

E.H. Butler Library at Buffalo State College Digital Commons at Buffalo State

Creative Studies Graduate Student Master's Projects

International Center for Studies in Creativity

12-2012

Empathy Maps of the FourSight Preferences

Hanne M. Bratsberg

International Center for Studies in Creativity, hannem.bratsberg@gmail.com

Advisor

Dr. Mike Fox

To learn more about the International Center for Studies in Creativity and its educational programs, research, and resources, go to <http://creativity.buffalostate.edu/>.

Recommended Citation

Bratsberg, Hanne M., "Empathy Maps of the FourSight Preferences" (2012). *Creative Studies Graduate Student Master's Projects*. Paper 176.

Follow this and additional works at: <http://digitalcommons.buffalostate.edu/creativeprojects>



Part of the [Social and Behavioral Sciences Commons](#)

ABSTRACT OF PROJECT

Empathy Maps of the FourSight Preferences

The purpose of this project is to make one empathy map for each of the FourSight preferences. The goal of the project is to add a visual representation of the four main preferences to the growing body of data of FourSight. Individuals who are interested in FourSight, both for personal and professional reasons, can use the empathy maps to form a deeper understanding of each preference.

Key words: Creativity / FourSight / Qualitative Research / Clarify / Ideate/ Develop/ Implementation/ Empathy Maps

Buffalo State College
State University of New York
International Center for Studies in Creativity

Empathy Maps of the FourSight Preferences

A Project in
Creative Studies

by

Hanne Marie Bratsberg

Submitted in Partial Fulfillment
of the Requirements for the Degree of

Master of Science

December 2012

Acknowledgements

My Master's Project is finally signed, printed and delivered! It is a project four months in the making with the help and support of many people. In this section I will try to mention you all.

First of all, I would like to express my gratitude to my advisor Dr. Mike Fox for his patients and belief in me, and my project, from day one. Secondly, I would like to say a big THANK YOU to Dr. Cabra for always having time to ideate with me. If it wasn't for him I would not have ended up with Empathy Maps as my approach and my journey would not have ended with so much passion for my project. Thirdly, I owe Dr. Puccio a big thank you as well for creating FourSight. I have learned so much about others and myself through this measure.

I would also like to express my gratitude to my four interviewees. THANK YOU for sharing your stories and showing me a part of your worlds, and of course for letting me use it all in this project. I have learned so much from you all.

I would not be here in Buffalo without the support from my Mom and Dad. They have let me, again, move to a different country and pursue my dreams. I owe them everything. TUSEN TAKK for at jeg har fått følge min drøm!

I have met some wonderful people while in Buffalo and they have all contributed to this project in one-way or another. First of all, Valjeta; your humor, craziness and most of all support is something I will never forget. Ana, you were the first person I met at Buffalo State. Together we have conquered all the challenges that come with being international students. You are such a wonderful person and thank you for your clever insights and advice. Remember: One step at the time! To Christine, thank you for

suggesting articles and for always being supportive. Freddy, you are a funny and wonderful man. Thank you for letting me teach you about CPS and for always being ready to grab dinner.

To Miriam for being so kind to read through this paper towards the end and noticing my mistakes when everything was a blur to me.

To Hanne P.; because you are my best friend and even though we are oceans apart your support has never dwindled. I'll be back in Norway soon!

To my American family: Mom, dad, Kelley and Melanie. You are the best second-family a person can ask for! A special thank-you to Melanie for reading through my papers and correcting my grammar. I owe half my grades to you, sister.

Lastly, to ICSC and everyone in my CRS 690 class – it has been a-dream-come-true for me to pursue this Master's Degree. Thank you for welcoming me into your world and for all the experiences I've been so fortunate to be a part of!

TABLE OF CONTENTS

Acknowledgements	3
Figure List	7
Introduction	8
Literature Review	9
FourSight	9
Clarify	10
Ideate.....	11
Develop.....	11
Implement.....	11
Characteristics of Each of the Preferences	11
Characteristics of Clarifiers	12
Characteristics of Ideators	12
Characteristics of Developers	13
Characteristics of Implementers	13
Why Empathy Map Was Chosen	13
Methodology	14
Qualitative Research	14
Empathy Map	15
Modified Empathy Map	17
My approach.....	18
Sample 1	21
Empathy Map of a Clarifier	21
Comparing the Empathy Map of a Clarifier to the Clarifier Preference	23
Key Points.....	26
Sample 2	27
Empathy Map of an Ideator	27
Comparing the Empathy Map of an Ideator to the Ideator Preference	29
Key points.....	31
Sample 3	32
Empathy Map of a Developer	32
Comparing the Empathy Map of a Developer to the Developer preference	34
Key points.....	37
Sample 4	38
Empathy Map of an Implementer	38
Comparing the Empathy Map of an Implementer to the Implementer preference .	40
Key points.....	43
Concerns	45
Recommendations	46
Reflections	47
References	49
APPENDICES	51

Appendix A	51
Clarifier interview.....	51
Appendix B	56
Ideator interview	56
Appendix C	60
Developer Interview	60
Appendix D	65
Implementer interview.....	65
Appendix E	69
Empathy Map of a Clarifier	69
Appendix F	70
Empathy Map of an Ideator	70
Appendix G	72
Empathy Map of a Developer	72
Appendix H	74
Empathy Map of an Implementer	74

Figure List

Figure 1 – Empathy Map Example.....	18
Figure 2 – Modified Questions I.....	20
Figure 3 – Modified Questions II.....	21
Figure 3 – Empathy Map Clarifier.....	23
Figure 5 – Empathy Map Ideator.....	29
Figure 6 – Empathy Map Developer.....	34
Figure 7 – Empathy Map Implementer.....	40

Introduction

It will soon be two years ago that I was accepted into the Creative Studies Master of Science program at Buffalo State. From the moment I received the unofficial e-mail from Dr. Puccio welcoming me into the program, I began to explore the notion of Creative Problem Solving (CPS) more in-depth. The summer before I moved to Buffalo, Dr. Puccio so kindly sent me an outline of his new book *Creativity Rising* (2012), which gave me a great opportunity to explore the International Center for Studies in Creativity's (ICSC) understanding of CPS. Nonetheless, it was not until the first day of my first creative studies course that FourSight made a lasting impact on me. I vividly remember taking the FourSight survey and reading about my type. From that day on I have become a believer and an advocate for the good impact the knowledge of your style preference can have on you as a private person and in a business setting.

By knowing my FourSight preference I have learned a great deal about how I approach and solve challenges. Additionally, the knowledge I have gained of all the different preferences have given me a greater ability to read and to understand people when doing group work. Ever since I was introduced to FourSight a year and a half ago, I have been intrigued by its accuracy and the possibilities it brings with it in a business setting and on a personal level. Personality tests I have taken have shown me a better insight into what makes me *me*, but no test has shown me exactly what I thrive on when I am working on something and what challenges me to the point that I do not want to go through with it.

The purpose of my Master's Project is to create a personality for each of the FourSight preferences using an Empathy Map. This is only a pilot inquire and should

therefore be read as such. I seek to discover how a person with a clear preference thinks, what is important to him or her and what motivates that person.

I believe an Empathy Map of each preference will add value to the FourSight certification sessions by displaying the preferences in a visual format. By trying to create a visual personality of each preference it can give the trainees a deeper and more well rounded understanding of the different types.

Literature Review

FourSight

FourSight (previously known as the Buffalo Creative Process Inventory) is a self-report measure that seeks to discover people's preference for the different stages of the Creative Problem Solving process (Puccio, 1999). It "focuses on the assessment of thinking skills related to the creative or breakthrough thinking process. FourSight is an instrument designed to measure an individual's preferences in each of the elements of breakthrough thinking based on his or her personality traits" (Ackerbauer, 2008, p. 18).

The purpose of the measure is to "help people to more skillfully solve open-ended problems by recognizing their natural tendencies and skills, and to use Creative Problem-Solving strategies to strengthen less-developed skills" (Puccio, 1999, p. 172).

The preferences are founded on four principles (Puccio, 1999, p. 172):

1. The creative process is a way of thinking and solving problems that all normally functioning people have the capacity to do.
2. The creative process involves a set of mental operations and these operations can be delineated.

3. Creative Problem Solving is a useful framework for delineating operations within the creative process.
4. People possess preferences for different mental operations, which are called cognitive styles. Therefore, it could be argued that people will express preferences for different areas of operation within the Creative Problem-Solving model.

Puccio (1999; 2002b) set out to find one preference to each of the six different stages of the Thinking Skills Model model. Out of the studies only four main styles emerged. The four stages became known as:

1. Clarifier
2. Ideator
3. Developer
4. Implementer

Below is a description of the different Creative Problem Solving Stages of FourSight (Wheeler, 2001; Puccio, 2002b; Ackerbauer, 2008; Grivas & Puccio, 2012):

Clarify

- John Dewey said that a problem well defined is half solved. Start in Clarifying to be sure the right problem is being worked on. In this stage all the data is collected to ensure that there are no assumptions that can influence the problem negatively. To clarify, concrete thinking and asking numerous questions are most effective.
- One tool that can be very effective at this stage is “Why?/What’s stopping you?”, also known as Webbing (Puccio, Mance & Murdock, 2011). If given one hour to save the world, Albert Einstein said he would spend 55 minutes understanding the problem before acting on it.

Ideate

- According to Linus Pauling the only way to have good ideas is to have lots of ideas. This stage focuses on coming up with many ideas while focusing on the divergent guidelines and then carefully select the ideas with the most potential when you are ready to converge. In this stage the goal is to push one's brain to come up with more and more ideas for the challenge statement using.

Develop

- When one or more ideas are ready for a deeper exploration the next step is developing the ideas into a workable solution. In this stage ideas are analyzed and put up against each other. The most promising ideas are chosen to evaluate their strengths and shortcomings to identify areas that need more work.

Implement

- This stage is all about action and about managing change. The focus is on giving structure to the idea to make it ready for implementation. For example, the focus can be on developing a timeline for implementation, discover resisters and assisters (Puccio, 2011) to the idea and ways to overcome them. Questions to ask can be 'Is the solution workable? Are we solving the right problem? What do we need to re-think? Who do we need on board to support this effort?' (Ackerbauer, 2008, p. 20).

Characteristics of Each of the Preferences

The four different preferences of FourSight are Clarifier, Ideator, Developer and Implementer (Puccio, 2002b, p. 6-7). Even though FourSight is based on four preferences

it is not to say that everyone has one clear preference. According to Puccio (2011) some people may have one clear preference while others may have a combination of two or more clear preferences. Characteristics of each preference are listed below.

Characteristics of Clarifiers

- According to Puccio (2002b) a person with a clear Clarifier preference is one who enjoys exploring challenges. A Clarifier needs a clear understanding of the issue at hand before trying to solve the challenge. Therefore, Clarifiers will research and dig for information that can help them understand the issue as clearly as possible.
- The time spent understanding the issue at hand may make the Clarifier suffer from “analysis paralysis” (Puccio, 2002b, p. 6), which means that the person might not be able to move forward. Usually, a Clarifier will approach problem solving methodically by starting from the beginning and ending with the conclusion.

