into flow at night.

> When I'm going to bed I have a sketchpad by my bed. And, while I go to sleep I
> kind of think of things. I don't know why, but I design things in my head before I
> go to bed and I just sketch them out. Then, I wake up to see if they're good or not.
> And early morning, if I get up early enough in the morning, I feel like I can do
> more academic sort of stuff. I can read better and write papers better in the
> morning. But at night I can do my creative stuff. (Participant I)

Two participants (18.18%) mentioned that they were able to experience flow

when working in a familiar environment such as the classroom studio or computer lab.

One participant (9.09%) mentioned that she went to the surface design lab to dye her

dresses and felt uncomfortable because she was not familiar with people and equipment

in the lab (Figure 19 & 20).

> For this one (Figure 19), I dyed that skirt in the surface design lab and I did it at
> night. There were couple other people working, but I didn't know who they were.
> I really wanted to get it done quickly so I just did it. Otherwise I would've done it
> somewhere else probably because that room was kind of a dirty and there was

stuff lying around. I don't really know that room well, so that's not the ideal environment. And it was just a quick thing I needed to do. …

The red one (Figure 20), I did it at my parent's house because they have a laundry room with a big sink. They have everything such as the washing machine and stuff I need, so I dyed that one. I wanted somewhere much more comfortable so that I didn't screw anything up. I like doing that one (Figure 20) more because I like to work in a more comfortable and in an environment I like better. (Participant I)
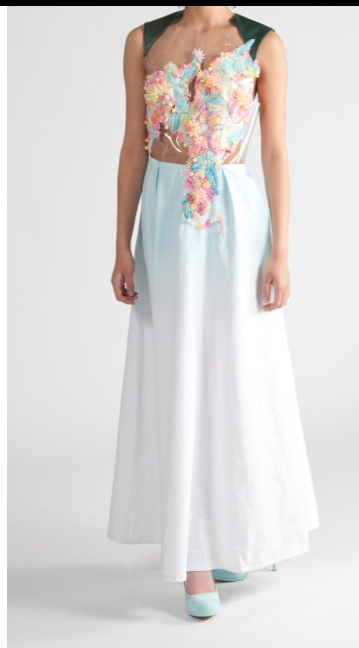
Figure 19. A dress from Participant I's collection

Figure 20. An ensemble from Participant I's collection

Participant I dyed the garment (Figure 19) at the surface design lab which is not a familiar working environment for her. She said unfamiliar equipment and people in the lab discourage her flow experience.

When putting beads on the plastic skirt and bodice of the garments, she was losing a sense of time while watching television.

Finding 4: 11 participants (11 of 11 [100%]) were able to experience flow when doing individual-based tasks but not when doing group work in the design process.

A majority of participants (10 of 11 [90.90%]) reported that they do not like group work. Two participants even said that they hate it. However, seven participants (63.63%) said that they are able to experience flow with very close classmates when they work individually with them. In the flow state, they work on their own project and share the workspace. When they got out of flow temporarily, they were motivated to return to it by their classmates who were still in flow state.

> I think so. There's definitely one time when Participant K and I were in studio just by ourselves for like six hours patterning and figuring out the patterns and I was conscientious of what time it was, but it didn't necessarily feel like it was six hours. She worked on her own stuff, I worked on my own stuff, but there were definitely conversations between us. (Participant F)

> I prefer work by myself in my room. When I work with my friend, I have one particular friend. She is my roommate. But when we work together, we do not talk to each other. So it is not interactive working. (Participant A)

However, it was important that the classmates meet several conditions to motivate participants' flow experience. The flow motivators should know the participants' design aesthetics and personality, and understand their final project in order to be able to experience flow together.

> We have the same kind of work habits. I feel really comfortable with her and she is also a good friend of mine and I really trust her. I really respect her design opinion, so we were able to work in the same room and experience flow together. It is a really positive thing and I felt that did not interrupt my flow at all. I think we motivate each other too. Someday I see she got two dresses done and I feel I need to catch up, so we really motivate each other. I think she is the only one in my studio who can motivate me to do that. She helps me stay more focused. (Participant E)

Two participants (18.18%) indicated that they experienced flow when discussing their project with classmates or mentors. They value the comments of those particular classmates and mentors. They were not aware of how much time passed when they were discussing the project with them.

> This summer we, my mentor and I, met like every Saturday and talk about my line and that was probably the most beneficial because I mean we had long periods and time and we just talked about it. For me to ask questions about what it really meant to design a line and what that should look like and what that should express about me as a designer and then probably now I see her at least once a week. We don't necessarily always talk about my line but if I have a question, then I can ask her. (Participant F)

> I remember working on that NASA project. When we were working on the mind maps, there's a point when you really start branching out and keep ideas really flowing. (Participant J)

One student (Participant I) mentioned that excessive team work discourages the team's flow experience. To experience flow in a group, she explained that team members' personalities need to go well together.

> Sometimes I think it (Flow in group) depends on the group; it depends on the people in the group. … I'm with the juniors this semester and I feel the flow in my group is really good. It's just 3 of us and I feel like we all work really well together and our personalities fit together really well. However, the other class, I feel like it's not flowing so well, because there are too many people in the group. … The least amount of people needed that's necessary to get whatever project done is the best. I usually like a group of about 3-4 people. I think about 3-4 is a good number and we have a group of 6 in the other class and I just feel like it is not enough work for each person. Then one person ends up doing more work than the rest of the people. (Participant I)

A majority of students reported that they could not trust other people's feedback on their collection.

I feel like people are holding back, so I don't know how true they are. Even your friends will tell you that they really like it even if they don't. I think it's a very rare moment when you get someone who can really give you a true critique. (Participant D)

I was really proud of what I have done and I did get some strange feedback - the back of that one was weird and looked like a mistake. … But I do not know why I need to change it. So it was nice to hear other people's perspective but sometimes they were not giving helpful feedback. (Participant H)

The odd thing was either everybody liked everything or nobody told me the truth. Constructive critic is always helpful. I think either everybody was just -yeah it's good- or they bit their tongue and didn't say anything. (Participant F)

Finding 5: Since they recognized how much time they need to spend for this class, they were able to experience flow without stress or complaints.

Students took a one-credit course in Apparel Design Research during the spring 2012 semester to start the research process for their collections. After summer vacation, they took a three-credit course called Apparel Design Studio V to develop their design ideas for the February 2013 fashion show. When taking Apparel Design Studio V, participants spent a significant amount of time with their project even though the class was worth three credits. They explained that they were aware of how challenging the class would be before taking this class. Thus, they were able to mentally prepare for it. If they did not recognize how much time they needed to spend for the class, they were not able to experience flow due to stress.

9-hours patterning was not bad. The part of the reason why I am able to stay positive about this is that I told myself before the semester that it is going to be ridiculously hard all semester because senior line year is hard. So I prepared mentally for that. You are not going to have any social life. I do not think about anything extra with my time. So I told myself beforehand and I could be mentally prepared for that. If I was not expecting to spend that much time, Saturday would be very annoying because I was spending all my Saturdays here. Since I knew

that it is going on every single weekend, feel good to actually do it. I just went here and did it. So I felt good about it. (Participant A)

It (Stress from the work) depends on the amount of mental preparation. If I have time to pick up the fabric, draw out how I want to do, and test out some of the techniques, then by the time I have to crunch for a deadline. It's not as bad and often very enjoyable. (Participant B)

Finding 6: Participants described some habits that encourage their flow experience.

Six participants (50%) mentioned that they have habits that encourage their creativity and flow experience. Two said that they clean and organize their working environment before working on the project in order to be focused when working with their projects.

I hate working in a messy place…. I clean everything out and vacuum the floor before I start a new project. So that's kind of like process. (Participant G)

Three participants said that they always set their own deadlines to finish given tasks before the official deadline. The instructor of the class highly recommended this technique at the beginning of the semester, so most of the participants were used to doing this. They explained that they spent their time more effectively and experienced flow without the stress of worrying about the deadline when they had set their own deadline.

I am always setting myself deadlines. So it'd be hard to think of doing something without there being a deadline because I always have so many things to do. (Participant G)

Two participants mentioned that they love to write journals all the time to document their design ideas. One participant reported that she was collecting used

garments to get inspirations for her collection made by used-garments. They explained

that this activity helps them have focused design aesthetics and a clear direction that

enables them to further experience flow. Participants mentioned that they can experience

flow more easily and frequently if they have a focused design aesthetic. For example,

when constructing the garment in Figure 6-1, one participant was able to experience flow

due to the clear design direction in her mind.

> I have to go out and collect a bunch of used garments and keep them in my color story and I look at the patterns that I thought should go together. I think that was really fun for me. Creative intelligence I would say to think about how it fit the garment I am trying to create and also go together with creatively some cohesive lines. That took lots of being focused but it is still very fun to be creative. (Participant D)

> Mostly came from my research. I collected all the pictures I love. There are about 400 pictures that I accumulated. And I sat down and looked at all pictures. What are the overriding features of them? Why did I like all of these things? And I pick out my color pallet. I saw lots of chiffon green and I can see lots of cream and blush look. Then I can come up with my color pallets. And then I decided who my target market was. (Participant A)

> I have made scrapbooks for all of my kids. I love vivid colors, so always incorporating that into their scrap-books and that kind of thing….We had to do a mood-board. So I did get inspiration from my scrapbooks and travelling experience because I have travelled a lot. (Participant G)

Finding 7: Negative memories associated with tools such as a sewing machine, a serger, or Optitex^TM software discouraged participants' flow experience.

Five participants explained that negative memories with tools discouraged their flow experience. For example, one student had a technical problem with an Optitex^TM program that she was not able to understand. Stuck with an unrecognizable and technical problem, she had some trauma associated with using the software. She was intentionally avoiding using an Optitex^TM program when making patterns for her collection. She mentioned that she is not able to experience flow when working with the program. It appeared that her skill level does not match with the challenge level of using Optitex^TM.

> The hard thing about using Optitex^TM is that I feel you need to have a very good understanding about paper patterning and the shapes that pattern creates. Then you really use Optitex^TM effectively and how do you use whole new software? Being able to have the same pattern in two different processes takes skill and practice and knowledge about the two different processes. So, I still feel like I'm at the point where doing paper patterns is something that I can understand and I can do at home. Whereas Optitex^TM, which I don't necessarily want to be and sometimes it's like you can read on a computer screen, but sometimes you just need a paper in front of you. (Participant I)

> No, when I am with Optitex^TM I never feel in control of it versus with pattern drafting or patterning. I am using a block and I am like here is the block and I am doing this and I know what I am doing and I know what it is going to look like because I feel comfortable with this technique. But with Optitex^TM, I do not feel comfortable with the technique really because I haven't had much experienced with it and also the experience that I had didn't turn out the way I wanted. … I am always afraid that it will not look the way that I wanted it to look, so I never get into the flow. … With Optitex^TM, I do not know what I did, so I do not know what I did wrong. (Participant J)

Several participants also mentioned that technical problems with a serger were also very frustrating. Since they did not completely understand the mechanism of a

serger, they felt frustrated when encountering technical problems with sergers. They

explained that this definitely discouraged their flow.

Analysis of findings from the survey and the first interview

Based on the findings from the second interview, the answer to the second and third research questions is explored. The findings were summarized in Table 4. Following is a discussion of the findings with details that support and explain the second and third research question.