Characteristics of Ideators

- Ideators like to look at the big picture and are constantly toying with ideas and possibilities. Ideators can come up with many possible solutions to the same problem and the ideas are often too abstract or too off-the-wall, which can annoy others. This ability makes them flexible and visionary thinkers, but it also displays them as less concerned with details.
- Others may see them as playful, social and independent. For Ideators to work best, they need the big picture of the challenge and room to be playful with

constant stimulation, variety and change. According to Rife (2001), an Ideator usually has a wide variety of interests and does not carry the trait of order.

Characteristics of Developers

- Developers like to analyze and compare potential solutions and examine the pluses and minuses of an idea (Puccio, 2002b, p. 7). This can also lead them to get stuck in trying to develop the perfect solution and not being able to implement the solution.
- Developers enjoy order and planning, and tend to work systematically. They need time to consider and evaluate the different ideas and can annoy others by being too nit-picky (Puccio, 2002b, p. 10).

Characteristics of Implementers

- Implementers like to see things happen and can sometimes start implementing too soon. Implementers enjoy focusing on workable ideas and give them structure so they can become a reality (Puccio, 2002b, p. 11).
- Implementers are persistent and determined and like to see things through. Implementers can annoy others by being too pushy, but works best when the others in a team give the sense of moving just as quickly. They need feedback on their ideas in a timely manner and like to be in control.

Why Empathy Map Was Chosen

I chose Empathy Maps as my format because it encompasses many different sides to a person. As an observer I must look for both verbal and non-verbal cues, which I like to look at as puzzle pieces. When I reflect over the interview, all the puzzle pieces will

come together to form one person.

I will compare my observations from the interviews with the research findings Puccio (2002b) has already found about the different preferences to see if there are any connections.

Methodology

Qualitative Research

Qualitative research differs from quantitative research by way of trying to relate to and understand the person through observations and interview. It is a way to understand “the social phenomena with as little disruption of the natural setting as possible” (Merriam, 1998, p. 5). Qualitative research is the belief that reality is the interaction between people and their worlds. In qualitative research, the researcher is the one collecting and analyzing the data through verbal conversations and non-verbal observations. This can also be the weak point of this kind of research. That is because in the end the analysis is singularly that of the researcher (Merriam, 1998). Inductive research is the main strategy, which means that concepts, hypotheses or theories come to arise from the research, rather than testing existing theories, usually with a low sample size (Merriam, 1998). “The interest is in process rather than outcomes, in context rather than specific variables, in discovery rather than information” (Merriam, 1998, p. 19).

The researcher must have a tolerance for ambiguity, because there is no step-by-step program to follow, which means that the researcher has to follow the flow of the conversation and interactions that are happening in the moment (Merriam, 2002).

The primary source of data in this project will come from interviews, which will be supported by my observations. The interviews will be semi structured with the order of the questions not determined and follow-up questions added where need be. The write-up will be divided into two parts where the first part is the Empathy Map and the second is a comparison between what the interviewee said and Puccio's research findings in regard to FourSight.

Empathy Map

Scott Matthews of XPLANE, a business design thinking-company, developed the Empathy Map game, and the goal is to create a degree of empathy for a specific person (Gray, 2010). An empathy map is used when one need to immerse oneself in a user's environment. It is not a research-based process, but it can quickly get a group to focus on the people-element. It is a user-centered approach, which means that the focus is on understanding the other individual by looking at the world through his or her eyes. The purpose of making an empathy map is to eliminate assumptions by seeking facts. One finds the facts by interpreting the subject through interviews and observation to better enhance a person's experience.

An empathy map is commonly used in Design Thinking because it offers insights into the targeted person (Gray, 2010). An empathy map exposes a person's needs and can reveal opportunities on how to connect with that person.

Gray (2010) emphasizes what the interviewer must keep in mind when observing a person with the intention of making an empathy map of him or her:

- What does this person want?
- What forces are motivating this person?

- What can we do for this person?
- What should or would so-and-so think?

An Empathy Map is a great way to get oneself inside another person's head and see the world from his or her perspective. Matthews (Gray, 2010) proposed six different areas that should be covered when making an empathy map of a person. Additionally, Bland (2012) mentioned Pain and Gain as important areas to look for. The eight areas that most commonly are covered in an Empathy Map are:

- **SEE** – What is the person seeing? What is the person noticing in his or her surrounding environment?
- **SAY** – What is the person specifically saying? What are some phrases or words the person continuously uses?
- **DO** – What is the person doing? What activities does he or she enjoy? What are some things the person does daily?
- **THINK** – What is the person actually thinking? Are his or her thoughts the same as his or her words?
- **FEEL** – What is the person feeling? How does the environment affect the person's feelings? How does the person deal with his or her feelings?
- **HEAR** – What is the person hearing? What sounds or words are the person noticing?
- **PAIN/TOP CHALLENGES** – What are some challenges the person is facing? Is there anything that is painful to do?
- **GAIN** – What is the person trying to get done? How does the person measure success? What results are the person trying to achieve?

An empathy map is usually displayed in a visual way as shown below.

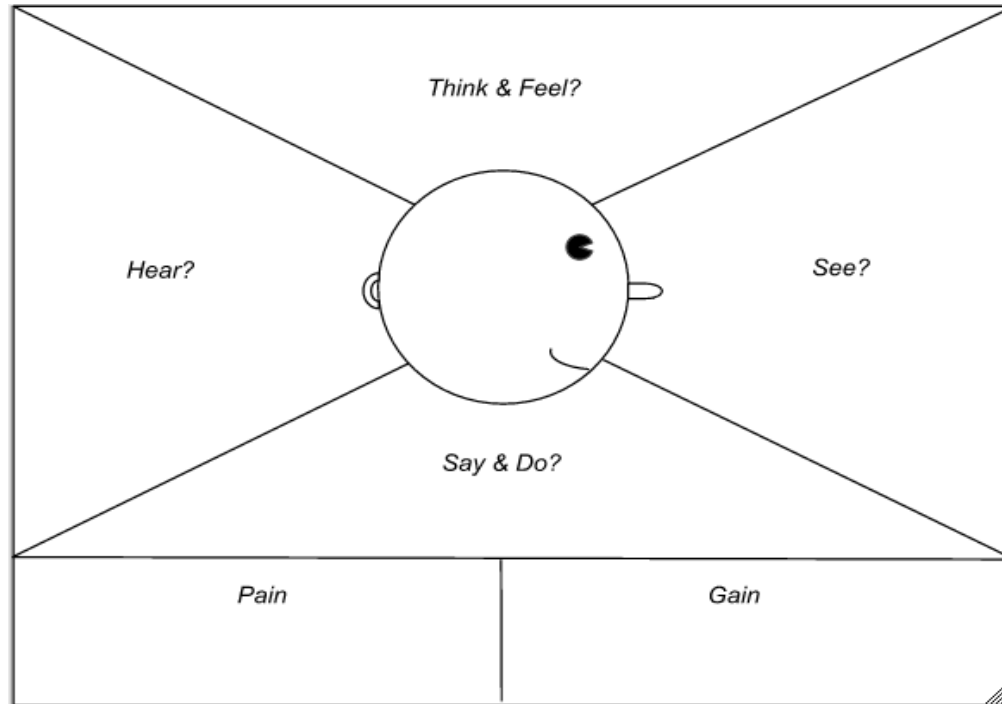


Figure 1 Empathy Map Example Adapted from D. Bland. (2012, June 25).

After one has filled in all the boxes of the empathy map, either by interviewing the person or by coming up with one's own ideas, an overview of how it is to be that person should be apparent. The map displays what the person is thinking, what the person is seeing and doing, and what gives the person grief and enjoyment.

Modified Empathy Map

For this project I have adapted the principles and the interview techniques of qualitative research. The questions I asked the four candidates were first and foremost based on the FourSight survey items found in the technical manual (Puccio, 2002a, p. 16) and on seven of the eight sections of the Empathy Map. I chose not to include Gain as part of my

research because I found that the other seven sections would give me enough to work with.

On the next few pages, the original FourSight statements I used are listed followed by my questions. The questions that are specifically based on the items from the survey statements are different for each preference, while the questions based on the Empathy Map are the same. Most of the questions were answered during all the interviews, but because this was a qualitative study, it was more important to follow the flow of the interview than specifically ask every question. A complete overview of the questions I asked, and the interviews in full, can be found in Appendices A, B, C and D.

While I was conducting the interviews, two specific questions were added to all four interviews. The questions were:

- Do you see yourself as a creative person?
- How was your upbringing/childhood environment?

Both questions turned out to give very interesting answers from all the interviewees.

My approach

- Three interviews were done face-to-face
- One was done over Skype because meeting face-to-face was not possible
- All interviews took between 30-40 minutes
- The Clarifier interview, the Ideator Interview and the Developer interview were all asked follow-up questions

Questions developed from FourSight and the Empathy Map-sections:

Clarifier

- I like taking the time to clarify the exact nature of the problem
- I like identifying the most relevant facts to a problem
- I find that I don't naturally spend much time focusing on defining the exact problem to be solved
- When working on a problem I like to come up with the best way of stating it
- I like to focus on creating a precisely stated problem
- I like to focus on the key information within the challenging situation
- Before moving forward I like to have a clear statement of the problem

Open-ended questions:

- How do you approach problems/challenges?
- How do you think when starting to solve a problem/challenge?
- How do you seek the most relevant facts to a problem?
- How much time do you spend focusing on defining the exact problem to be solved?
- What do you focus on when in a challenging situation?
- What might be all the ways you look at the problem?
- Do you work best alone or in a team setting?
- What colors affect you?
- How do you like your environment to be when solving a problem?
- What motivates you? What excites you?

Ideator

- Generally I don't approach problems in a creative manner
- I find it difficult to come up with unusual ideas to a problem
- I enjoy coming up with unique ways of looking at a problem
- I enjoy spending time looking beyond the initial view of the problem
- I like to take in a situation by looking at the big picture
- I enjoy working on ill-defined, novel problems
- I enjoy stretching my imagination to produce many ideas
- I enjoy using metaphors and analogies to come up with new ideas for problems
- I like to work with unique ideas

Open-ended questions:

- How do you approach problems/challenges?
- How creative do you feel when solving a problem?
- In what ways do you focus on coming up with unique ways of looking at a problem?
- What might be all the ways you look at the problem?
- How much do you focus on defining the problem before coming up with ideas?
- Do you work best alone or in a team setting?
- What colors affect you?
- How do you like your environment to be when solving a problem?
- What motivates him/her?
- What excites you?

Figure 2 Modified questions A

Developer

- I like testing and then revising my ideas before coming up with the final solution or product
- I like to break a broad problem apart to examine it from all angles
- I like to explore the strengths and weaknesses of a potential solution
- I like to generate all the pluses and minuses of a potential solution
- Before implementing a solution to a problem I like to break it down into steps
- I like to generate criteria that can be used to identify the best option(s)
- I like to think about all the things I need to do to implement an idea

Open-ended questions:

- How do you approach a problem/challenge?
- When do you know that your solution is ready for implementation?
- How many alternatives to a solution do you usually look at?
- What might be all the ways you look at a problem?
- In what ways do you consider the strengths and weaknesses of a potential solution?
- How do you generate criteria that can be used to identify the best option(s)?
- How do you approach implementation of your solution?
- Do you work best alone or in a team setting?
- What colors affect you?
- How do you like your environment to be when solving a problem?
- What motivates you? What excites you?

Implementer

- I enjoy taking the necessary steps to put one of my ideas into action
- Transforming ideas into action is not the part of the process that I enjoy most
- I enjoy making things happen
- When it comes to implementing my ideas I find it difficult to bring my ideas to fruition
- I enjoy turning rough ideas into concrete solutions
- I really enjoy implementing an idea
- I enjoy giving action to my ideas

Open-ended questions:

- How do you approach problems/challenges?
- Why do you enjoy implementing your ideas?
- What about implementing do you like and why?
- Do you work best alone or in a team setting?
- What colors affect you?
- How do you like your environment to be when solving a problem?
- What motivates him/her?
- How do you usually approach problems/challenges?
- What excites you in work?

Figure 3 Modified questions B

Sample 1

Empathy Map of a Clarifier

On the next page the Empathy Map of a Clarifier is displayed. The Empathy Map is displayed with colorful bubbles of different shapes, but due to limited space, each bubble is presented with selected key points from each empathy map area. For a complete list of all the key points of a Clarifier please see Appendix E.

The pages following the Empathy Map present a comparison between Puccio's (2002b, p. 8) research findings and the data collected from the Clarifier-interview. For the complete interview see Appendix A.

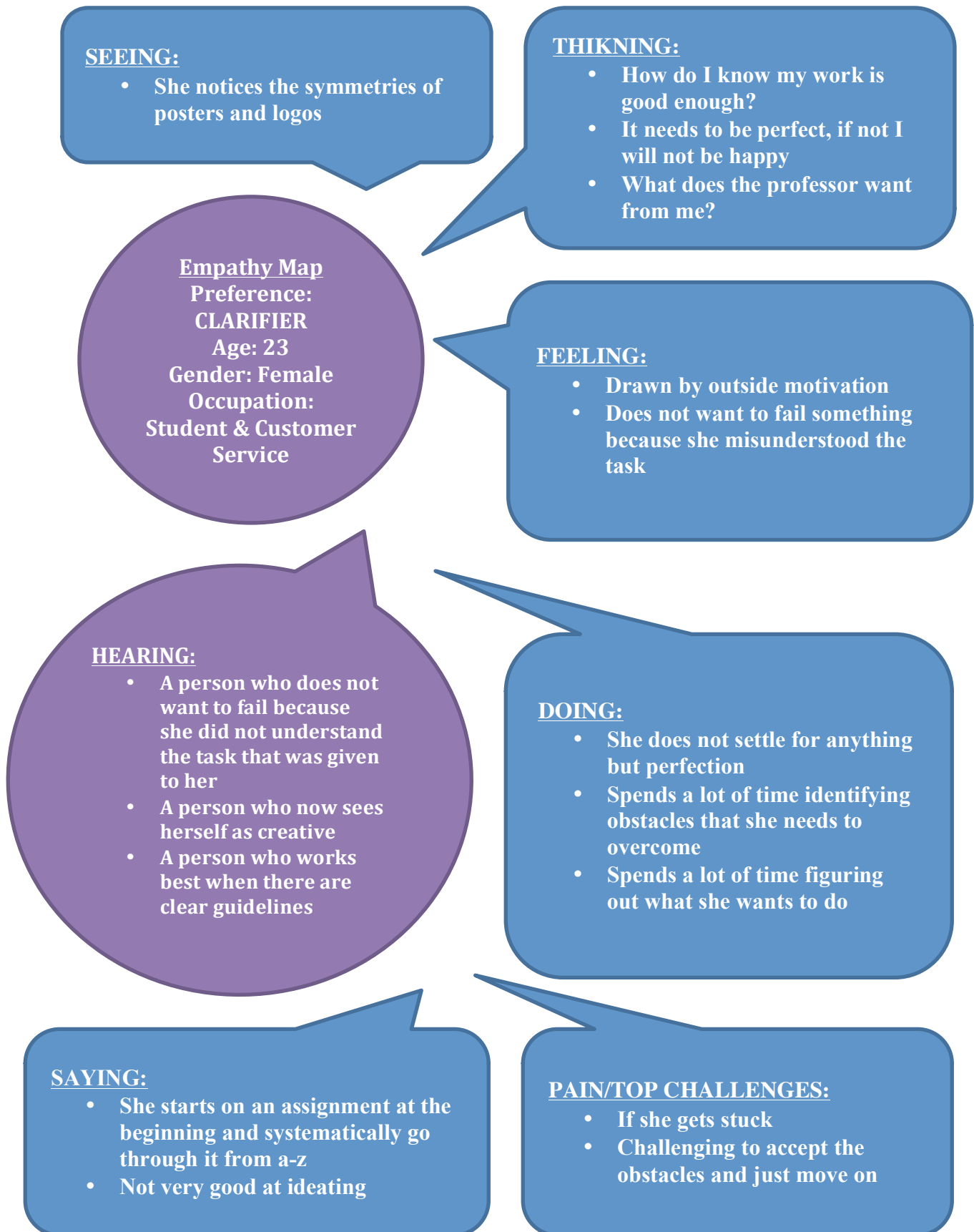


Figure 2 – Empathy Map of a Clarifier

Comparing the Empathy Map of a Clarifier to the Clarifier Preference

In *Your Thinking Profile – A Tool for Innovation*, Puccio (2002b) presents adjectives that characterize a Clarifier, along with suggestions on what to give a Clarifier to make her feel stimulated and motivated. Puccio also points out how a Clarifier can make the most of her preference and how a Clarifier usually annoys others. This section compares the presented empathy map of a Clarifier with Puccio's research findings.

According to Puccio (2002b, p. 8) a Clarifier is focused, orderly, serious, methodical, deliberate and organized. The Clarifier I interviewed has a clear sense of approaching her work methodical, deliberate and in an orderly fashion.

She said:

I'm very linear, so I will start with the introduction of the paper and then I'll go through the rest of it and end with the conclusion. I don't like to jump around. I usually start where I'm supposed to start and where I'm supposed to end. (Appendix A, p. 52)

Additionally, she starts problem solving by looking for obstacles, which, as mentioned by Puccio (2002b), can be annoying to others.

I think I spend a lot more time figuring out my obstacles than the actual problem. Usually I know what the problem is, but then once I figure out some of the obstacles I figure out that the original problem is not always the problem I want to work on. (Appendix A, p. 53)

When starting a new assignment she has a need to clarify what is expected of her and what exactly is needed to complete the task. She spends a lot of time figuring out what to do and what is being asked of her. She clarifies by asking questions because she

does not want to start a task without being sure she knows what she is suppose to research and what the end result is expected to be.

Puccio (2002b, p. 8) advises others to give Clarifiers permission to ask questions, access to information, an understanding of history, the facts and order. The interviewee states clearly that order and access to information are key pieces that need to be readily available for her if she is to produce quality work. When asked about what her perfect physical environment would look like, she indicated that she would like a big, open room. The room would have lots of books and a desktop with a computer that has access to the Internet, and windows where she can draw inspiration from the outside, and a relaxation area. The relaxation area would be equipped with comfortable chairs and toys, which would help her incubate. She needs a defined work place and a defined relaxation area. If the two were combined she would be distracted and feel unfocused.

During the interview I heard a person who was not completely aware of the steps she takes when approaching a challenge. She would repeat my questions and tell me she did not know the answer, but eventually she realized that she could explain how she operates.

She said:

...over the weekend I had an issue with a manager and the attitude they were giving me... I spent a good chunk of the time figuring out who to talk to and where to go and how I wanted to approach the problem or the challenge with someone else and tell them about it so they can work with me to help solve the problem. I spent a lot of time doing it, and I spent a lot of time in lala land doing that. And when someone was talking to me I

didn't even pay attention. I would just sit there and run through my brain who I was going to talk to. You know, what action steps I was going to take, where I need to go to get the action steps done, what are some solutions and ideas that need to be addressed. I actually spent a lot of time figuring out how they were going to react to it. (Appendix A, p. 52)

My Clarifier shows a need to control the work that is being done when in a team because she wants the final product to be as good as it can get. By taking on extra work in a group setting she ensures that the assigned tasks will get done. On the other hand, she does not necessarily want to be a leader. She enjoys assisting the leader and keep an overview by ensuring everyone is doing what they are supposed to be doing. According to Puccio (2002b), Clarifiers need to "be open to those who are less methodical" (p. 8). This is something the interviewee seems to have started to recognize. As long as the people in her team are showing a healthy work ethic she is usually able to let go of the control.

As with most of the other interviewees she also seems to be heavily influenced by her parents and upbringing. Her father would always overly explain everything.

She said:

My dad will overly explain everything. I say he lectures, like every time you talk to him it's like a lecture. Every time...he would really get into details about things, even if it didn't really matter. So being around that made me want to have that all the time. When I explain things to people I make sure that I explain it in detail, so that people don't get confused. My parents had guidelines and there were no room for misjudging the

guidelines. And in high school and elementary school I knew exactly what was expected of me at all times. For most of undergrad it was like that too, but not so much in grad school. It kind of drives me nuts, but my parents made it very clear what was expected of me when I was growing up.

(Appendix A, p. 55).

Key Points

- Seeking out obstacles
- Aiming to please
- Attacks an assignment in a methodological and systematic way
- She needs easy access to information when working

Sample 2

Empathy Map of an Ideator

On the next page the Empathy Map of an Ideator is displayed. The Empathy Map is displayed with colorful bubbles of different shapes, but due to limited space, each bubble is presented with selected key points from each empathy map area. For a complete list of all the key points of an Ideator please see Appendix F.

The pages following the Empathy Map present a comparison between Puccio's (2002b, p. 9) research findings and the data collected from the Ideator-interview. For the complete interview see Appendix B.

SEEING:

- Is the room empty? Messy? Clean? Tidy?
- She looks for patterns
- Everything she sees or that she can look at excites her and can stimulate her when she is working

THINKING:

- Her mind is turned on 24/7
- She does not stop to evaluate her ideas when she is working on a tangible problem/open-ended question

Empathy Map
 Preference:
 IDEATOR
 Age: 33
 Gender: Female
 Occupation:
 Student & Graphic Designer

FEELING:

- She has felt and sometimes still feels misunderstood
- She does not feel creative when working on a personal problem, only when she is working on something tangible
- She feels good when she is finished with a project and can see the results

HEARING:

- She can get easily distracted
- She thoroughly enjoys playing with her creative side when there are few restrictions

DOING:

- She is in control of her own environment
- She likes to have her environment tidy and clean
- If the problem is tangible or an open-ended question she starts ideating without clarifying
- Does not follow the CPS process step-by-step.
- She uses dance as meditation for her mind

SAYING:

- She is the one who always has another idea or solution to suggest
- Why do I have another idea? Why is the idea so different?
- To her, creativity is coming up with something very original and useful that is leaning towards innovation
- She enjoys finding patterns

PAIN/TOP CHALLENGES:

- Ideating is painful to her
- An over stimulated room can be painful to her

Figure 3 - Empathy Map of an Ideator

Comparing the Empathy Map of an Ideator to the Ideator Preference

In *Your Thinking Profile – A Tool for Innovation*, Puccio (2002b) presents adjectives that characterize an Ideator, along with suggestions on what to give an Ideator to make her feel stimulated and motivated. Puccio also points out how an Ideator can make the most of her preference and how an Ideator usually annoys others. This section compares the presented empathy map of an Ideator with Puccio's research findings.