Findings			Percentage
Flow and students' collection	The most creative piece		Flow
	The least creative piece		Partially flow
	The most effective piece		Flow
	The least effective piece		Partially flow
Finding 1: Positive feeling in flow			11 of 11 [100%]
Decide to pursue a career in the field of apparel due to flow			3 of 11 [27.27%]
Finding 2: Watch TV during some intuitive and repetitive tasks to foster their flow experience			10 of 11 [90.90%]
Watch TV that they had already seen			5 of 11 [45.45%]
Finding 3: Prefer to work in their own space			10 of 11 [90.90%]
Prefer to work in the studio as well as in their own spaces			2 of 11 [18.18%]
Prefer to work in familiar working environment			2 of 11 [18.18%]
Decorate the working environment by themselves			2 of 11 [18.18%]
Finding 4: Experience a flow when doing individual-based tasks but not when doing group work in the design process.			11 of 11 [100%]
Flow with intimate classmates and instructors			4 of 11 [18.18%]
Finding 5: Since they recognized how much time they need to spend for this class, they were able to experience flow			3 of 11 [27.27%]
Finding 6: Some habits encouraging flow		Organizing and cleaning	2 of 11 [18.18%]
		Journaling	2 of 11 [18.18%]
		Scrapbooking	2 of 11 [18.18%]
Finding 7: Negative memories associated with tools		Optitex^{TM}	4 of 11 [18.18%]
		Serger	1 of 11 [9.09%]

Table 5. Summary of findings from the second interviews

Research Question 2: In what circumstances do students reach a state of flow? How differently do students experience flow depending on activities in the apparel design process?

Csíkszentmihályi analyzed a wide range of opportunities to reach a state of flow from the use of physical and sensory skills to the development of symbolic skills. He explained two kinds of flow: flow through the use of physical and sensory skills and through the development of symbolic skills. The apparel design process consists of various activities such as defining problems, doing research, ideating, sketching, testing prototypes, revisiting, and executing the design ideas (Watkins, 1988; LaBat & Sokolowski, 1999; McKelvey & Munslow, 2012). Since activities in the apparel design process have distinct characteristics, how participants recognize and experience flow was different from other activities.

It appeared that participants experienced flow differently depending on the type of activity in the design process. For example, Participant J mentioned that she usually worked in her bedroom when she was ideating or sketching because she could be more creative in that setting. The comfortable and relaxed working environment encourages her to experience flow with creative activities. However, she usually worked in the classroom studio if she needed to work on analytical activities such as solving problems or fixing patterns to find a better fit to the client's body. Equipment in the studio and peer pressure makes her experience flow when she is solving problems analytically. At the same time, she indicated that she is always watching TV when she is doing intuitive and repetitive activities such as beading, sewing, or knitting. Since she has expertise with

those activities, she did not have to pay significant attention to the activities. In that circumstance, watching TV helps her to prevent boredom with continuous intuitive activities, so she can work on them for nine hours without taking a break. From her explanation, it is clear that she distinguishes different types of flow experiences in her design process including analytical, creative, and intuitive activities.

Watkins (1988) mentioned that analytical, intuitive, and creative decision making skills are required in the design process. Simonton (1975) explained that analytical and intuitive activities are different; "intuition is inclusive and behavioral, whereas analysis is conscious and logico-symbolic" (p. 351). This research explored how students experience flow depending on kinds of activities in the apparel design process: (1) flow with analytical skills, (2) flow with intuitive and repetitive skills, and (3) flow with creative skills.

Problem Definition & Research → Creative Exploration → Implementation

2012 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2013 JAN	FEB

Apparel Design Research (1 credit)

Summer Break

Apparel Design Studio V (3 credit)

Fashion Show

ANALYTICAL/ CREATIVE ACTIVITIES
- Defining the problem
- Finding user's needs (function, aesthetic, economic)
- Market research (current products)
- Establish design criteria
- Reading
- Surfing the internet
- Visiting museum
- Interviewing users
- Conducting survey

CREATIVE ACTIVITIES
- Exploring preliminary ideas (brainstorming, drawing, mind-mapping)

ANALYTICAL/ INTUITIVE/ CREATIVE ACTIVITIES
- Design refinement (considering user constraints and production constraints)
- Prototype development (Buying fabric, drawing, patterning, draping, sewing)
- Evaluation of prototype (communicating with classmate, analyzing with design elements and principles, considering user and context)
- Decision of the final design of the garment (incorporating information)
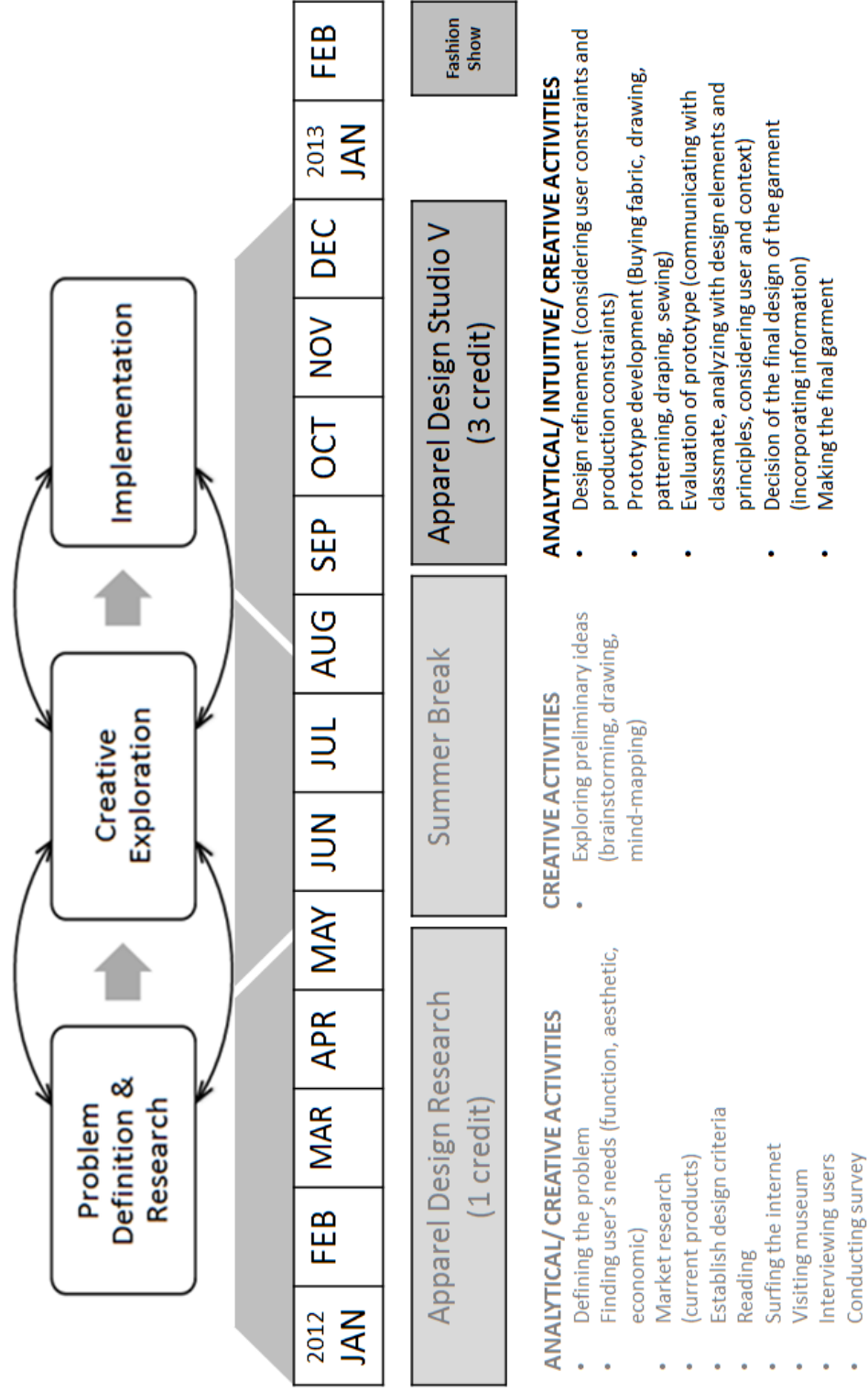- Making the final garment

Figure 22. Activities in the apparel design process and students' time schedule according to the second interview

1) Flow with analytical skills within the design process

Analytical activities require skills such as analyzing information, articulating, applying logical thinking, solving problems, and making decisions based on available information (Simon, 1957; Wierzbicki et al., 2000). Participants indicated that they were able to work with analytical activities more productively in the flow state. Based on participants' responses, three conditions played a significant role in encouraging students' flow with analytical activities.

First, participants reported that they need a clear design direction and plans to experience flow with analytical activities. To have a clear design direction, students said they need to spend a sufficient time exploring the design ideas. Many mentioned that a specific syllabus which details course objectives and specifies important deadlines greatly help them in setting a clear direction. This is in agreement with Csíkszentmihályi's view that people should have specific goals to experience flow. Students developed their own goals according to the syllabus.

Second, deadlines play an important role in stimulating participants' flow with analytical activities. All participants reported that deadlines motivate them to focus on the task and help them make a decision in the design process. Csíkszentmihályi did not mention deadline in his books but explained that one must avoid distractions to reach a state of flow. Deadlines seemed to create an urgency among students that prioritizes the work in hand which makes students less vulnerable to external mental distractions. In this regard, deadlines facilitate students reaching a state of flow.

Third, students were able to experience flow with analytical activities when their skill level met the challenges posed by the problem. Participants in general regarded analytical activities as being highly challenging which requires a high level of skills (see Figure 22). For example, many picked an analytical activity such as fitting a garment to a client as being most challenging. Participants stated that they sometimes were frustrated with analytical activities when the level of challenge exceeded their skills and found it hard to reach a state of flow in those circumstances. Such observation is well supported by Csíkszentmihályi's flow theory that states a flow experience occurs when one's skills are balanced with a given challenge.

2) *Flow with intuitive skills within the design process*

Krulak (1999) found that effectiveness of intuitive activities is dependent upon experience, so intuitive skills can be programmed into the school curriculum. Since students in the apparel design program learned how to design from their freshman year onward, all participants have sufficient technical experience and are able to implement designs intuitively. Participants reported that they were able to experience flow when they were doing intuitive and repetitive activities such as beading, knitting, and sewing. Based on participants' responses, three conditions that encourage students' flow with intuitive and repetitive activities were explored.

First, a majority of participants indicated that they watch television when working with repetitive tasks to avoid boredom and foster their flow experience. But rather than paying attention to the content of the televised on the screen, participants merely leave

the television turned on when sewing, knitting, or beading. They often select previously watched programs that they know the story so little focus or attention is required in following the program. Interestingly, participants were not able to distinguish a background noise from a television or an audio player when they experienced a flow state. It is only when they are out of the flow state for a little while that they diverted themselves by watching television. Thus, the presence of television acted as a catalyst to relieve a certain inevitable boredom that a repetitive task in the design process accompanies. This finding is supported by several researchers (Smith 1961; Oldham et al., 1995; Fox & Embre, 1972; Furnham & Bradley, 1997) who explored how background music affects people's productivity and mood. Smith (1961) hypothesized that music reduces the tension and boredom that are highly correlated with routine work but acts as a distracter for complex mental work. Oldham et al. (1995) found that people who have a positive mood, are satisfied with their performance, and are satisfied with the organization when they are listening to music in an office situation. To further back up the finding, three participants reported that they prefer doing intuitive and repetitive activities in the classroom studio because communicating with classmates can prevent boredom. When working with intuitive and repetitive activities in which one already has the necessary skills, it was important for the students to prevent boredom. In this regard, it would be beneficial to have background noise to encourage students' flow experience with intuitive and repetitive activities.