According to Puccio (2002b, p. 9) adjectives that characterize an Ideator are playful, social, imaginative, flexible, adaptable, adventurous and independent. The Ideator I interviewed has a strong presence of independence. She said with her own words that she enjoys working alone and that she has a strong belief in her own ideas and solutions. Her imagination flows best when she can work with few restrictions.

Puccio (2002b, p. 9) advises others to give an Ideator room to be playful, constant stimulation, variety and change and show her the big picture. I found all of these points present in my Ideator during our interview. My Ideator grew up with parents who were very visual. One of them was an interior designer, which meant that the house would change every year and as a consequence my Ideator grew up being aware of esthetics.

Everything acts as stimulation for her; colors, smells, music, things, a messy room, a tidy room. These stimulations also work as a negative force because her mind is constantly turned on. It was interesting to hear how she deliberately arranges her environment when she is working on a project.

She said:

...it is very important to arrange everything before I start... and it does not matter what kind of work. I can't work if my place is a mess. I hate that. I

don't like to have a lot of things, for example, if this was my desktop, maybe I just have a glass of pencils and pens and my computer and that's it. I don't like to see a lot of stuff and papers. (Appendix B, p. 59)

She starts with a nearly empty desktop that only contains her bare essentials. Step by step she will bring in bits of inspiration and place on the desk. When the thing has done its purpose she will remove it and bring in another. This way she builds her inspiration along with the progress of her project. This reflects a person who is aware of how the environment stimulates her and she has come to know how to control it to her advantage.

As mentioned before, she feels most creative when working on something tangible or an open-ended question. If she has been given an assignment she only needs the big picture and minimum amount of detail before she starts. If a person offers too many details of how the end product should look her creativity will fade and a workflow is not possible.

She said:

So, when somebody tells me 'I want this shade, with this color, and I want to gather this, this and this like this', it ruins my creativity. That's why I don't like structure. 'What do you want?' 'I want a flyer'. 'Ok. Don't tell me more. That's enough'. (Appendix B, p. 58)

Before, when she was not conscious of her preference, she became frustrated with others for not accepting the many different ideas and solutions she presented. She saw that other people had their own way of solving a problem and they did not always accept her many suggestions, which made her frustrated both with herself and with the others. These

reflections can be compared to Puccio's (2002b) statements of how ideators can annoy others. Ideators can be impatient when others do not understand their ideas, when their ideas are too off-the-wall and too abstract (Puccio, 2002b, p. 9).

Key points

- Constantly thinking
- Seeks stimulation, but needs to control it when working on a challenge/problem/project
- Needs to balance her mind/body relationship – she does it through movement/dance

Sample 3

Empathy Map of a Developer

On the next page the Empathy Map of a Developer is displayed. The Empathy Map is displayed with colorful bubbles of different shapes, but due to limited space, each bubble is presented with selected key points from each empathy map area. For a complete list of all the key points of a Developer please see Appendix G.

The pages following the Empathy Map present a comparison between Puccio's (2002b, p. 10) research findings and the data collected from the Developer-interview. For the complete interview see Appendix C.

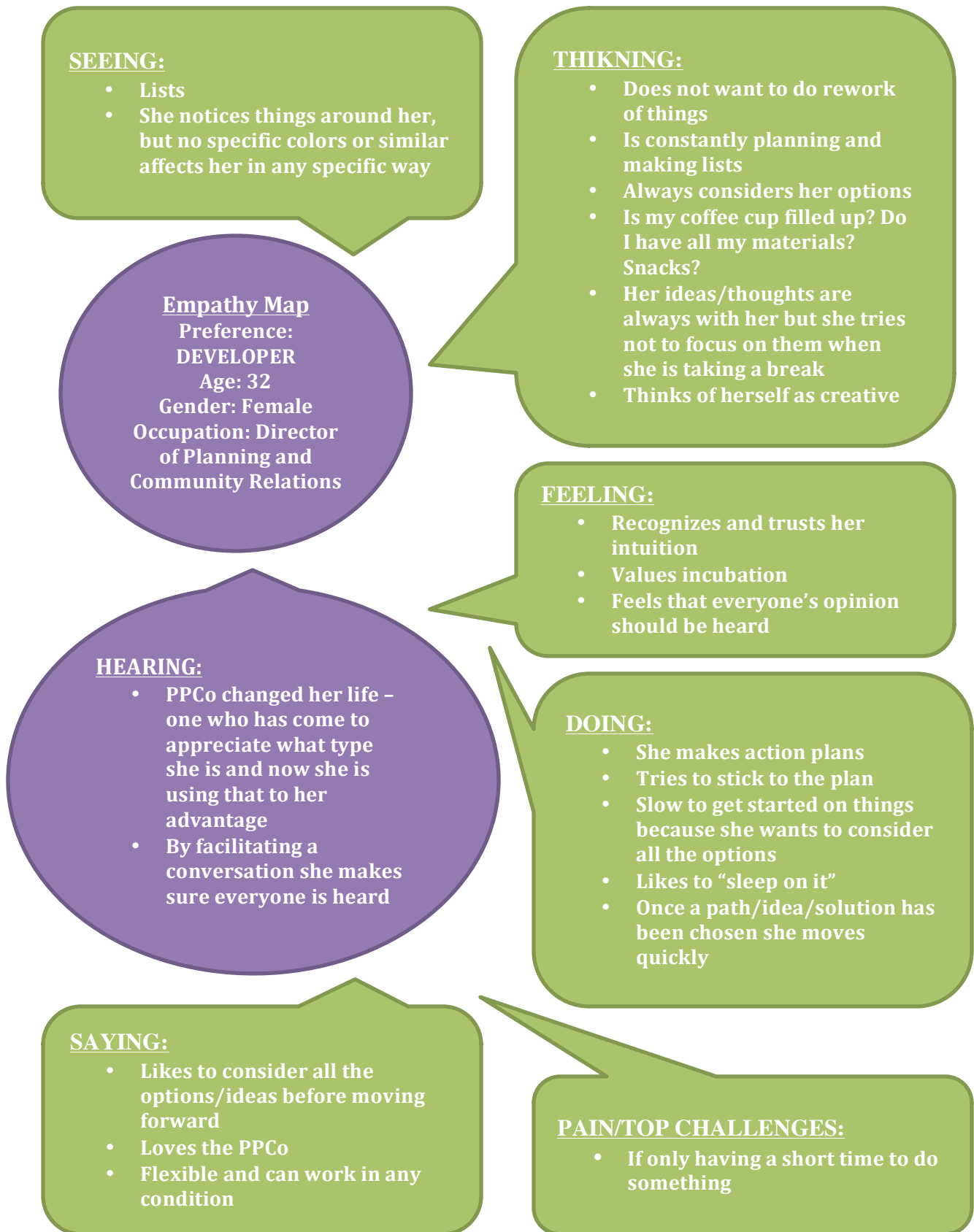


Figure 4 – Empathy Map of a Developer

Comparing the Empathy Map of a Developer to the Developer preference

In *Your Thinking Profile – A Tool for Innovation*, Puccio (2002b) presents adjectives that characterize a Developer, along with suggestions on what to give a Developer to make her feel stimulated and motivated. Puccio also points out how a Developer can make the most of her preference and how a Developer usually annoys others. In this section I compare the presented empathy map of a Developer with Puccio's research findings.

According to Puccio (2002b, p. 10) Developers are characterized by being cautious, planful and structured. The Developer I interviewed was cautious in the way that she would always make sure to know as much as possible about the problem at hand before she will start solving it. She is not one to do rework or jump to implementation. She likes to make a project plan that displays all the components in the project, when something is due and who will do it.

She said:

...as far as implementation I try really hard to go by the deadline and the grid, and knowing when things have to be done... if you come across any jams I try to stop before it gets out of control... stop and reassign and figure out what is going on before we get down a path that does not make a lot of sense. (Appendix C, p. 61)

Before she can start working on something she has a need to organize and bring out everything she thinks she might need. She may take some time to prepare, but once she has everything she needs she is ready to work for a long time.

She said:

My one preference work style is that I like to work for a very long, extended amount of time. 45 minutes of work for me is nothing. I need to be able to sit down for at least 4-6 hours... it takes me some time to get set up, to get working, and that's probably part of why I like to work so long because I do make it sort of a haven. I will sit down, get my computer, make sure that I'm comfortable, make sure that I have my snacks and my coffee and all the flash drives or whatever it is that I need. For the most part I don't take a lot of breaks, but when I do it is always something physical. (Appendix C, p. 62)

When it is time to evaluate the ideas and to choose one to move forward with she likes to be able to consider all of them. According to Puccio (2002b, p. 10) Developers need to be given time to evaluate the options.

She said:

I like to consider all of them, whatever the situation is; sometimes just a few options and sometimes it is a lot of options. I'm sort of slow to get started on things because I like to be able to consider a lot of options... I'm one of those 'sleep on it'-people; consider a lot of options, thinking about what jumps out to me but still consider all of them. I like to think about things for a couple of days and roll it around, basically, before I get started. But once I commit to one or two I move pretty quickly. (Appendix C, p. 61)

Her words also tie in with a Developer's need to be given time to consider all the options. To her, considering all the options is not about being lazy but to make sure that all the

options are being looked at so to not miss an important factor, which could lead to rework. When she is evaluating and considering options her favorite tool is the PPCo, which is one of the tools in the developer stage (Appendix C; Puccio, 2011). She has even adopted the PPCo into her daily life.

She said:

When I'm considering options I'm a huge fan of the PPCo. I like to use the PPCo all the time! What I tend to do is thinking about all of them, narrowing down the ones that just aren't going to work or I'm not going to use, and then the top consideration, I usually try to think deeper about all them before I make a decision. I try to do a PPCo or a small sketch on what each scenario might look like. That is my final consideration before I choose one. For personal life and professional life I'm always making lists. That's my thing. I like to make the list, I like to consider the options and even my husband and I use the PPCo all the time. (Appendix C, p. 61-62)

She likes dark blues, greens and browns when it comes to colors, but types of colors do not necessarily affect her. She is observant and will notice everything around her, but she considers herself flexible when it comes to accepting the environment around her. On the other hand her mind is never fully closed off.

She said:

I try to use it [breaks] as incubation time. I'm not really good at clearing my mind, I'll have a lot of ideas still spinning and still going on in my mind, but for the incubation part I try not to focus on them. With my old

boss we did something that was called the ‘walk & talk’. We would have meetings and walk and talk. I would just use it as a way to still have the ideas in my mind but just not be focused on them, for that has always been very recharging. (Appendix C, p. 62-63).

She was mainly raised as an only child by her grandparents, who would let her play by herself but also include her in their activities. This upbringing gave her the opportunity to figure things out at her own pace and it also gave her a sense of independence at a young age. When interacting with her grandmother it meant baking or cooking, in other words she learned early on how to follow a recipe. She says this is reflected today in how she gets everything ready before she starts working on something.

She has always considered herself a creative person. As a child she would always do crafts, which is something she still enjoys, but when it comes to being academically creative the Creative Studies program opened her eyes to different kinds of creative. She learned different tools and different ways to think, and divergent and convergent thinking has made a distinct impact on her life.

Key points

- Considers all the options
- Makes lists
- Brings people together
- Adopted the PPCo

Sample 4

Empathy Map of an Implementer

On the next page the Empathy Map of an Implementer is displayed. The Empathy Map is displayed with colorful bubbles of different shapes, but due to limited space, each bubble is presented with selected key points from each empathy map area. For a complete list of all the key points of an Implementer please see Appendix H.

The pages following the Empathy Map present a comparison between Puccio's (2002b, p. 11) research findings and the data collected from the Implementer-interview. For the complete interview see Appendix D.



Figure 5 – Empathy Map of an Implementer

Comparing the Empathy Map of an Implementer to the Implementer preference

In *Your Thinking Profile – A Tool for Innovation*, Puccio (2002b) presents adjectives that characterize an Implementer, along with suggestions on what to give an Implementer to make her feel stimulated and motivated. Puccio also points out how an Implementer can make the most of her preference and how an Implementer usually annoys others. In this section I compare the presented empathy map of an Implementer with Puccio's research findings.

Tom Peters said there are three keys to business success; test fast, fail fast and adjust fast. These three points summaries the Implementer I interviewed. She is quick to focus in on one idea to move on with, then she will test it and if it fails she will find a way to fix it or adjust it. According to Puccio (2002b, p. 11), Implementers are persistent, determined, action-oriented, decisive and assertive, all of which are characteristics I found in my Implementer. She finds it very satisfying to finish something and she has a hard time understanding that not everyone likes to implement. Additionally, she is product driven and cannot wait to finish an art piece so she can hang it on the wall. "What is done is done. I'm not one to go back unless I get a glaring problem. I love creating a piece of art and then hang it on the wall and get to look at it. 'Look what I did'" (Appendix D, p. 67).

According to Puccio (2002b), implementers like to move to action as quickly as possible and my interviewee said "I don't take my time with things, which is a problem a lot of times. Especially at work, if we are having a problem I definitely jump to solve it" (Appendix D, p. 66). According to Puccio (2002b, p. 11), Implementers can annoy other people by being too pushy, by easily expressing their frustration when others do not

move as quickly and by overselling their ideas. The implementer I interviewed is aware of how her way of attacking problems can affect others, but she finds it hard to change.

She said:

At work it does get me into trouble sometimes, especially when I'm working in a group with my co-workers. They are still off deciding what we are going to do but I'm already starting to solve the problem, so I think they probably get frustrated that I'm so quick to act. And sometimes I'm so quick to act that I don't realize that the problem has worked itself out and I'm still struggling trying to fix something that is not broken anymore. (Appendix D, p. 66)

What is worth noticing is how she feels when faced with a challenge. As with the Ideator I interviewed who thought ideating was painful, this implementer feels anxious when she is on the verge of solving something. She cannot wait to get it over with.

She said:

I guess, as soon as I'm faced with a challenge I get really anxious. I think about it a lot; especially if it's something I don't know how to solve. I think about it a lot, and I do try to put it out of my mind, but it doesn't always work. (Appendix D, p. 66)

Puccio (2002b) mention incubation as one of the techniques Implementers should be aware of and actively use. The Implementer I interviewed has found incubation to be a learning process and it has now become a very useful technique.

She said:

I think I've always done it but I didn't know what it was called or that I didn't really know what was happening. And now that I see it happening, I really believe in it. It is one of the strongest principles I've learned.

(Appendix D, p. 66)

She needs her desk to be clutter free when she is working, but she works best when she allows herself to be distracted by multitasking. When she was younger she would force herself to only focus on the task at hand. She would find the quietest corner of the library and stay there until the paper was done. This did not feel good, she said, but it got the job done. Now, she allows herself to circle from task to task. She needs breaks from the work at hand by constantly getting a little bit distracted. She needs an empty and clean desk to be able to concentrate on her work and she prefers to be surrounded by warm colors. "I think as soon as I entered a professional job where it wasn't school work, it was something for the greater good and for my job, something I actually got paid to do, I let myself find what worked best for me instead of forcing something" (Appendix D, p. 67).

She enjoys teamwork, but if she can do something better or faster by doing it herself she does not waste time on reaching out to others.

She said:

That is probably the implementer in me coming out and like 'just give it to me, I'll do it'. I definitely find that happening a lot at work. It takes me longer to explain something to somebody than it would take me just to do it. I think when you are the leader, or when I'm in a situation that I'm

leading that I rather give people an assignment to work on, on their own.
(Appendix D, p. 68).

She grew up as the youngest of four children and with a mother who has always been focused, driven and able to multitask. As the youngest sibling her need to impress the others and not being left behind seems to have had a major impact on her.

She said:

I am the youngest of four and I always felt like if I didn't catch up or finish something I would be left behind, so I was always rushing to do things. I have an older sister so I was always trying to keep up with her. Also, in school, whenever we were doing a project or a test I was ALWAYS the first person to finish. Even in high school I remember even tests like math, and I'm not good at math, I would be the first person to finish the math test. Sometimes it's to my better judgment and it's not good. But that has always been the way I am. In my undergrad and early master experiences, though not this semester, I would get my syllabus and start working on projects way ahead of time to get started on them.
(Appendix D, p. 69)

She sees herself as a creative person because of her ability to think of ideas that other people do not think of and the reactions she has gotten from other people because of this.

Key points

- Would rather start a task yesterday
- Jumps to start something

- Keeps her mind busy by multitasking
- Rather do something herself instead of wasting time teaching it to someone else

Concerns

This is a pilot study and I will therefore discuss possible weaknesses and shortcomings to my results.

This project was based on qualitative research data, primarily interviews and observations, and even though qualitative research requires a low sample of subjects, no generalization can be made because only one person was interviewed for each preference.

I did not include a picture of the FourSight scores of the interviewees, which, if included, would have shown how their clear preference compared to the other preferences. It is therefore important to be aware that the scores on the rest of their survey can impact how they presented themselves. Even though I believe my findings compared well with Puccio's research findings one is not to say that every person with a clear FourSight preference would be like the four presented here. This is because how a person scored on the three other preferences will impact the results as well as a person's personality.

One can argue that the qualitative research questions I had prepared gave away what I wanted the interviewee to answer. I will argue that my questions were narrow and concrete and corresponded well with my objectives because they were based on both the FourSight statements and the Empathy Map areas. However, the questions were open-ended and required the interviewee to reflect and give an answer based on her personal experience. I did not feel like I was controlling the interviewee to tell me her experiences so they would correspond with the current research findings of FourSight.

All my interviewees were females, which made all the volunteers from one homogenous group. However, this was not intentional, but when I asked for volunteers,

only females responded. It is therefore impossible to say what kind of insights, whether it would be different or similar, male participants would have contributed.

I ended every Empathy Map with Key Learnings, which represent the key points that stood out to me after each interview and after developing the Empathy Map and comparing the findings to the current research. It is important to be aware that the key learnings can serve as a quick overview of the person behind the preference, but can never show the whole picture. It will therefore be valuable to read the complete interviews displayed in the Appendices. That way one will get the full overview of each individual.

Recommendations

In this section I will present recommendations for future research that can be interesting to look into with regard to FourSight and the Empathy Maps displayed in this paper.

It would be interesting to see how a teacher would use the Empathy Maps, and with this in mind, I will propose future research questions: How would one teach a person with a Clarifier, Ideator, Developer or Implementer preference? Would different teaching styles be necessary? What kind of teaching style goes best with each preference?

Another research suggestion that emerged from the interviews was how clearly it seemed all four of my interviewees had been affected by their upbringing and parenting style. One research question could be: How much impact does parenting style and childhood climate affect a person's preference?

Another viewpoint would be from an organizational point: What can we do for employees with a clarifier, ideator, developer or implementer preference? What kind of environment would they need? Under what kind of management would they best perform?

To be able to determine if the Empathy Maps are consistent in their findings, more interviews will have to be conducted. I also recommend presenting the Empathy Maps to people with the same high preference to see if they agree on the findings.

Reflections

The purpose of this project was to make one empathy map for each of the FourSight preferences and then compare my results with Puccio's research findings. My findings compared well with Puccio's findings and the findings also challenged some assumptions I had. In this section, I will reflect over my findings and the observations that I made.

What stood out the most to me was how, in conversation, all four interviewees seemed to be heavily influenced by their parents and their upbringing. All four described traits that were evident in their childhood, either found in the environment or in the parental style they were brought up in. These traits are now reflected in their lives and in their preferred preference.

The Clarifier was brought up knowing exactly what was expected of her along with a father who was always asking questions and who would never leave out any details. The Ideator was brought up in a visual stimulated environment with one of the parents being a designer, which meant that the esthetics of the house would constantly

change. The Developer was for the most part brought up by her grandparents, which has led her to be an independent woman who is used to figuring out things on her own. The Implementer was the youngest of four siblings with a mother who could not do anything but implement her plans. The Implementer always thought she had to hurry to get things done. If not, she would not be able to keep up with her older siblings.

I started this project with the assumption that Ideators need constant stimuli and therefore would prefer a room that would provide that. After interviewing an ideator, I realize my assumption is no longer valid. She said she needed stimuli, but that everything around her can be a source of stimuli, therefore a room full of colors, things and noises would be too much for her. I enjoyed her explanation of how she now, when working, controls her environment. She will bring in the item she needs when she needs it. Other than that, she prefers a clean desk.

Going into this project I thought I knew a lot about each preference and I was unsure of how many new questions I would have and how much additional knowledge I would gain. After making the Empathy Maps I realized, I have gained a more rounded and deeper understanding of each preference and many new research questions have emerged. This project was a success to me because I learned something new and I am excited to see what the future research of FourSight might uncover.

References

- Ackerbauer, M. (2008). FourSight and the breakthrough thinking model. *Creativity and innovation management: An international conference*. Buffalo, NY: International Center for Studies in Creativity.
- Bland, D. (2012, June 25). Agile coaching tip – What is an empathy map? Retrieved from <http://www.bigvisible.com/2012/06/what-is-an-empathy-map/>
- Gray, D., Brown, S. & Macanuso, J. (2010). *Gamestorming – A playbook for innovators, rulebreakers and changemakers*. Sebastopol, CA: O'Reilly Media, Inc.
- Grivas, C. & Puccio, G. J. (2012). *The innovative team*. San Francisco, CA: Jossey-Bass Publishers.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass Publishers.
- Merriam, S. B. (Ed.). (2002). *Qualitative research in practice – examples for discussion and analysis*. San Francisco, CA: Jossey-Bass Publishers.
- Puccio, G. J. (1999). Creative problem solving preferences: Their identification and implications. *Creativity and Innovation Management*, 8 (3), 171-178.
- Puccio, G. J. (2002a). *FourSight: The breakthrough thinking profile – Presenter's guide with technical manual*. Evanston, IL: Thinc Communications.
- Puccio, G. J. (2002b). *Your thinking profile – a tool for innovation*. Evanston, IL: Thinc Communications.
- Puccio, G. J., Mance, M. & Murdock, M. C. (2011). *Creative Leadership: Skills that drive change (2nd ed.)*. Thousand Oaks, CA: SAGE Publications.
- Puccio, G. J. (2012). *Creativity Rising*. Buffalo, NY: ICSC Press.