Second, the immediate progress that is visible with repetitive and intuitive activities helped participants to reach a state of flow. Participants generally regarded

repetitive and intuitive activities as being significantly less challenging compared to analytical activities. Nevertheless, many participants mentioned activities such as sewing fabrics together or putting beads on garments were enjoyable because they were able to see the immediate progress. Students described that having a visible feedback of the progress often excites them and facilitated their flow experience.

Third, a clearly specified deadline motivated students to work effectively and experience flow with intuitive and repetitive activities. Intuitive and repetitive activities such as assembling fabrics together or placing beads on the garment often take significant amount of time. A clearly specified deadline helped students to make plans and set aside needed time to complete the garment before the deadline.

3) Flow accompanying creative skills within the design process

Simonton (2002) defined creativity as "adaptable originality." According to Rothenberg & Sobel (1990), "the creative clothing designer may articulate the superimposed image into a developed style in which the elements interact and are in balance in the context of the entire costume (p.31)." In the study, the researcher used students' common definitions of creativity for the analysis. The most common definitions of creativity reported by participants were "an activity of thinking outside the box and creating something different that people have never thought of before" and "an original activity of creating something surprising from basic elements". Participants reported that there are three factors that encourage and discourage their flow with creative activities.

First, deadlines negatively affect participant's flow experiences with creative activities. Five students indicated that a deadline hampers their creative flow as it forces them to narrow down their design ideas even if they want to explore more designs using ideation techniques. One student even proposed having flexible deadlines to have time to explore creative designs and try several experiments with her designs. This finding is supported by Breen's (2004) notion of creativity. He mentioned that when people were working under great pressure, their creativity went down continuously. According to him, creativity requires an incubation period, so people need time to absorb a problem and explore diverse design ideas.

In this regard, fashion schools in Europe often do not strictly enforce or set deadlines to encourage students to have as much time as possible to come up with creative ideas. According to Choi (2011), curriculum of fashion schools in Europe let

students spend about half of the semester exploring creative design ideas. She explained that the students have ample opportunities to explore conceptual and abstract design ideas for their own project.

On the other hand, fashion programs in the United State often place importance in meeting the deadlines. The senior level studio in which the participants in this study were enrolled also places emphasizes being punctual. This can be explained by the fact that fashion design education in the United State has emphasized the importance of following a design process used in the industry (Choi, 2011). Toni & Meneghetti (2000) explained that since lots of decision variables are intertwined in the textile-apparel industry, designers and retailers need to be punctual to improve the network between them. Thus, although deadlines may discourage flow with creative activities, it plays a positive role training the students to be punctual. Therefore, depending on the needs of the industry, the deadline policy that the school applies can be different and should be carefully chosen.

Second, Students reported the importance of having clear design aesthetics and directions to encourage participants' flow experience with creative activities. Participants said that creative ideas are often generated unexpectedly in the presence of having a clear goal towards their design collections. When participants have clear design aesthetics and understand their expectations of the collection, they tend to experience flow easily and frequently. This finding is supported by Csíkszentmihályi's (1990) notion of flow. He explained that people need to set an overall goal when performing the activity to experience flow.

Third, participants described that working in a preferred environment encourages their creative flow experience. The preferred environment differed from one participant to another but many were personalized space outside the school. Two participants indicated that if they want to work on creative activities, they preferred working in their apartment by themselves. Another two participants reported that working in the personalized studio helps them to reach flow in doing creative activities. These participants designed their own studio using favorite colors or inspiring decorations and said these working environments stimulate their creativity as well as their flow experiences.
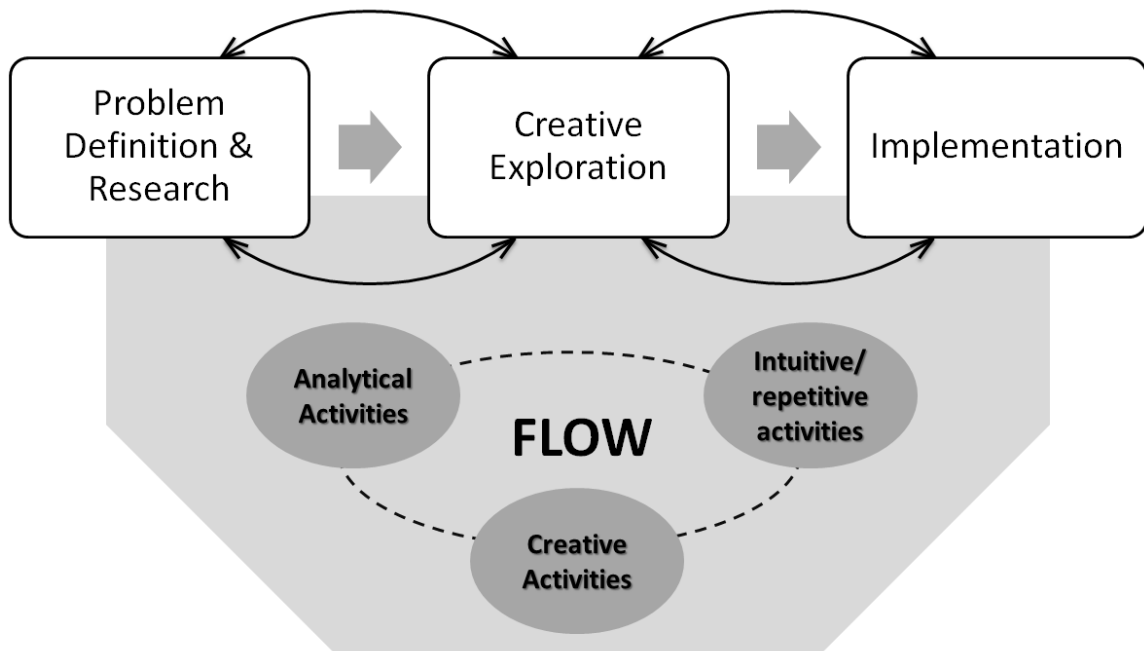
Figure 23. Summary of findings from the second research question

- Flow with analytical, intuitive, and creative activities within the design process

Research Question 3: What factors encourage or discourage students from reaching a

state of flow?

Factors that encourage and discourage students' flow experience are different depending on the type of activities in the design process as they were discussed in the previous section. Including those factors, the analysis of the interviews found a number of general factors that encourage or discourage senior students' flow experience in the apparel design process. Many of these factors are internal and directly related to the students themselves.

First, having a working habit such as cleaning and organizing the working environment before start of a work or setting their own deadline for the given tasks helps students to experience flow. Second, knowing in advance the level of challenge of the work increases the likelihood of experiencing flow. Participants responded that they knew how challenging the class would be before taking it and were mentally prepared for it. The explained that this helped them to be less stressed out, which helped their flow experience. Third, establishing one's own design aesthetics helps students to reach a state of flow. Participants stated that out of school activities such as studying abroad, working as an intern, and traveling are beneficial in forming their own design aesthetics. Fourth, students easily reach a state of flow when their work is driven by intrinsic purposes. Participants in the research had very strong internal motivations to do well for the project and this they said helped them to reach flow. Fifth, having a certain length of dedicated time for a work is desirable to reach flow. Many participants said they did not experience flow when working briefly for a short time (e.g. one hour). Instead, their flow experience

mostly came when they were working for a sufficient duration of time. Lastly, confidence with technology often greatly affects the flow experience when the work involved requires use of technological tools.

There were also several external factors surrounding the students that affect them. First, students are able to experience flow when working side by side with very close classmates who understand each other. Many responded that knowing each other's design aesthetics, personality, and work in progress helped them to experience flow together. Second, students are able to experience flow in a comfortable, familiar, and creative working environment. Third, students' family and friends affect their flow experience and creativity in both positive and negative directions. Fourth, their relationship with their clients also influences students' flow experience.

Many of the above factors that were found to affect the students' flow experience are similar to the factors detailed in the work of Csikszentmihalyi. However, there are several factors found in this research that were not discussed in Csikszentmihalyi's work. The researcher believes this is mainly due to the difference of the topic involved in the study. Csikszentmihalyi's work to understand the flow phenomenon was based on the experiences of experts in the field. He interviewed a few hundred experts including artists, athletes, musicians, chess masters, and surgeons in the process. On the other hand, the current research focused on the flow experience of students specifically in the apparel design process. Findings were based on experiences of students, not experts, working in the apparel design process.

Three factors that were not discussed in Csikszentmihalyi's work stand out – group work, classroom environment, and technology use. As these factors have direct implication to education in the apparel design field, they are explored and discussed more in-depth.

1) Group work

The group in which a student worked in and his or her relationship with the group members affected the student's flow experience to a great extent. In the apparel design process, students constantly have to work within a group and understanding how it affects their flow is of high importance.

To begin with, students more easily reached flow in a group when they were collaborating to achieve a common goal. For example, students worked together to come up with the theme of the fashion show at the beginning of the semester. Several students answered that the atmosphere of working together for one common goal during this time helped them to reach a state of flow. Moreover, working in a group where members share similar working habits and ethics increased the likelihood of reaching flow. For instance, participant B said she spends her time more productively and concentrates better when working with classmates who have similar working habit and ethics. She explains this is because there is no distraction when working with such classmates. Other participants also stated similar experiences.

However, a competitive atmosphere in the group hampers students' flow experience. Students said group members were hesitant in sharing ideas or help each

other when there is competition within the group. This made it hard for a constructive collaboration to happen and many participants expressed that they were not able to reach flow in such circumstances. This agrees with previous works by Breen. His work showed that the most creative teams are those that have the confidence to share and debate ideas and when people compete for recognition, they stop sharing information and creativity of the result decreases (Breen, 2004). The size of a group also seemed to affect the flow. Several participants stated they were not able to reach flow when working in a too large group. They responded that working in a group of three to four served them better in reaching a state of flow.

The notion of group as being an important factor in flow extends beyond working with classmates. The relationship with clients in the work also influences the students' flow experience. Three participants explicitly mentioned their relationship with clients as greatly affecting their flow. Participant H who designed a childrens-wear collection was not able to build a good relationship with one client and her parents. According to her, the uncomfortable relationship with the client's parents made it extremely hard to reach a state of flow in making the garment for that client. On the other hand, she shared a good relationship with her other two clients and she was more focused and easily reached flow when designing garments for them.

The understanding of how a group affects students' flow experience can be applied in apparel design education settings. To foster students' creativity and their flow experience, it is important that instructors work to build a sharing and collaborating working atmosphere and refrain from making a too competitive atmosphere. Also, care

should be taken when forming groups such that group members have similar working habits and ethics. Rather than arbitrarily assigning group members, letting the students form groups on their own may be helpful to this cause. Moreover, students should be encouraged to build positive a relationship with clients they work with. A professional designer who participated in the pilot study said seeing a satisfied customer is one of the most rewarding moments in her career as a designer. A majority of participant designers also expressed similar statements and hence the importance of having a good relationship with the clients.