Rife, S. L. (2001). *Exploring the personality composition of the four preferences measured by the Buffalo Creative Process Inventory: A thesis in creative studies.*

(Unpublished Master Thesis). International Center for Studies in Creativity, Buffalo, NY.

Wheeler, R. A. (2001). *Improving the understanding of the impact of creative problem solving training through an examination of individual differences.*

(Unpublished Master Thesis). International Center for Studies in Creativity, Buffalo, NY.

APPENDICES

Appendix A

Clarifier interview

How do you usually approach problems or challenges?

Well, I don't really know. This is a hard question. I guess it depends on the problem, but most of the time I just try to figure out where to start and then start.. I'm very linear, so I will start with the introduction of the paper and then I'll go through the rest of it and end with the conclusion. I don't like to jump around. I usually start where I'm supposed to start and where I'm supposed to end. That is my OCD. I usually spend a lot of time figuring out what I want to do and then kind of listing the steps I'm about to take and then go through it.

So you spend a lot of time figuring out...

Yeah, I spend a lot of time figuring out what I want to do.

Can you explain to me more your thought process and how you do it?

First of all, I spend a lot of time figuring out what is being asked of me. So I can specifically give them whatever they want. When I do papers and stuff it has to be exactly what they ask me to put in the paper is in the paper. So I spend a lot of time figuring out what a professor wants. I guess I'm only doing it on papers...it's weird. I spend a lot of time figuring out what needs to be in my solution, basically. And eventually getting around to doing it. I think about the problem and what needs to be done and how it needs to be done and then I plan it before I actually do it.

You said, this is how you do it when you are doing a school project. What about in your personal life when you are stuck with a challenge? Do you have any examples?

I don't know if I have examples, but I know I'm not very good at coming up with ideas so I usually pick the first idea that I come up with. I can't think of in my personal problems if I spend a lot of time figuring out what I want to do. I mean, I guess I do. It's usually in my head so I don't think that that's what I go through on a daily phases.

I guess, over the weekend I had an issue with a manager and the attitude they were giving me, so I were working and trying to figure out the action I was going to take so the problem would not keep happening where people were being nasty to me anymore. Well, not nasty but given me attitude for not doing what they wanted me to do. And so I spent a good chunk of the time figuring out who to talk to and where to go and how I wanted to, like, approach the problem or the challenge with someone else and tell them about it so they can work with me to help solve the problem. I spent a lot of time doing it, and I spent a lot of time in lala land doing that. And when someone was talking to me I didn't even pay attention. I would just sit there and run through my brain who I was going to talk to. You know, what action steps I was going to take, where I need to go to get the action steps done, what are some solutions and ideas that need to be addressed. I actually spent a lot of time figuring out how they were going to react to it. If they were going to take it personally or not and if they were going to figure out that I was talking to other people and not them. I spent a lot of time figuring out how not to offend that specific manager because it was not that specific manager's fault.

On the same note, you mentioned earlier that you first like to get everything in order before you start. How much time do you spend on focusing on finding the exact problem?

I think I spend a lot more time figuring out my obstacles than the actual problem. Usually I know what the problem is, but then ones I figure out some of the obstacles I figure out that the original problem is not always the problem I want to work on. I think I spend more time doing that, just trying to figure out how people are going to react and what other things might be standing in my way.

Would you say you work best alone or in a team?

I think I work better alone. I can work with other people as well, but I do a lot better on my own because I have a lot of OCD with things. Things have to be done by a certain time. I give myself deadlines for things.

Are you able to keep those deadlines?

For every other class but my Master's Project. I have like a date set in my mind and if I don't have the stuff done by then it's bad news. I usually get it done by then, so...

So, when you are in a team setting what role do you usually take?

In previous group projects that I've had to work on in undergrad, I usually would take the leader role so I could keep everyone inline, make sure that everything is being done correctly and that things that need to be in the project were in the project. I've never worked in a team at work before, so I don't really know how I would do that. In grad school everyone is easier to work with than in undergrad, so I usually don't take a leader role as much anymore. I usually assist as much as I can with the leader if they need help with something. And I try to take on extra work to make it easier for other people. So if they don't have extra time, my butt is not on the line. So I'm not getting the third degree because someone else did not write the part they were supposed to do.

What is your dream role in a team?

My dream role in a team... I defiantly don't think I would like to be the leader, unless I end up being the leader, at least not at this point of my life. Maybe years and years down the line, but I'm by no means able to be accountable for a lot of people. I defiantly wouldn't mind being an assistant to a leader, but I defiantly don't want to be the leader at the top, maybe somewhere in the middle, or like a little more above that.

How do you like your environment to be when you are doing work or solving a problem?

(Gets excited)...oooh. I like to have a lot of space! Like this room is perfect for me. Like a lot of space, a lot of books that I can grab and look. A lot of, like, outside stimulation to kind of let me relax and incubate for a little while and get ideas. Like having windows over there is really nice.

What do you mean by outside stimulation?

Nature, trees, the cars going by and the people walking by and stuff. It gives me like a nice, different perspective and a nice little break from work.

Can you mentally draw the perfect room for me? How it would look like for you.

Yeah. It would be very spacious, lots of windows so I can see outside, a lot of resource information, so a lot of books and accessibility and computers, so I can get on the internet to answer whatever question I need to be answered. A lot of table space. I need a lot of table space as well. I'm really like a paper person, so having a lot of paper to write things out before I actually put it out to a presentation or to whatever I have to do to draw things out and things like that. So like markers and pencils... There probably would not be a lot of different colors. It would be very bright. I would probably keep it like a rectangular shape or like a circle shape. Nothing weird. There would be a lot of comfy chairs, but also tables and normal chairs as well.

Aaah...what else... Things to play with so I can take a break to distract myself for a few minutes and I think that's pretty much it.

Is this something you know from before, or is it something you have come to learn, that this is how you like it?

It's defiantly something I've come to learn. I think a lot of it comes from my bedroom being so small and I'm always so confined in my bedroom and I'm like in there and I don't have space, but I've started taping things on my walls now, so I make the space. But I feel like a little claustrophobic in small settings and I never recognized it when I was in high school or like in undergraduate most of the time.

I'm much better now to sit at a table and write something out, and then have something comfy to sit on for a few minutes to relax. I used to always do my homework on my bed, so instead of doing it all on my bed I get distracted and I just want to sleep basically.

(She needs spaces for this and spaces for that...)

How are you with things that are out of order, or messy rooms? Does it affect you?

I have a very, like, 'I can barely see my floor' messy room. But a lot of that is because I feel like I never have time to clean it. I really don't like it being messy. I hate it. It drives me insane. Every time I look at it something inside of me gets very angry, but I'm not one to clean it. I don't like it, but I won't do anything about it either.

Are you able to get your work done?

I get my work done, yeah. It's just a little more complicated and I feel a little less prepared when my room is a mess, because I'm running around trying to find everything. Sometimes it is not where it's supposed to be, so I'm usually digging through things to find what I need for classes and stuff. So, I feel like I'm like rushing around and digging through things when I should just be able to pick it up and go.

So, that's like a dream situation for you?

To have a maid clean everything for me... ☺

You talked a little bit about color before, and you said you needed a bright room when you were working. What about colors?

I don't know how colors usually affect me. I've never, like, taken a notice. I guess the only time it affects me is if I don't particularly like the color or the color combinations, like the student union. I really hate the purple with the orange. It drives me a little crazy. But it doesn't distract me by any means. Having color is nice to have, like, something other than white walls, but at the same time I don't mind having white walls and if it's a color I don't particularly like it's not going to distract me or make me not want to do anything.

You said you don't prefer the orange and the purple, how does that make you feel?

It annoys me, and it peeves me that they would put orange and purple together. Mainly because I get the orange, buff state orange, but there is no purple in it at all. There is no rime or reason for the purple and that is why I don't like it.

Do you like purple in its self?

I do like purple, I do. My cubical at my internship is between to purple pillars and I was very excited that they were purple. There is no combination... I have like OCD's about these things. There has to be, like, a reason why the colors are together unless it's art, in that case it's a free for

all. But, like, my room has pink walls and then I have white and black furniture because I have a mirror that is pink, white and black. I match everything around that, sort of. I guess, like, the themes have to make sense to me. If they don't make sense to me I don't understand it.

What types of work excites you?

I really get excited about visual things, like presentations, posters. Like when I did the hands-on learning center... I was very excited about that. Sitting down and writing a 30-page paper – not very excited about that. But making something that is visually pleasing and something that looks very nice and something that a lot of people will see. I like to have things that are colorful, for the most part. (Laughter).

What is it about that work...

It takes a different kind of concentration. You are not just making yourself sound good. You are trying to make yourself sound good and look good. I like esthetics and I'm very visual, special, so I like things to look nice. I always say I like to get into PR to make things look pretty.

What motivates you?

Motivates me... Usually grades and/or money. If there is something that is particularly interesting to me like a hobby... I did a presentation in undergrad about tennis and I spent a lot of time on that presentation and perfecting it and making it perfect. So I guess, like something that interests me, has to do with something I find interesting... Obviously, the money, the recognition... things like that. The normal things.

Do you feel that you are more drawn to more outside motivation?

Yeah. I don't really have a lot of inside motivation, I guess. I just get things done to get it done. Money, grades... I think I've been in the school system for so long and I have had to do a lot of work that doesn't make any sense to me and I just do things to get the grades or get the money or whatever.

Think about your childhood. What kind of environment did you grow up in?

Well, my parents had guidelines and there were no room for misjudging the guidelines. And in high school and elementary school I knew exactly what was expected of me at all times. For most of undergrad it was like that too, but not so much in grad school. It kind of drives me nuts, but my parents made it very clear what was expected of me when I was growing up.

My dad will overly explain everything. I say he lectures, like every time you talk to him it's like a lecture. Every time. So I guess that probably affected me the most that he would really get into details about things, even if it didn't really matter. So being around that kind of made me want to have that all the time. When I explain things to people I make sure that I explain it in detail. So that people don't get confused.

Do you see yourself as a creative person?

I do now. I never really used to until I started this program, other than like art. I draw a lot and paint, but I'm by no means an artist. I just draw and paint. I probably thought that I wasn't very creative because I couldn't draw very well or paint very well. It was just blub of paint on the paper, but now I've learned that everyone is creative in their different way.

How are you creative?

Well, I usually... Now that I've learned the divergent and convergent tools I use that to come up with more ideas for things and really stretch my imagination more. Before I would come up with an idea and go with it. Usually I find myself now, if someone has a problem I'm coming up with

ideas left and right, silly and workable, whatever they might be. Before I was introduced, I was creative in the sense that I always tried to make things visually pleasing in presentations and even in papers. I'm good with esthetics, except that you can't see the floor in my room.

You mentioned that you seek out obstacles when you problem solve, how much time do you find yourself focusing on that?

A lot! I usually look at the negative before I look at the positive of things whether it is a challenge or a solution. Especially with challenges, which is good in the sense that I've covered all my bases before I start coming up with ideas, it also hinders me to come up with ideas because even if I find the solution it is never going to be solvable. I told you the example of over the weekend I spent the entire time trying to figure out who is not going to respond well to it and who was going to respond well to it. I spent more time focusing on the people who were not going to respond well to it and then I never ended up talking to anyone about it. That is usually what happens.

So is part of the process painful to you?

Definitely. I wish that I didn't let those things get in my way. I wish that I would see them and move on. Sometimes it's hard because I don't have the time because I spend so much time figuring out what is wrong with the challenge.

So, that is a challenging part for you, that you get stuck?

Yeah, I get stuck.

Do you feel that?

Yeah, and I'm aware of it. I'm still working on that challenge (from before), and I won't give up. I usually put things on the backburner for a while and trying to figure things out and most of the time it doesn't happen until years and years later or it happens and I'm still trying to figure out a way. But in the end I'm still figuring out what is standing in my way of getting to the solutions that I need and instead of going ahead and do it.

Appendix B

Ideator interview

How do you usually approach a problem/challenge?

The way that I do this depends on the problem. If my problem is something with an open-ended question, or tangible that I have to do something, or to make something I usually start with ideas. I don't need a lot of background information, I just need, like, some instruction and I just start to do something. I usually don't think of ideas (in my general life). When I am solving something I'm putting more and more ideas into it. I don't do a lot of thinking before because I am accustomed to work in design and the way that you come up with ideas by building your work, adding more things than just to evaluate the ideas.

I don't go through the evaluating process, which is not good, but I know how to implement them and it works most of the time, the way I implement an idea. But if the problem is personal or it has to do with someone else I most of the time a clarifier. I spend a lot of time analyzing the situations, and sometimes I get stuck there. It is so hard to find a solution. And I don't think of ideas to solve the problem I just start to do something different and if it works; great and if it doesn't work I have to change it.

But I think I don't follow the process I have learned here very well. Most of the time I vast and spend solving a problem is coming up with ideas. But I don't reflect over my ideas. Now I'm trying to do that, but I don't usually do that.

Do you feel creative when you solve problems?

Yes.

How do you feel creative?

I feel creative when I'm doing something tangible. I think I'm not creative when I'm doing something with my life. It's more like I follow my needs and my emotions and interests, instead of the creation of something new. I prefer to satisfy my needs and my interests and that's the way I usually solve a problem – an intangible problem.

I think I'm creative. Yes, I think I come up with good solutions. And I don't know if that makes me a creative person.

Do you like your ideas and solutions..

Yeah, but I don't think that is creativity.

How would you define creativity?

Well, for me creativity is something like going out of the office, or the school, and to be in the innovation side, and to really be original and to do something totally different and useful at the same time. I think sometimes I'm creative and can go to that side. But only with some problems and situations. I don't know if you should go that way in all situations, and I still don't know. But I would like to experience that. But I think I cant. I think in my problems, or social problems, or psychological problems or in my life to make a decision, personal decisions, I am a clarifier. And I get stuck there. It is so hard to go to the next step and through the process. But I think I am creative when it comes to tangible things.

In what ways do you focus on coming up with unique ways of looking at a problem?

I think so much, all the time. I'm a good person, and finding patterns. I like that. Most of the time I do that. I have fun finding them (patterns).

You said before that when you approach a problem, you just through ideas out there. Is that conscious of you?

Now. After this problem I'm conscious of it. Actually, I'm trying to be. But before, no. I just came up with ideas and I didn't know that those ones were ideas. Or that form of thinking was ideas. And I saw that people have their own way of solving something and then I said; why do I have another one? Why do I come up with something different in another way? I think that since I came here everything has changed. My process has changed. I think I have control of my process and I realize that I'm very much an ideator. I think it is because I think a lot. Every time, everything and I cant stop my thinking.

Lets go back to something you said before when you are approached with a problem. How much time do you spend defining the problem before coming up with ideas?

When it's intangible, like, for example if I have to do a paper or I have to design something, actually I don't spend a lot of time. It is so easy. I don't like a lot of details and structure. When people tell me; I want this, with these figures and these shades and colors, I say no, I don't like to do that. I don't want to do that, because, instead of I being the one coming up with an original idea I am doing implementation of an idea of someone else.

So, when somebody usually tells me "I want this shade, with this color, and I want to gather this, this and this like this", it ruins my creativity. That's why I don't like structure. "What do you want?", "I want a flyer". "Ok. Don't tell me more". That's enough. And when I'm there I just have to...the way that I think is; who is the audience? Then I go to those people and try to be like them, and trying to figure out how they think and then I'm trying to do something for them. Maybe that is my clarifying process. Usually it takes a very short amount of time.

Would you say you work best alone or in a team?

It depends on the problem.

Can you give me an example?

Yeah, in design I prefer to work alone. I don't like people who come and talk to me, like "hey, what are you doing?". I hate that. I need to be alone with my thinking. But if I'm doing something more like a service or the project is big I need people. I think I can work with people. But if it is something little and with design I prefer to do this by myself. It is easier. With some work, I work easier alone and others I don't. If I were designing I would have more problems sharing my ideas with someone else. But I know that I sometimes have to do that. And actually, I would like to learn to do it.

To do...?

To work in a group in a design project.

What roles do you take in team work, do you think?

If nobody takes the control, I can take it. But if somebody takes it that's fine.

What is your dream role in a team?

The collaboration, more than to be a leader. I can be a leader, of course. And I think I have been. I think that when you are a leader you are not part of the group. And I prefer to be part of the group because at the end you can see your things. And a leader is a person who can help everybody to

go there. I can't see my work when I'm a leader. So maybe I need to see my work... or to see our goal or to see something.

How do you like your environment to be when you are working on a problem?

It is very important to me. Actually, if the environment is not good it affects me so much.

How?

My father and my mother were very visual. And I grew up in a house with an interior designer I was accustomed to see the house different each year. With something new so I grew up with a lot of esthetics. So if I'm in a place without any esthetics I really can't work. It's like I need to go out. Because in my mind I just want to arrange everything to put it in esthetic and I can't. Like this for example, I can't wash the wall. But in my environment it is very important to arrange anything before I start. Before I start with my work, and it does not matter what kind of work. I can't work if my place is a mess. I hate that, I don't like that, but I know that I am this way. I don't like to have a lot of things, for example. If this was my desktop, maybe I just have a glass of pencils and pens and my computer and that's it. I don't like to see a lot of stuff and papers in all the places. I don't like that.

Where do you find your inspiration? Where do you take it from?

First of all, if I'm working on something and if I get resources I take the resources and I will put it on my desktop, from different places. And it's the way I'm building my project. So, if I have to take something I know where it is. I can take stuff like a paper, or a magazine or a book or go to a website or find music. Everything should be there when I'm working on my project. When I finish with that and I have to work on another thing I have to rearrange everything. It's like a different scenario in the theater, so I like to put the things back. My inspiration should be there. That's the way I do that. It takes a lot of time to arrange everything.

Does color affect you? And how does color affect you?

I like red. It is very stimulating. It makes me feel intense. I don't like red in the whole place. I like the warm colors. I don't like blues, and greens, and yellows. I don't like them. And, actually, I have seen that when I work with dimmed lights it is better. But if there is a lot of light in my room I can't. I start to feel some kind of anxiety. So I have to close the blinds a little bit or to change the illumination.

For me this kind of light (in the room, red.) is green. I see everything green. I hate this light. Find me the yellow one. The warm, this is very cold. I see everything green (laughter) and I don't like the green. (Laughter). Maybe it is a problem with my light. With my view, I don't know.

What excites you in your work?

Hmmm... Everything that I can see or that I can look at.

What if something is blue?

If it's something with esthetics I like it. For example, I prefer to read magazines rather than a newspaper. It's more colorful, with more pictures and I don't have to read everything to get something easy, and to move my body.

If I have to work on the computer for more than two hours I usually stand up and walk. But that's now, because I didn't know that. Since I came here I realize that when I stop and when I move my body in some way, or maybe I can go to the kitchen and cook something, I think I'm moving my body. It's like a balance those kind of work. I think I have a very good time.

How did you do that before?

I stayed there for hours and hours and then after several hours I got stuck or I got bored or I couldn't continue working on something or focus my mind on something. Actually, I think now, it's like, of course I have a lot of input, so I need to stop my thinking. Maybe with my movement is a way to refresh my brain to go back again and do the thinking work.

For example, if I want to fall asleep it is so hard. I need a kind of distraction to forget my thinking because other ways I don't stop thinking.

So, what do you use?

Music or the television, and I can't with a book. Because if I'm reading a book I'm thinking about the story and then I'm living the story, you know. It's so hard. One day I was trying to do it with a paper that I couldn't understand, and then I said, no, I can't. I continue having this thinking and it takes a lot of my energy to do that. And there is no way to calm myself, really.

I have tried meditation but I couldn't. I tried to meditate. Do you know what is working now for me, is to workout at home, because I don't have to go to another place and it doesn't matter what I wear, my cloths. I can do it there and just finish and go back to continue working. But I realize that, and when I fall asleep I'm so tired, so I'm able just to go there to my bed and say I need to sleep and it takes me 2 or 3 minutes to fall asleep. But I tried to meditate, but I couldn't.

What kind of meditation did you try?

The one where you have to breath and then you have to count numbers to focus your mind on the numbers and your breathing at the same time for maybe 5 minutes. And no... I know you have to practice this activity a lot of times to get it. When I'm there I usually pay a lot of attention to my body, so if something is hurting me I can notice it more and I just wake up and "I don't want to feel that". It was so hard. I didn't like that. You know what is good; dancing. It is a kind of meditation. My mind goes to another place and I just dance and follow the steps and I don't have to think now. When I'm dancing I don't have to go through the learning process of dancing. It's like a way of meditating for me and it works better than real meditation.

And you know, I have noticed, that if I'm very stressed I can go to Pintrest and I loose my mind. It's like aaw, this is beautiful, wow, I love it. And then I want to go to anther website, and then another one. I usually gather a lot of inspiration there and I usually feel calm and then I can continue working on something. (Laughter) I think I enjoy Pintrest more than Facebook. I spend more time with Pintrest than facebook.

One day, somebody told me; "can you create a board to say who you are?". And I said, wow, this is awesome. I came up with a lot of images that I really like and I said that is the way I am. I can express myself better in that way than words. It is interesting because if you came up with an image or a photo and if you say some words behind the photo you can get the idea I want to say. Maybe somebody with out visual preferences would say 'I don't understand'. But for me it is easier to express myself that way. If I want to say something about frustration I can go there, find a picture, and say 'this is frustration'. And it is a kind of analogy. I spend a lot of time doing that... (laughter).

Interview over.

Something she said while we were packing up:

I find pleasure when I'm finished with something. I don't find pleasure when ideating.

Appendix C

Developer Interview

How do you usually approach problems/challenges?