2) *Working environment*

Throughout the interviews, students mentioned working environment as being an important factor that affects their flow experience. Further, participants reported that the working environment where they can experience flow is different depending on the kinds of activities in which they are engaged in the apparel design process. First, students experience flow better in the classroom when working with analytical activities. Participants said that they can easily receive feedback from classmates and instructors in the classroom which helped them to reach a state of flow. Many said they postponed important analytical design decisions to class hours for this reason. Second, a majority of participants indicated that watching television fostered their flow experience when working with repetitive tasks by preventing boredom. Intuitive and repetitive activities are often not challenging in nature. Therefore students already had the necessary skills and what became important in reaching flow was preventing boredom in these activities.

Third, participants described that working in a preferred environment encourages their creative flow experience. The preferred environment differed from one participant to another but many environments were described as personalized space outside the school.

In this sense, educators need to develop creative classroom policy to promote students' flow. For example, if students need to work on creative activities such as ideating or sketching preliminary ideas, it would be beneficial to let students work on the activities freely wherever they want. On the other hand, if students need to work on analytical activities to solve problems, it would be helpful to have mandatory class hours to encourage students interact each other to solve problems.

3) Technology use

Confidence with the tools used in the apparel design process is important for students to reach a state of flow. However, students displayed a large variation in their confidence with technological tools and this greatly affected their flow experience. Among the participants, six were able to experience flow while working with the CAD program Optitex^{TM}. Nevertheless, the other five participants said they were not able to reach flow when working with it. They expressed having no confidence and negative memories associated with technological tools and this discouraged their flow experience. For example, one student had a technical problem with an Optitex^{TM} program that she was not able to understand. Stuck with an unrecognizable technical problem, she struggled in her work using Optitex^{TM} and this left her uncomfortable using design software from then onward. She reported that she is not able to experience flow when working with technological tools.

Unlike other tools used in apparel design, a significant portion of students were not confident with technological tools. However, the software is used by a number of major retailers, including Target and Lands End; thus students need to learn how to use it if they want to work at apparel design companies after graduation. Thus students need to feel comfortable regarding technological tools to foster their flow experience with technology.

Chapter Summary

This chapter presented the findings from the second interviews following project completion. Data from images of participants' design collection and individual interviews revealed 1) How differently students experience flow depending on activities in the apparel design process; and 2) What factors encourage or discourage students from reaching a state of flow. Findings are supported by images of participants' design collection and quotations from participants' interview. By using participants' own words, the reality of the persons and situations will be accurately represented.

First, participants' most creative pieces in the collections were their favorites with reasons given such as, the most successful visually, and different from garments already existing in the market and representing the overall image of their collection. Second, their least creative pieces were their least favorites and the least successful pieces among their collections. Even though they thought their pieces were not satisfactorily creative, they had to make decisions and execute them to meet the deadline. Third, their most effective pieces were those on which they spent their time most efficiently. The majority of

students explained that they were able to spend their time effectively when they had a clear direction in mind. In terms of the least effective pieces among their collections, if they did not have a clear direction for a piece, they were not able to spend their time well. However, they were able to experience flow when making the most creative, the least creative, the most effective, and the least effective pieces for their collection. They all completed their collections before the ultimate deadline—the fashion show.

Based on their explanations, seven findings were extracted. The major finding from the second interview is that all participants felt positive feelings while in flow state. They (11 participants) indicated that that they decided to pursue a career in the field of apparel design due to these positive feelings. Second, in the design process, 10 participants reported they watched television or listened to music during intuitive and repetitive tasks to foster their flow experience. Third, 10 participants prefer to work with their collection in their own space, because they can work whenever they want in their own private space without distraction from classmates. Fourth, all participants were able to experience flow when doing individual-based tasks but not when doing group work in the design process. Fifth, three participants reported that since they recognized how much time they needed to spend for this class, they were able to experience flow without stress or complaints. Sixth, four participants described some habits that encourage their flow experience. Seventh, negative memories associated with technical operations such as operating a sewing machine or using Optitex^{TM} software discouraged five participants' flow experience. The findings are summarized Table 5.

Based on the findings, the first research question was answered. Students' flow experience depends on the kinds of activities in the apparel design process: (1) flow with analytical skills, (2) flow with intuitive and repetitive skills, and (3) flow with creative skills. Factors that encourage and discourage students' flow experience are different depending on the type of activities in the design process. Including those factors, the in analysis of the second interviews the researcher found a number of general factors such as having a working habit, knowing the level of challenge of the work in advance, establishing one's own design aesthetics, having intrinsic purposes, having a certain length of dedicated time for work, having confidence with technology, working with intimate classmates, working in comfortable, familiar, and creative working environment, and having positive relationship with families and clients. Three factors that were not discussed in the Csikszentmihalyi's work stand out: group work, classroom environment, and technology use, so they are explored and discussed more in-depth. The understanding of how the three factors affect students' flow experience can be applied in apparel design education settings.

CHAPTER 6

CONCLUSION AND IMPLICATIONS FOR FUTURE RESEARCH

The purpose of this phenomenological study is to explore apparel design students' experiences of flow during the design process and their awareness of satisfaction. This research used naturalistic inquiry to collect qualitative data by conducting two in-depth interviews with participants during the apparel design process. Participants in the study included 12 students who were taking their senior apparel design studio to make four to five ensembles to represent their expertise. The interview data were coded, analyzed, and organized first by research procedure and then categorized and subcategorized by research questions and conceptual framework. The researcher believes that a better understanding of this phenomenon would allow educators to help students reach a state of flow and ultimately find more enjoyment in the class. To achieve the research purpose, the study was based on the following three research questions.

1. Are students able to reach a state of flow in relation to their experience with apparel design? If so, how do students recognize a state of flow and how do they sustain it?

2. In what circumstances do students reach a state of flow? How differently do students experience flow depending on activities in the apparel design process?

3. What factors encourage or discourage students from reaching a state of flow?

The three research questions were answered in Chapter 4 and Chapter 5. The conclusions from this study summarize findings based on the research questions and

therefore address following the four statements: (1) Students become more creative and productive in a flow state – a clear goal increases creativity and a deadline boosts productivity; (2) Factors encouraging and discouraging students' flow are different depending on types of activities performed; (3) Students are able to experience flow when doing individual-based tasks but may not do so during group work if a cooperative relationship is not well established; (4) Experiencing flow in the design process leads to satisfaction of students to pursue careers in the field of apparel design. Following is a discussion of the major findings and conclusions drawn from this research. This discussion is followed by implications, revisiting assumptions, limitation of the study, and recommendations for future research.

1) *Students become more creative and productive in a flow state – a clear goal increases creativity and a deadline boosts productivity.*

The first major finding of the study is that all participants in this study indicated that they were able to be more creative and productive in a flow state. Two major factors affected the creativity and productivity of the flow state.

First, having a clear goal of the work and well established personal design aesthetic helped the students to reach the state of flow more frequently. In these cases, their flow experience resulted in highly creative outcomes. They solved problems more creatively as well as came up with creative design ideas more easily in such a flow state.

Second, the presence of a deadline also facilitated experiencing flow. The flow experience driven by a deadline did not result in an increase in the creativity but boosted

the productivity to a very high extent. A deadline was regarded as a positive driving force that enabled students to make decisions and execute design ideas into a product.

In both the creative and effective flow, students reported that they feel extremely happy, therapeutic, and proud of themselves. All students experienced flow in the apparel design process and they were able to complete their collection successfully and present work in a fashion show with confidence. Thus it turns out that all students are capable of experiencing creative and effective flow when presented with a clear goal and a deadline.

2) *Factors encouraging and discouraging students' flow are different depending on types of activities performed.*

The second major finding is that all participants experience flow differently depending on types of activities. The types of activities can be divided into analytical, repetitive and intuitive, and creative activities.

When working with activities requiring analytical skills, a quiet space was an important factor in reaching a state of flow. Students mentioned that they find it hard to reach flow while performing an analytical task if the environment is noisy. On the contrary, a background sound helps students to reach flow when working with repetitive and intuitive activities. Based on the interviews, reducing boredom was the key in reaching flow in a repetitive activity and watching television or listening to music helped students reach flow without boredom. A deadline was also found to facilitate students in experiencing effective flow with repetitive and intuitive activities. In the case of activities

involving creative skills, interacting with classmates, mentors, and instructors was found to help one to experience flow.

Since the apparel design process consists of a variety of activities requiring analytical, intuitive, and creative skills, it is important for instructors to understand that factors affecting flow experience differ for each type of activity. At the same time, students also need to explore working environments and habits that encourage their flow experience depending on the activities in the apparel design process. Knowing what factors help reach a flow state will greatly help each student in becoming more creative and productive in the long run.

3) *Students are able to experience flow when doing individual-based tasks but may not do so during group work if cooperative relationships are not well established*

Although one of the goals of the class is "to experience teamwork in the development of a promotional exhibition" a majority of the interviewed students did not prefer group activities (See Appendix G). In fact, they experienced flow more frequently when working by themselves rather than when working with classmates. The major hindrance that deterred students from reaching flow in group work was not having a cooperative relationship among the members. "Free riders", unclear division of the work, and different expectations between the members all hampered forming a cooperative relationship.

Having a cooperative relationship is also important when working with clients who wear their designs. Three participants mentioned that their relationship with a client affected the flow experience. In particular, Participant H, who designed a childrens-wear collection, was not able to build a good relationship with one of the clients and her parents. According to her, the uncomfortable relationship with the parents discouraged her from reaching a state of flow. On the other hand, cooperative relationships with the other two clients encouraged her to focus when making garments for them and resulted in a better design.

4) *Flow experience leads students to pursue their career in the field of apparel design.*

All participants described that flow experiences are therapeutic and make them feel happy and proud of themselves. Such positive satisfaction through flow experience strengthened students' desire to pursue a career in apparel design. Most of the participants who are able to reach flow in the design process seemed to have a concrete career goal compared to those who did not.

Implications

As explained in Chapter 2, the goal of current design education is to develop students' ability to (1) communicate with colleagues, (2) solve a problem creatively, (3) express their ideas thorough visual medium, and (4) create a good product with an appropriate balance and harmony of aesthetic beauty, reliability and safety, usability, cost, and functionality. Since flow experience helps students be more creative and effective in the apparel design process, the study provides educational insight to educators in the apparel design field.

This research could provide a number of important ways that the concept of flow can be utilized within an apparel design education context. First, educators need to set a clear and concrete goal and manage deadlines to encourage students' creative and effective flow. Second, knowledge about where students experience flow depending on types of activities will help educators create the working environment and class atmosphere that encourage students' flow experience. Third, educators need to create a cooperative and collaborating team atmosphere to encourage students' flow experience with creative activities. Fourth, having a portfolio review process is one good way to make students feel proud and experience flow in the field. All students need to pass the portfolio review process to get into the program. This rigorous student selection process makes students confident with their ability in the design process. Fifth, various activities outside of school such as internship and study-abroad program help students develop their own design aesthetic and further reinforce their flow experience in the field. Therefore, an apparel design program needs to provide sufficient outside school

opportunities to students to encourage their flow experience. Sixth, educators need to prevent students' traumatic experience regarding technology to foster their flow experience with technology.

Furthermore, the research can help students who want to experience flow easily and frequently in the field of apparel design. First, student's experience of flow depends on types of activities in the apparel design process. They need to know the different factors that encourage flow for each type of activity to enhance their flow experience. For example, students can be more creative when they have freedom with working time and working environment. Second, students need to take sufficient time to discover their aptitude to experience flow and find happiness in their career. Third, students need to try to experience various activities regarding their major to have clear design aesthetic and experience flow.

Revisiting Assumptions

It is useful to revisit the assumptions underlying this study that were stated in Chapter 1. Based on the researcher's experience and background as a teaching assistant and an instructor, three primary assumptions were made regarding the study.

The first assumption underlying the research was that participants are able to understand a concept of flow and are capable of reaching a state of flow. This assumption is based on the premise that flow phenomenon occurs in the field of apparel design. This assumption held true according to the first finding. Participants were able to understand a concept of flow though losing sense of time and rewarding experiences during the design process.

The second assumption was that students taking a senior level apparel design studio have enough knowledge to reach a state of flow. This assumption is based on Csikszentmihalyi's (1990) notion that people who have sufficient knowledge and skill specific to a given task are able to reach a state of flow. This assumption held true according to the first finding. Participants reported that their senior line project is challenging, but they indicated that they are confident with creating their senior line collection. In addition, participants were able to experience flow during activities they are most and least confident about is a difference of frequency and degree.

The third assumption was that students will perform a design project diligently and be willing to participate in the study. The assumption held partially true given that all participants completed their collection within the give time frame. All participants presented their collections at the fashion show. However, one student did not agree to

participate in the second interview even though she completed her collection

successfully.

Recommendation for future study

The researcher recommends future studies be conducted to develop a larger

database of information to gain a more comprehensive understanding of why students

experience flow. In light of this, the following should be considered:

1. The research sample was small, comprising interview data from 24 interviews

   with senior students who were taking their senior apparel design studio. In

   addition, the focus of the study was on those who were making four to five

   ensembles in the apparel design process. Thus, students who go through other

   processes for other purposes are not represented. For these reasons, it must be

   stressed that the implications that can be drawn are specific to the experience of

   the sample group under study. Thus, a survey of a large sample of students

   majoring in apparel design should be conducted. This will help assess the extent

   to which the same or similar findings would be uncovered.

2. Various interesting factors that encourage and discourage students' flow

   experience were explored. For future research, it would be beneficial to focus on

   one factor in depth to come up with specific implications. For example,

   comparison of flow experience between students who went through a rigorous

   student selection process and those who did not can be performed to examine how

   the process affects students' flow, performance, and furthers their happiness.

3. Various research methods such as observation should be conducted to seek a better understanding of flow phenomenon in apparel design.

4. A study similar in kind using the same criteria could be undertaken among professional apparel designers who are experiencing flow in their work and life.

5. Future research should follow professional apparel designers' flow and happiness in their lives, and working environment that encourages their flow experiences.

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APPENDIX A

Survey Question

Name:_____

I. Please select the number that most accurately indicates how much you agree or disagree with each statement.

1) How happy are you with your life?
    1----------2----------3----------4----------5----------6----------7----------8----------9
  Not at all Happy   Extremely
                                    Happy

2) How happy are you with your major?
    1----------2----------3----------4----------5----------6----------7----------8----------9
  Not at all Happy   Extremely
Happy

3) How happy are you with your senior line project selection?
    1----------2----------3----------4----------5----------6----------7----------8----------9
  Not at all Happy   Extremely
Happy

4) How challenging do you think your senior line project will be?
    1----------2----------3----------4----------5----------6----------7----------8----------9
  Not at all Happy   Extremely
Happy

5) How creative do you think you are in your design work?
    1----------2----------3----------4----------5----------6----------7----------8----------9
  Not at all Happy   Extremely
Happy

II. Answers to the following questions will provide background for the study. Please check one that best describes you.

1) What is your current marital status? (1) Single/ (2) Married/ (3) Other

2) Do you have children? (1) Yes/ (2) No

  If yes, how many children do you have? (_____)

3) Do you work outside of the school? (1) Yes/ (2) No

  If yes, how many hours per week do you work: (_____)

APENDIX B

First Interview Questions

1. A. What does the word 'creative' mean to you?

   B. Do you think that you are a creative person?

2. How do you come up with creative ideas?

   A. Please describe the experience (when, where, and how).

3. When you are designing a project:

   A. What are your strengths in the design activities?

   B. What are your weaknesses in the design activities?

4. What is the most creative and enjoyable activity you do?

5. Have you ever been so absorbed in an activity that you lose the sense of time?

   A. Please describe your experience.

   B. When does it happen?

6. How did you decide to pursue your major in apparel design?

   A. How satisfied are you with your major?

   B. How much do you enjoy design activities?

   C. After graduation what would you like to do with your major?

7. Regarding your senior line project selection:

   A. How did you select your senior line project? Please describe it.

B. How much do you like your senior line project?

C. Do you consider your senior line project to be a challenge? What challenges will you encounter?

8. Where do you like to do your design work? (i.e. during class time, in class studio but outside class time, in your own work space)

    A. Do you have your own studio?

    B. When do you do your design projects?

9. Describe what you do and how you feel when you encounter a problem.

    A. Do you like to continually challenge yourself?

    B. How do you make decisions?

10. How stressful do you feel when you are doing your design work?

    A. What makes you feel stressful in doing design work?

    B. How do you cope with such stress?

    C. How do deadlines affect your design? How do you deal with deadline?

APENDIX C

Second Interview Questions

1. Please reflect back your previous experience in the design process.

2. Let's talk about the most creative piece among your collection.

    A. Please describe the design process you went through.

        i. Which activity was the most challenging in the design process?

        ii. Which activity was the most enjoyable in the design process?

    B. Reflect upon the working environment.

    C. Reflect upon your sense of losing time. How did you feel about the moment?

3. Let's talk about the least creative piece among your collection.

    A. Please describe the design process you went through.

        i. Which activity was the most challenging in the design process?

        ii. Which activity was the most enjoyable in the design process?

    B. Reflect upon the working environment.

    C. Reflect upon your sense of losing time. How did you feel about the moment?

4. Let's talk about the most effective piece among your collection.

    A. Please describe the design process you went through.

        i. Which activity was the most challenging in the design process?

        ii. Which activity was the most enjoyable in the design process?

    B. Reflect upon the working environment.

    C. Reflect upon your sense of losing time. How did you feel about the moment?

5. Let's talk about the least effective piece among your collection.

    A. Please describe the design process you went through.

        i. Which activity was the most challenging in the design process?

        ii. Which activity was the most enjoyable in the design process?

    B. Reflect upon the working environment.

    C. Reflect upon your sense of losing time. How did you feel about the moment?

6. Awareness of time

    A. How can you become aware of time during the design process?

7. Individual flow and collective flow

    A. Have you ever experienced flow when working with other people such as classmates, friends, teachers, or mentors? Please describe your experience.

8. Ask students agree with a copyright form about the use of their works and names in the dissertation.

APPENDIX D

Consent Form

University of Minnesota

College of Design

PART 1: Research Description

Principle Researcher: Seoha Min

Research Title: Exploring How Flow Is Recognized and What Factors Encourage or Discourage Reaching a State of Flow: Focused on the Context of Education in Apparel Design

You are invited to participate in a research study that explores how students recognize flow, when and where they fall into a state of flow, and what factors encourage them to reach a state of flow with a sample of senior level of students in apparel design. Your participation in this study requires an interview during which you will be asked questions about your flow experience in apparel design. The duration of the interview will be approximately 60 minutes. With your permission, the interview will be audio taped and transcribed, the purpose thereof being to capture and maintain an accurate record of the discussion. Your name will not be used at all. On all transcripts and data collected you will be referred to only by way of pseudonym.

This study will be conducted by the researcher, Seoha Min, a doctorate student at the University of Minnesota. The interview will be undertaken at a time and location that is mutually suitable.

Risks and Benefits:

This research will hopefully contribute to educators to get deeper perspective in terms of design and facilitation of apparel design program. Participation in the study carries the same amount of risk that individuals will encounter during a usual classroom activity.

Data Storage to Protect Confidentiality:

Under no circumstances whatsoever will you be identified by name in the course of this research study, or in any publication thereof. Every effort will be made that all information provided by you will be treated as strictly confidential. All data will be coded and securely stored, and will be used for professional purpose only.

How the Results Will Be Used:

This research study is to be submitted in partial fulfillment of requriements for the degree of Doctor of Philosophy at College of Design, University of Minnesota, Saint Paul, Minnesota. The results of the study will be published as a dissertation. In addition, information may be used for educational purposes in professional presentations or educational publications.

PART 2: Participant's Right

- I have read and discussed the research description with the researcher. I have had the opportunity to ask questions about the purposes and procedures regarding the study

- My participation in the research is voluntary. I may refuse to participate or withdraw from participation at any time without jeopardy to future medical care, employment, student status, or other entitlements.

- The researcher may withdraw me from the research at her professional discretion.

- If, during the course of the study, significant new information that has been developed becomes available that may related to my willingness to continue to participate, the investigator will be provide this information to me.

- Any information derived from the research that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.

- If at any time I have any questions regarding the research or my participation, I can contact the researcher, Seoha Min who will answer my question. The researcher's email address is minxx067@umn.edu.

- In at any time I have comments or concerns regarding the conduct of the research, or questions about my rights as a research subject, I should contact Institutional Review Board at the University of Minnesota. The phone numver for the IRB is

- I should receive a copy of Research Description and this Participants' Rights document.

- Audio taping is part of this research. Only the principal researcher and the member of the research team will have access to written and taped materials. Please check one:

( ) I consent to be audiotaped.

( ) I do NOT consent to being audiotaped.

My signature means that I agree to participate in this study.

Participant's signature: _____

Date: _____/_____/_____

Name: (Please print): _____

Investigator's Verification of Explanation

I, _____ (Researcher), certify that I have carefully explained the purpose and nature of this research to _____ (participant's name). He/ She has had the opportunity to discuss it with me in detail. I have answered all his/her questions and he/ she provided the affirmative agreement (i.e., assent) to participate in this research.

Investigator's signature: _____

Date: _____/_____/_____

APPENDIX E

Copy Right Agreement Form

For Designer:

Your designs may be used as a supporting data in the analysis to be included in Seoha Min's PhD dissertation and doctoral final oral presentation.

By signing below, I attest that the information contained on this form is correct.

Designer's Name:

_____

Signature:

_____

Photographers and others who may be involved in presentation of accepted design work must assign to this form.

For Photographer:

By signing below, I attest that the information contained on this form is correct, and I agree to the conditions stated.

Printed Name of Photographer:

_____

Signature of Photographer:

_____

Date:_____

APPENDIX F

Syllabus of Apparel Design Research (Spring 2012, 1 credit)

University of Minnesota,
College of Design,
Department of Design, Housing, and Apparel

ADes 3225   APPAREL DESIGN RESEARCH

Spring Semester 2012
1 credit. Prerequisites: Apparel Design major

Lecture and discussion: Every other Wednesday 8:30-10:30 am
146 McNeal Hall
Final Exam: None

Professor Anna Carlson
Office: 348 McNeal
Office Phone: 612-625-8234   Office Hours:
E-mail: annac@umn.edu   Alternate W 8:30-10:30
DHA office: 612-624-9700   (or by appointment)

Student Learning Outcomes
- o   To develop and evaluate professional goals.
- o   To complete the research to support the development of the senior clothing line, a public presentation of your design work.
- o   To research the target market of the proposed line.
- o   To research the visual and thematic content of the proposed line.

Required Text
Fasanella, K. (1998). *The entrepreneur's guide to sewn product manufacturing. http://www.fashion-incubator.com/*

Required Supplies
Materials for line research, ideation
11" X 14" sketch book
3 presentation boards

Release of Work
Students understand that enrollment in this course grants consent for their work to be selected for inclusion in college or departmental publications (online or in print). Your instructor may select to use your work to represent her/his skills as an instructor in a teaching portfolio (online or in print).

Climate of inclusivity

You are expected to be attentive during class, ask questions if you do not understand something, and to offer your opinion. You are also expected to listen respectfully to other students and to me when speaking. The University of Minnesota is committed to providing a safe climate for all students, faculty, and staff. All persons shall have equal access to its programs and facilities without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation. Racism, sexism, homophobia, classism, ageism and other forms of bigotry are inappropriate to express in this class. Reports of harassment are taken seriously, and there are individuals and offices available for help.

Technology

In this class, our use of technology will sometimes make students' names and U of M Internet IDs visible within the course website, but only to other students in the same class. Since we are using a secure, password-protected course website, this will not increase the risk of identity theft or spamming for anyone in the class. If you have concerns about the visibility of your Internet ID, please contact me for further information.

Mental Health Services

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website at http://www.mentalhealth.umn.edu

Expectations of Students

Attendance at all class sessions for the entire class time. If you are not present at the beginning and end of class, you are considered absent. You are responsible for content missed. The instructor is not obligated to repeat a demonstration or presentation. Students with more than 3 absences will receive a reduction of 2 letter grades from their earned grade (i.e. an A becomes a C) and 5 absences will receive an F as the final grade. The following reasons justify absences and makeup requests and must be documented: (a) illness certified by the Boynton

Health Service or another physician (b) death of parent, sibling, or grandparent (proof of funeral attendance must be supplied), (c) participation in religious observances with advance instructor notification (d) participation, certified by the Office for Student Affairs (Office of the Registrar-St. Paul, 190 Coffey Hall), in University approved co-curricular activities.

<u>Attention</u> to class activities; Students are responsible for all information covered in class, including this syllabus. You are expected to listen respectfully to others and me. Electronic devices may only be used for participating in a class activity. Cell phones must be turned off. You are expected to contribute to the class. Participation in discussion and review sessions is required.

<u>Ask for help</u> if you do not understand something. Inform the instructor the first week of class course about any special needs or concerns, such as health issues or athletics. If you have any special classroom requirements please contact one of the offices listed below. They will work with you and, if necessary, they will contact the instructor to work out the details for any necessary accommodations. Student Academic Success Service, 340 Appleby Hall, Mpls, 612-624-3323 Counseling/Consulting Services, 199 Coffey Hall, St. Paul, 612-624-3323 Disability Services 180 McNamara, Mpls, 612-626-1333 Center for Writing, 10 Nicholson Hall, Mpls, 612-626-7579 *If you have an issue with the course or instructor, <u>contact the instructor first</u> to begin resolution process.*

<u>Authorship and conduct:</u> Project assignments may not be used for another class without written consent of both instructors. Work done for other classes may not be used for credit in this course without prior consent. Students must cite sources for all images and texts used in assignments, and are encouraged to provide their own images whenever possible. Students may not make commercial use of their notes or lectures or University provided materials without the written consent of the instructor. Professional and ethical behavior is required. Academic misconduct is defined as any act that violates the rights of another student with respect to academic work or involves misrepresentation of a student's own work. Academic misconduct includes but is not limited to: cheating on assignments or examinations, plagiarizing pieces of work, depriving others of necessary coursework, and sabotaging another's work. Discovery of academic misconduct is grounds for an F or N in the course.

<u>Coursework:</u> Present your assignments on time and in a professional manner. Work not presented at the beginning of class will be deemed late; late work will be accepted up to one week after the due date but will be graded 50% less than otherwise earned. Incomplete projects are considered late until all parts are submitted.

Late work with a justified and documented absence will not be penalized if turned in within one week of original due date. Make-up exams will be arranged only for students with a justified and documented absence (see Attendance).

There are no extra credit assignments.

Incompletes will be given only in cases of your own documented medical or family emergency. At least 75% of coursework completed with a passing grade is required for an incomplete.

Workload: Dedicate 5 hours per week outside of class on coursework in order to complete the assignments and receive a "C" grade. (3 credits x 3 hrs = 9 hours per week including 4 hrs class time).

Adhere to the University of Minnesota Student Conduct Code, http://www1.umn.edu/regents/policies/academic/Student_Conduct_Code.pdf

and sexual harassment code, *http://www1.umn.edu/regents/policies/humanresources/SexHarassment.pdf*

and the Academic freedom and responsibility code, *http://www1.umn.edu/regents/policies/academic/Academic_Freedom.pdf*

Instructor will:

Prepare for class and begin at scheduled time.

Be available during office hour for individual feedback, concerns, grade questions, and chocolate.

Offer in-process feedback, suggestions, and encouragement.

Answer emails within 24 hours between M-F.

Grade projects within one week of the due date, subject to unusual circumstances.

Demonstrate techniques, provide visual examples.

Share knowledge of business world and professional practice corresponding to course.

Course Format: Lecture and discussion

Course Evaluation

Work is due at the beginning of class
Specific grading criteria are given with each assignment.
Course Assignments:
All papers WP, double spaced.
Name, course, assignment title, date at top right.
3 presentation boards, same size.
Name, course, assignment title, date on back.

10%   Focus Assignment
10%   Designer Statement and Bio

25%   **Target Market Research and Profile board**
25%   **Visual Inspiration Research and Ideation**
15%   **Materials Research and Style board**
15%   **Participation in discussion and critiques, attitude**

Spring 2012		**ADes 3225, Apparel Design Research**	***This Schedule is subject to change***
WED	Reading	(before this class)	
18-Jan		no class	
25-Jan	33-82	Introduction; syllabus, discuss focus statement, designer statement and bio. Line development. Presentation style.	
1-Feb		Office Hour	
8-Feb	84-107	Discussion: Research strategies for target market research.	DUE: Focus Statement, Preliminary Designer statement and Bio
15-Feb		Office Hour	
22-Feb	191-212	Discussion: visual research strategies.	DUE: Designer statement and Bio
1-Feb		Office Hour	
7-Mar		Preliminary research	Present preliminary target market research and concept/mood visual research
14-Mar		Spring Break	
21-Mar		Office Hour	
28-Mar		Discussion: materials research, style board	DUE and present:Target Market research and profile board
4-Apr		Office Hour	
11-Apr		Last Class: Select best ideations for development. Discuss fashion show committees, leadership, and show themes.	DUE and Present: Concept/mood board 50 sketches, Materials Research and Style board.
18-Apr		Office Hour	
25-Apr			
2-May		Office Hour	
9-May			
16-May			

Focus Assignment   (10 points)

The purpose of this assignment is to have you reflect on both your learning goals for the coming year and your professional goals and direction. Your conclusions should guide your choices as you develop your senior line. Answer the questions based on thoughtful consideration and then summarize your professional direction in a 2 page paper. Consult with faculty as needed.

1. What type of work would you like to do upon graduation? In 5 years? In 15 Years?

2. What areas of the industry are you most interested in pursuing as a career?

3. What categories of apparel or product type are you most interested in pursuing as a career?

4. What type business or company would you like to work for? (i.e. established mass marketer, small independent design company) Give examples.

5. What are your design strengths? Think about what attracts the most compliments regarding your design work.

6. What are your design challenges? Think about what aspects you struggle with or would like to improve. What are the learning goals you want to meet before you graduate?

7. What do you feel most passionate about when it comes to clothing design? Think about what part of the process or elements of the profession give you the most satisfaction and motivation.

8. Do you have any special considerations or limitations to your future career?

9. If you have completed an internship, what were the positive and negative aspects of that experience? If not, what type of experience would you like to plan?

Designer's Bio and Statement   (10 points)

Prepare a designer's statement (about your work, point of view,
philosophy) and bio (facts about your background, related activities,
and strengths). These texts will reflect your strengths, passion and
interests in apparel design. Both should be focused, brief and clear.
Aim for 100-200 words each. Statement is written in first person, bio
in third person. These are used to promote yourself, your work and
your business. They may be used as part of your senior line program
page, to submit with design competitions, or as copy for exhibitions.

Examples:

Anna Carlson B.S., University of Minnesota, is an artist and designer
who creates clothing with distinctive style and elegant details for
women with independent spirits. She shows and sells her collection in
juried shows and at specialty boutiques and galleries throughout the
country, and has authored articles for *Threads* magazine. Carlson's
own work has appeared in *Fiberarts Design Book 7* (Lark Publishing,
2002), *Fiberarts Book of Wearable Art* (Lark Books, 2002), *Color and
Design on Fabric* (Creative Publishing International, 2000), and
Surface Design Journal (Spring 1999). In addition, she has taught
numerous workshops on artistic garment design and surface fabric
techniques across the country. To learn more about Carlson, visit
www.annacarlson.com.

http://mariocadenas.com/info.html

http://www.fitnyc.edu/10503.asp

Evaluation Criteria
- o   Shows understanding between statement and bio forms.
- o   Thoughtful, unique description, without cliché.
- o   Clarity, correct grammar, sentence structure and variation.

Target Market Research and Profile Board   (25 points)

Define, clearly and accurately, who will be buying, wearing, and enjoying your garments. Research your customer in depth, and be able to describe their lifestyle, values, and specific needs and desires. Your information should be current and documented. Personal interviews, observations, and demographic information form the base for this research.

Include gender, socio-economic profile, careers/occupations, when/where garments are worn, what price point will be used, where would they purchase/select the garments.

Why is your line beneficial to these customers and their environment?

Who is your competition? Research their markets, customers, prices, image and promotion.

What makes your customer unique?

What differentiation or added value does your line provide?

1. Organize and document your research. Include copies of interviews (minimum of 5), questions and responses, **observations**, and notes. Be concise and write for a professional audience.

2. Prepare a one-page bulleted summary of your customer, justifying them as a viable market for your line (first page).

3. Collect images that represent the social, cultural and personal values of your target market. Create a Profile Board that coordinates visually with your Concept/Mood board (11x17" suggested). Develop a visual narrative about a hypothetical consumer that represents your lifestyle group and engages the audience emotionally with your ideas. Include images that represent your research.

Evaluation Criteria
50%   Evidence of in-depth investigation of appropriate consumer group.
30%   Report of results is comprehensive and gives complete picture of consumer group and competitive market.
20%   Summary highlights the most important points about your consumer and justifies them as a viable market for your line.

Suggested sources:

James J. Hill Reference library

Mintel data base through the UMN library for lifestyle and consumer behavior information.

Visual Research: Concept/Mood Board and Ideations   (25 points)

Select a visual topic/inspiration/direction that will inform the visual elements in your senior line, and is consistent with your target market. Consider color, line, shape, silhouette, texture, proportion, light and shadow, details and embellishment.
Use a _variety_ of sources. No fashion silhouettes, minimal use of fashion tears.

Begin sketches based on your research. Rough-loose-quick-gestural.

If you have a definite color direction; is there a painter with a similar color palette that might further inspire your work?

If you use an historic inspiration; go beyond retro apparel styles and delve into the social and cultural themes of the time plus other designed objects of the period.

You may select a non-visual source of inspiration such as poetry or music and translate it into the visual. Use whatever fuels your passion.

Develop a method of collecting and displaying your visual research. This should be portable so you can bring it to class. Keep collecting as you continue your research throughout the semester and summer.

1. Collect many, many images: tears, photocopies, tracings, post cards, paint chips/fabric swatches that represent the color or texture of the inspiration.

2. 50 Ideation sketches, collages, etc.: Collect and record the early ideas that materialize during these beginning stages of research.

3. Write a 1 page narrative that describes the topic of your visual research; translate the visual into a description of your feelings or emotional response to the visual images.

4. Develop a Visual Inspiration Board for your line that coordinates visually with your Profile Board.
(11"X17"suggested).

APPENDIX G

Syllabus of Apparel Design Studio V (Fall 2012, 3 credit)

COLLEGE OF DESIGN UNIVERSITY OF MINNESOTA

Apparel Design Studio V
ADes 4225
Fall 2012

MW 8:30-10:30
205-212 McNeal Hall
3 credits
Final Exam: 8:00am-10:00pm, Wednesday, December 19
Studio Key Code 212:   Senior Closet: SNR

Instructor's Information
Dr. Elizabeth Bye
240 McNeal
612-624-3751
ebye @umn.edu
Monday 10:00-11:00 or by appointment

Course Description:
- To evaluate design solutions within target market and production constraints.
- To demonstrate understanding and ability in both the conceptual and technical aspects of apparel design.
- To explore and develop a variety of methods for the promotion of a clothing line.
- To experience teamwork in the development of a promotional exhibition.

Expectations

- Students are responsible for all class meetings and materials, including information in the syllabus.
- Students are responsible for being on time and prepared for all class sessions.
- Students are responsible for meeting all course requirements, observing deadlines, exam times and other course procedures.
- Students are responsible for seeking help when needed.
- Students may not make commercial use of their notes or lectures or University provided materials without the written consent of the instructor.

Required and Recommended Materials:

-All professional equipment for pattern development

-Materials for line research, ideation and implementation

-11" X 14" sketch book and presentation boards

Each student in Apparel Design V must have a professional mentor. The mentor should be someone you have not worked with before this semester. You are required to meet with your mentor a minimum of 2 times during the semester—you may want to meet more. We will be working with the CDes Student Services office to match you with a mentor. We have many

volunteers who are anxious for the opportunity to work with you!

Student Learning Outcomes following course completion: *http://www.slo.umn.edu/*

1. Can identify, define, and solve problems; through the development, planning and execution of a line of garments for public presentation; process and final project will be assessed based on given criteria
2. Have mastered a body of knowledge and a mode of inquiry; through the development, planning and execution of a line of garments for public presentation; process and final project will be assessed based on given criteria

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Release of Work Statement:
Students understand that enrollment in this course grants consent for their work to be selected for inclusion in college or departmental publications (online or in print). Your instructor may select to use your work to represent her/his skills as an instructor in a teaching portfolio (online or in print).

Workload: The standard university workload expects 3 hours per credit outside of class for an average student to receive a C. Students have typically invested considerably more hours in this course to achieve their individual goals. Good organization, prioritizing, and a focused work ethic will support your goals.

Academic Dishonesty

Professional and ethical behavior is required. Academic misconduct is defined as any act that violates the rights of another student with respect to academic work or involves misrepresentation of a student's own work. Academic misconduct includes but is not limited to: cheating on assignments or examinations, plagiarizing pieces of work, depriving others of necessary coursework, and sabotaging another's work. Discovery of academic misconduct is grounds for an F or N in the course.

Grading Structure:

Specific grading criteria will be given with each assignment. The criteria for patterns are precision and perfection. Neatness and use of standard markings is critical to communicating your ideas to your co-workers. Design work will be evaluated on research, documentation, design process, execution, and craftsmanship.

10%   Mentor Reports

20%   Ideation processes/ Ideation Board, materials report

25%   Test Process-pattern & test garments, Plan of Work

30%   Final Garments and presentation

15%   Show Planning and team work, show page

Attendance: Attendance is absolutely essential and entirely your responsibility as are the consequences of your actions. Attendance for every class and staying for the entire class is required. Attendance will be taken at the beginning of each class period—if you arrive late, you will be marked absent for that class. You are required to be on time for each class, participate in discussions and critique of your own and other's work. Work is due at the beginning of class. Work that is not presented for critiques will be considered late. Come to class prepared to work the full time. Students with more than 3 absences will receive a reduction of 2 letter grades from their earned grade (i.e. an A becomes a C) and 5 absences will receive an F as the final grade.

Work-at-home requests must be made via e-mail one day in advance, or you will be marked absent. A maximum of 4 work-at-home days are allowed. YOU are responsible for any content missed.

House Rules

The designated class hours are intended for studio work and research. Skill development and design creativity thrive in a focused atmosphere of open interchange among your peers. Please turn off electronic devices during lecture and critique.

Show Planning

Students are required to present their senior project in a public venue that they have organized. The senior class presents an annual show held on campus. All students are required to contribute a minimum of 15 hours of service to the show and participate on one committee. A log of activity and effort is required.

Final Presentation

The final presentation will be given to the apparel design program committee and to members of the class at the end of the semester. Mentors are encouraged to attend. The presentation should last about 15 minutes, and include a brief background of your customer and inspiration. You are required to present four (4) completed garments. A fifth garment is optional and must meet all the criteria and due dates of the 4 required pieces. The fifth piece will not be graded.

The apparel design program committee will jury your work at two points: First faculty critique and final presentation. Students who have not made sufficient progress during the first critique will receive a written warning, and must meet with the instructor to develop a success strategy to complete the line. Lines which are incomplete at the time of the final presentation may be juried out of the show pending apparel design program committee review.

Garments must be completed with the exclusion of necessary finishing due to fitting requirements.

Class Schedule and Assignments

Date:	Monday	Wednesday
9/5		***Show Planning*** Intro to course Review line direction, user group, lifestyle/target market
9/10-12	**Begin Line Ideation**	Review line ideations (informal) ***Individual Meetings***
9/17-19-	Discuss fit and runway models ***Individual Meetings***	**Show Planning** Line Development **Due:** Materials Report
9/24-26	**Due:** Line Ideation Boards –present to class	Begin Pattern development **Due:** Plan of work
10/1-3	Open Studio Pattern development	***Show Planning*** Pattern development ***Due: Mentor meeting 1***
10/8-10	Pattern Development	Pattern Development
10/15-17	Pattern Development	***Show Planning*** Pattern Development
10/22-24	**First Faculty Critique**	**First Faculty Critique** **Due:** Test Garments
10/29-31	Studio **Due:** 2 patterns	**Show Planning** Studio
11/5-7	Studio **Due:** Final 2 patterns	Studio
11/12-14	Open Studio (ITAA)	Open Studio (ITAA)
11/19-21	Studio ***Due: Mentor meeting 2 Thank you letters***	**Show Planning** Studio
11/26-28	Studio Sign up for presentation time	**Show Planning** Studio
12/3-5	Studio	Studio
12/10-12	**Due:** Final Presentations	**Due:** Final Presentations
	Final Exam: 8:00am-10:00pm Wednesday, December 19- **Show Planning**	***This schedule is subject to change

Special Events:
- Fall MNfashion Week, September 21-29, 2012 http://mnfashionweek.mnfashion.org/
- Spring MNFashion week, Feb 17-24 (Ideal show date- Feb 16)

APPENDIX H

Transcription of Participant A's Interview

(This is the first of the two interviews.)

Researcher: I am going to ask questions regarding your design experience and happiness. So what does the word 'creative' means to you?

Participant A: I think that it means the ability to come up with new ideas that maybe have not been thought about before or more importantly to think about different situations or problems in a different way. It is a kind of thinking outside of box and thinking in different ways that people have never thought about it before.

Researcher: What make your Design line creative?

Participant A: I did a lot of research beforehand in the area I want to go. I found lots of designs that look like mine. I did take other ideas from other people. But I made it my own, and I do not think that any other people have created exactly same to mine.

Researcher: How did you come up with creative ideas? Did you study abroad?

Participant A: I think that is all parts of research. I think research is the most important because it gives you so broad spectrum of ideas. What I usually do is I do lots of research and I just get holistic ideas and I can think about all the things I learned and usually it is like a lightening moment that pops in your head. That is how creativity happens. But I think the research part is definitely very important. I looked at lots of previous runway shows and theatre is really important. I go to ballet shows a lot. I worked that ticket office, so we can go ballets for free. Costume for ballet stuff like that and venues would be my aesthetic. I usually go there and how they constructed, how they were made to be able to flow this way… those are some ways I do my research.

Researcher: Do you think that you are creative person?

Participant A: I think that I am very creative just because I am able to look at problems and situations in different ways. People tell me I am so it must be true. But I am definitely able to come up with new ideas in different ways to approach to things.

Researcher: How do you improve it?

Participant A: I think it is like broadening your knowledge. Even like philosophy… all the different viewpoints and different people. Being open minded is really helpful to be creative.

Researcher: What makes you open-minded?

Participant A: I think my family plays a lot into that because my parents are always open-minded not closed-minded. They let me have the freedom that I need to be creative. That is really important. Because if your family puts you in the box, that is what you are used to. My family always is very supportive to everything I do. Just like all the education I got, I love to learn. And I think that helps a lot. When I was in high school, I

took all classes I could. Philosophy and psychology.. It broadened my worldview that really helps me to be open-minded.

Researcher: Did you take philosophy class?

Participant A: The most favorite class I took in high school is Theory of Knowledge. That class thought how to think and to be open-minded. When reading articles, do not be this is true. In that class, you have to be skeptical and be deeper. Figuring out what part do you believe? It is kind of thought me how to approach to the situation. When I was high school, it is little bit more hard to take.

Researcher: When you come up with some idea, do you have any specific situation?

Participant A: It is kind of funny. When I was the most relaxed and when my mind is able to flow. it is always seems to be when I laid down to the bed right before getting a sleep or right after getting a shower. Those places are where I can be relaxed and not think about all the stresses of life. I am just able to think. Things come to me more easily when I was not stressed out and when I was in comfortable situation.

Researcher: What is the most enjoyable activity you do?

Participant A: I love to do sketch. In my major, I love to do that. I love to put my hands in the sketch book and think ideas. It could be words and pictures. I have sketchbook. That is where I put all the ideas and pictures.

Researcher: In the activity do you forgot sense of time?

Participant A: Yes.

Researcher: Do you think the moment makes you creative?

Participant A: Definitely. So much of my brain focusing on being creative, it is almost like that part of brain cannot be used. I think if you so involved in that, it is almost like most part of your brain shut off and need to be focused this particular situation.

Researcher: Do deadline and stress help you be more creative?

Participant A: I feel like my most creative work comes from when I am on the deadline and due very soon, so I need to be get it done. I feel like that is when I am most creative. If I have lots of time, I cannot think of anything I feel like I have blocks I think the stress really helps me get things done.

Researcher: Some relaxed situation makes you creative. Are both important?

Participant A: But I definitely experience both. I feel like when I am kind of in the middle of those things does really work for me. When extremely stressed or extremely relaxed, I cannot get my things done.

Researcher: I agree.

Participant A: That is weird.

Researcher: Do you have any preferable time period- creative and effective?

Participant A: Usually at night… I feel I can more concentrate. In the early morning and afternoon, probably, my brain is used to go class at the time and being busy during the time, so my body becomes active and out doing things.

Researcher: Do you work by yourself?

Participant A: I prefer work by myself in my room. When I work with my friend, I have one particular friend. She is my roommate. But when we work together, we do not talk each other. So it is not interactive working.

Researcher: Describe your working environment.

Participant A: You can always tell how stressful I am by status of my room. When I am relaxed, my room is very clean. But if I am stressed out and have deadline, my room is total chaos. It fluctuates. It depends on my status. I feel better when my room is clean. I do not have time to clean my room. That case is I find somewhere else to go in the kitchen or downstairs of leaving room. I just move out of the messy place and find some place I can spread my things out.

Researcher: Have you ever so absorbed and lost sense of time?

Participant A: Definitely when I am designing, I feel like that mostly happens because I am actually enjoying the activity. If I do not, I am always constantly looking at the time when it needs to be done. Dancing sometimes - I am having fun that time. Just any fun activities.. Mostly when I focused on something… I am having interactive conversation with some body; also time passes really fast sometime.

Researcher: In your design work, do you have any particular activity you lose sense of time?

Participant A: Definitely patterning.. I really do not like patterning. I came here on Saturday and I spend 9 hours for pattern. It seems that I was in there in probably only 3 hours but I was there for 9. I did not see it was 9 hours a day. I love sketching and ideating and I can lose sense of time when sketching and ideating.

Patterning is a kind of like clean and suit yourself for something. Because I am using Optitex, I do not have to draw all over the place. Just clicking and manipulating patterns. It is not that bad. It is just not my favorite part. Drawing with Optitex is better than drawing pattern by hands.

Researcher: How did you decide the major?

Participant A: It is really random. In my entire life, I did want to be architecture or an engineer. But then my senior year of my high school, my teacher guided me a lot. I love to be creative and I love art and I love to draw, paint, and manipulate sculptures. I love to work with my hand and create something. He kind of pushed me to go more creative major than architecture and engineering. When I thought about it, I thought that I would enjoy being creative major more than math or science major. Even though I was good at those things, I did not think I would enjoy those things much. He told me apparel design program here at the U and it is really good. We had a lot of resources about it so he pushed me to apply here.

Researcher: Are you satisfying with the major?

Participant A: Yes, I love my major. I know this is where I suppose to be because I am constantly proving to myself you can do this. And it makes me feel really good. I love it. I could not even imagine being in any other major.

Researcher: Do you have other plan after graduation?

Participant A: I said that I am very open-minded person. So I feel that I can go different directions. I thought about owning the business with my roommate. I also had internship at NASA this summer. I have interests in wearable technology so I am thinking of pursuing my career in wearable technology like functional clothing. I think there is more market for that. It is not as competitive as fashion field. Fashion is so competitive. Wearing technology is really good field to go. And I have lots of knowledge of that.

Researcher: Do you prefer analytical way of thinking/ working?

Participant A: I do love analytical way of thinking. That entails lots of research. I wanted to study engineering before. Wearable technology is like combining both fashion and engineering. This is perfect field for me.

Researcher: When you decide your future career, is financial reward important?

Participant A: I just want to enjoy it. I want to feel that I am actually contributing. I do not think money is so much issue. I need to be able to pay my bills. I can work for free obviously. I am not worried about money. I have never been worry about it. It is definitely important. I want to focus on finding a job that I can enjoy. I want to be excited about. Financial factor is not that much important.

Researcher: Explain senior line project.

Participant A: I found lots of images that spoke to me. This is kind of my inspiration. I like this chiffon green with brush colors and muted under-toned gold tone. My target market is someone like me- but I do not have money to afford the clothing, a person who has really successful career (25-40). She is very confident with herself. She has good body shape and she is intellectual. She is just like a princess. Her clothes just entail that. It is kind of everyday princess. You have to have lots of confidence to wear my clothing and you will look really good on it.

Researcher: Do you like your collection?

Participant A: Yes. I made bows intentionally as a motif. My last one has bunch of little bows.

Researcher: How did you come up with these ideas?

Participant A: Mostly came from my research. I collected all the pictures I love. There are about 400 pictures that I accumulated. And I sat down and looked at all pictures. What are the overriding features of them? Why did I like all of these things? And I pick out my color pallet. I saw lots of chiffon green and I can see lots of cream and blush look. Then I can come up with my color pallets. And then I decided who my target market was. Successful, beautiful and young woman who has money could spend because she is successful. After that, what clothing my target market wear? And then I designed for that.

Researcher: Whole collection/ process seem like sort of you.

Participant A: I would definitely wear them. That is what I wanted to do. I wanted to do something for me because as a designer, you do not get to do that a lot. For my senior line, that could be my strength. I know what I would wear and what I like and who I am than anyone else. I really want a collection that reflects who I am as a designer and my taste.

Researcher: Do you think the project is challengeable? If yes, what part is the most challengeable?

Participant A: Yes. Analytically patterning it is difficult. In every single step of the way, there is always something that is going to be challenging and something you never even put into your realm of what is going to be happened. Things happened so unexpectedly. You cannot ever know how easy a dress is going to be, because you always run into a problem. You never stop coming. I found patterning is really challenging because it is really hard to visualize 3d objects into 2d and see how these things go together exactly. That is really challenging for me.

I never knew how to sew before I came here. I am not the best sewer. I mean it is really challenging for me. My all fabrics are super light so maneuvering fabric is difficult as well. Embellishing is time-consuming.

Researcher: Have you ever solved similar problems before? Do you feel confident to solve all problems?

Participant A: Yes. I feel very confident. In terms of all of those problems I mentioned, I am actually looking forward solving them. I just love to create problems and solve. I love solving problems and that is why I love this major. Stressful? Yes. But it is exciting, always dynamic and always changing… It is like puzzles almost.

Researcher: You seem to like your designs a lot.

Participant A: Yes. I think that you have to love what you are doing. That is why I changed my concept half way through because I did not love what I was doing. I am not going to be not able to get through stressful times if I do not love what I am doing.

Researcher: I was not in love with my previous concept.

Participant A: I want to be more marketable. That was very small market I think. That is what I want to do at first. Ready-to-wear and things you can wear out right outside… Putting myself in the box I was not falling in love with the concept… I want to do every day princess. I want to be over the top. My teacher said that I can see that your heart is somewhere else you need to go all out. That is why I chose to do this instead.

Researcher: Describe working environment**.**

Participant A: I do not have my studio. I usually do it in my room… I love to change the sceneries. Home obviously. I do not what to design in my bedroom in some reason. I think it is because it is so comfortable and messy. We need very big work environment.

Researcher: What kind of activity you do to release your stress?

Participant A: Netflix… After doing hard work, I said myself OK I deserve watching episodes in Netflix. So I do that a lot. I eat a lot. I eat snack a lot.

Researcher: Describe what you do when you encounter some problems.

Participant A: Sometimes you need to move on. At that time you do not address the problem. Or you can tackle the problem and find the solution to it. There are many different options and each decision has pros and cons. I think pros and cons and what the ramification of that will be. I do that a lot. I make sure that I am in 100% with the decision and I do not regret it. I am trying not to regret the decision I made. I feel if I regret it then I always address the problem. It makes me stressed out at first but I feel really good after I got over the problem.

I try to say positive. In lots of time I would remove the problem. I just walk away or watch Netfilx episode or work different part of my project maybe… Then I will come back to this again and think through it again one more time and make sure that is the right decision.

Researcher: Depending on the problem, your approach could be different. Right?

Participant A: Yes.

Researcher: When you designing a project, what could be your strength and weakness?

Participant A: Strength is research based, like background information because I love to do that. Also one of my weaknesses is planning out how much time I needed. I am really bad at scheduling. I need to be better at scheduling. Strength... it would be my confidence when I am doing. You need to be confident with what you are doing otherwise it just fall apart and keep questioning if you are not in love with it anymore. I am usually very confident with my design and my decision.

You changed you concept… this flexible working style also could be your strength.

Yes. I am able to objectively look at my design sometimes. I do not take it emotionally. This would be better. Some people so attached to their designs and do not want to change them. But when somebody gives you some critique, and it is really good suggestion, and I adopt it. I am very open-minded.

Researcher: Do you take ownership of your decision?

Participant A: I love getting feedback. So I used to ask lots of people what do you think about this or how it could improve… feedback is really important especially in design. My question is usually very broad and open-ended. Based on comments, I can decide whether adapt it or discard it.

Researcher: How do you adopt other people's feedback?

Participant A: Usually I ask very broad and general questions such as color… also let them suggest in broad way. But it helps me think different ways. In addition, depending on the people I am asking for, I do not care at all because I do not trust your design opinion anyways. But people who I really trust their opinion, such as instructors or

classmates, I take their opinion really heavily. Also I am always asking the reason of their opinion. If I do not agree with the opinion, I keep asking same thing to other people.

Researcher: How stressful do you feel when doing design work?

Participant A: It depending on how much time I have to devote to it and when the deadline is. If the deadline is close, I really stressed out because I know I have tons of work to do. I also feel very stressful. On Saturday I came in all day to work on it and it was really low level stress even though I ran out of problems, because the deadline is not that much close. If the deadline is tomorrow, I would be really stressed out. It depends on due date and where you are in the process.

Researcher: Were you effective when deadline is very close?

Participant A: I was able to lose sense of time when working very effectively. I was not able to recognize how time goes fast on Saturday. The experience makes me more confident. And I feel better because I have done my work.

Researcher: Did you enjoy 9-hours patterning on last Saturday?

Participant A: Yes. It was not bad. The part of the reason why I am able to stay positive about this is that I told myself before the semester that it is going to be ridiculous hard in all semester because senior line year is hard. So I prepared mentally for that. You are not going to have any social life. I do not think about anything extra with your time. So I told myself beforehand and I could be mentally prepared for that. If I was not expecting spending that much time, Saturday would be very annoying because I was spending all my Saturday here. Since I knew that is going on every single weekend, feel good to actually did it. I just went here and did it. So I felt good about it.

Researcher: Patterning is not that much creative activity except solving problems. How about your favorite part? Did you get lots of stresses from sketching and ideating?

Participant A: It is hard. Every activity of the project entails creativity. I need to be creative as well as get things done by deadline. I think it is really hard because I have to come up with new innovative ideas and you have to make sure you love them because those are going to be your life for next three months. I did feel really stressed out because I changed my concept. In the process, I was really stressed out. My teacher told me that if you do not love with your concept, you should think about changing your concept. This is due in a week. I was so stressed out at that point. But then I feel really good once I found my designs. They give some mentor to work with. She does her own design work at Saint Paul. It is good to have completely outside perspective. She helps me a lot to decide my final four designs. Let me think about order of collection. She helps me a lot. Finding new concept and new ideas make me really happy. That was the biggest problem as well as the biggest solution. Once I figured out the solution, I feel lots of release and excited.

I am able to lose sense of time with an activity I do not like that much. I think I lose sense of time few hours per a day. Deadlines force me to set my own deadline because I do not

have lots of time. Usually it is really productive… and feels really good about it afterwards.

Researcher: I see. Thank you for your participation.