I would say I like to gather a lot of information up front. I like to make sure that I know as much about it as possible and as soon as possible. I really dislike doing rework of things, so I really like to make sure I have as much information as possible, and from there I like to gather some sort of project plan. That way we have the grid of all the various components and when it's due and who's going to do it, sort of that "Report of"-chart. Then I try to stick to the project plan and take it from there.

How do you approach implementation?

With implementation I think it is having that grid, that project plan of who is going to do what, when it's due by, who it has to be reported to, and what are some of those final products are, so to speak. And as far as implementation I try really hard to go by the deadline and the grid and knowing when things have to be done and I try to mostly stick to that. And of course, if you come across any jams I try to stop before it gets out of control. So stop and reassign and figure out what is going on before we get down a path that does not make a lot of sense.

When narrowing down towards implementation, how many ideas or solution do you consider?

I like to consider all of them, whatever the situation is; sometimes just a few options and sometimes it is a lot of options. But I really like to consider them all up front, that goes with my preference of not wanting to do rework and really try to figure out the best way to do things the first time. I think that takes a lot of consideration up front. I'm sort of slow to get started on things because I like to be able to consider a lot of options... I'm one of those 'sleep on it'-people; consider a lot of options, thinking about what jumps out to me but still consider all of them. I like to think about things for a couple of days and roll it around, basically, before I get started. Once I get started, I move pretty quickly, but I'm a little hesitant sometimes before I get started trying to consider all the options. But once I commit to one or two I move pretty quickly.

You mentioned you like to consider a lot of options. Can you tell me a little bit more about how your thinking looks like inside your mind?

When I'm considering options I'm a huge fan of the PPCo. I like to use the PPCo all the time! Some options may be easier up front but I really like to think through some of those top options. What I tend to do is thinking about all of them, narrowing down the ones that just aren't going to work or I'm not going to use, and then the top consideration I usually try to think deeper about all them before I make a decision. So, a lot of the times it is the PPCo with the top options and thinking about the various options, what the plan might look like based on choosing that option. I try to do a PPCo or a small sketch on what each scenario might look like. That is my final consideration before I choose one.

Is there a difference between work life and your personal life when it comes to solving something?

Not really. I'm a list maker. I really like making lists (laughter). For personal life and professional life I'm always making lists. That's my thing. I like to make the list, I like to consider the options and even my husband and I use the PPCo all the time. Since I learned about it, it has really changed the way I think about things and I use it in my office all the time. People are quick to judge things, so I use the PPCo in my office with my colleagues a lot to get them to look at something in a more roundabout way in suppose to negatively critiquing things. I use the PPCo

and the TMI, things like that ALL the time in my professional career because I find it's a good way to defuse conversation or if people are negatively critiquing something and only saying that won't work. I like to use it all the time to have people back up, think about it in a different way.

My husband and I, like I said, we really use it in our personal life all the time. We just made a list last night. We're having a dinner tomorrow night for a bazillion of our closest friends. Even so, we made a list last night to determine what needs to get done today, what got to get done tomorrow. I'm very consistent in the way I do things (laughter).

Do you feel like you work best alone or in a team setting?

I'm really flexible. I can work in almost any condition. My one preference work style is that I like to work for a very long, extended amount of time. 45 minutes of work for me is nothing. I need to be able to sit down for at least 4-6 hours. I work best in very long spurts and whether that's by myself or with other people. I'm a very good team player, I bring people together and I find myself a lot of times facilitating the conversation and making sure that we are all on the same page.

I do a lot of teambuilding with partners and colleagues and moving people towards a similar goal. But I'm also fine working by myself too. It really depends on the task. My only work preference is to do something for an extensive period of time. Like I said, I don't like to work for 45 minutes to 1 hour – to me that does not seem worthwhile. I do work in chunks, mostly 4 to 6 to 8 hours at the time.

How do you divide up that time when it comes to breaks and breathing time? How focused are you?

Are you familiar with the PEP-survey? (Environmental preferences)

Yes.

On that I tend to be an intaker. If I'm going to be doing professional work I have to be very comfortable; I like to have snacks, I like to have coffee, I like to have water. One of the things I do for breaks is that I will get up and walk around. If I'm going to be working for an extended period of time, something like 8 to 10 to 12 hours, I usually take breaks like going for a walk it's tolerable outside or I have an elliptical right here in my house. I will actually run a handful of miles on it, take a shower and then come back and sit down.

So, for the most part I tend to make myself very comfortable. Again, it takes me some time to get set up, to get working, and that's probably part of why I like to work so long because I do make it sort of a haven. I will sit down, get my computer, make sure that I'm comfortable, make sure that I have my snacks and my coffee and whatever I'm going to do I have all my phone chargers and all the flash drives or whatever it is that I need. Then I can get started once I have all my papers and I'll be ready to go. For the most part I don't take a lot of breaks, but when I do it is always something physical. I'll go for a walk or I'll do a 45 minutes Yoga class or I'll run on the elliptical. If I'm starting to feel tired I'll run a couple of miles and take a shower, grab some more snacks and sit down.

You said when you take breaks you might go for a walk, what do you notice when you take walks? What is it in your environment that you notice?

I try to use it as incubation time. I'm not really good at clearing my mind, I'll have a lot of ideas still spinning and still going on in my mind, but for the incubation part I try not to focus on them. With my old boss we did something that was called the 'walk & talk'. We would have meetings and walk and talk. I would just use it as a way to still have the ideas in my mind but just not be focused on them, for that has always been very recharging.

You said that you need snacks, coffee and all the other things around you to start your work. Can you elaborate a little about the environment itself? What is the perfect work environment for you?

I can really work under any circumstances. I'm very flexible and adaptable. But my ideal situation is usually somewhat dim. I would prefer natural light to artificial light. I really dislike overhead fluorescence light. They really bother me. For the most part I try to sit somewhere that has a lot of natural light.

Right now I'm sitting at my dining room table with my laptop. I do a lot of work on this dining room table. I'm a spreader, so I like to be able to have a lot of space to put out piles. I spend a lot of time prepping to work, so in addition to the snacks, the computer, the flash drives, the phone, charger and all that, and paper and post-its, notebooks or whatever, I usually try to lay all of that out. And I usually have some sort of list of the order of things I want to accomplish. Sometimes I will jump around on the list but I like to have some sort of list to work from. I like to have whatever I may or may not need spread out around me. If I'm doing research or writing a paper, I usually try to have all the materials that I might need with me. Once I get started working I like to have everything here and just move forward. Getting ready is almost the same thing as considering all the options because I really make sure I have all the right books I may or may not need, all the papers I may or may not need, the various flash drives with information on it that I might want to pull up or what have you. So I'm a 'spreader-outer' of a lot of things (laughter).

I'm almost over prepared where I make sure that I might use this book or I might want to pull something out of this one paper I wrote once. I might want to use a jpeg that I put on this particular flyer a couple of years ago. I really like to feel like I have everything at my fingertips and accessible before I start working.

You mentioned you do not like the fluorescence light. Why not?

I just don't like the glare it gives. I prefer the natural light, and sometimes it gives me a headache from being enclosed like that. To me it is like a feeling of being enclosed. I like to have fresh air, so if I can I will have windows open. I don't necessarily like to work outside, because then it is the wind to contend with. And with all my various things I don't want them blowing away. But if I can I will have fresh air and natural light.

What about colors; any colors that affect you in any way?

I tend to like blues and greens, and sort of like neutral colors like tan and browns. For example last week I had on a red shirt and my mom was "I don't think I've ever seen you in a red shirt". I wear it to workout, because it's red and bright and when I'm walking people are not going to run me over. Most of my cloths, even now, I have on a tan sweater with a green shirt underneath. I would say greens or blues, and the neutrals like the tans or the browns are the colors that really resonate with me the most. Those are the colors that I wear, those are the colors that I painted my house, those are the colors that I surround myself with.

Are they towards the warmer side or the colder side on the spectrum?

Probably the warmer side and I always say that I painted my house the colors of Reese's peanut butter cups; like a warm tan and then like a chocolate brown. For blues, I mostly like the deeper blue on the navy end. I don't like really light blues and things like that don't resonate with me as much. With the greens I tend to like the sage green and some of those darker greens.

If you walk into a room that is for example all red or another color, do you notice the colors? Do you find them to make an impact on you?

I'll notice things. It doesn't impact me, but I'm pretty observant. I'm not even opposed to red, actually one apartment I had I even painted one of the walls in the dining room a cranberry red and then I put up all black and white photos on it. It was really pretty. I miss it!

Again, I'm pretty flexible. It all depends on the space and again, I'm not necessarily against red or even against certain colors. It probably wouldn't impact me, but I would notice it. And I guess it could impact me if there were someplace particular confined, but I can't think of a scenario where it would impact me...

What motivates you and what excites you both in your work and other wise?

My main motivates in any job is to have a positive impact on people. I believe that people together, collectively, we make society and sometimes I get overwhelmed by different things that take place in society. I think the best way to impact society is to help individual people as much as we can. If I get overwhelmed by horrible things happening in the world or things that scare me or make me nervous it's all really part of my motivation to help individual people as much as possible. I think with the hope of hoping and thinking that society might be bad or less violent or more educated. Every job I've had has been really focused on delivery on knowledge to individual people.

When you are working, what is it that gets you going and excites you in your work?

I mean, I'm just a hard worker and I think about the impact that we might have if we do these good things. I used to be a high school teacher, so when I taught high school it was all about being with those kids everyday, doing what I could to make sure they were safe and I was a teacher so it was not like I could impact them tremendously and be with them all day, everyday. But the times that I did have with them I wanted to be meaningful and important and have a positive impact on them.

For several years I've been chief of staff to the majority legislator, so as far as impact there and what motivated me I wanted the government to be more responsive to the needs of people. So I worked with these folks day in and day out to try to understand the government. In our society I don't believe the government is the answer, but I do believe government is part of the solution. So I worked everyday to really understand how government might be part of the solution.

In my current job, the one I just started, I'm the director of planning and community relations. Basically what we do is we provide tutoring and some alternative ways for people to get their high school degrees. For me, again, what motivates me is hoping the tutoring we're providing, that the programming we're providing, that the opportunity we are bringing to people is going to make them more independent and more self-sufficient.

Would you consider yourself a creative person?

Yeah. I've always considered myself or been considered a creative person. I've always been a maker of things, so to speak, which is sort of a traditional way to look at creativity. I'm a crafter. I've always made things. I make a lot of stuff. But that's really one thing I do to pass the time, so to recharge my batteries I make things. Sort of that end I've always been like that. As a child I was always making gifts to give to people and it has sort of changed over time what I've been interested in making, and it sorts of go in and out of what I want to make or what I do make.

Then, on the other end of things, on the academically creative side, the graduate program was really fascinating to me because I really learned about so many prophecies and tools and different ways to think. I love the diverging and converging; that have really made a tremendous impact on my life. I use it all the time in my personal and professional life as far as we are going to diverge

and come up with so many options and I don't want to hear anybody judging them, we are going to come up with as many as we can before we get into the converging stage.

I do a lot of facilitations for different groups, which usually ends up being around strategic planning or project planning. I always say I'm sort of like Robin Hood because if it's for friends or groups that I really like, or an organization that I'm apart of I just do it for free. Then, if there is some sort of like fancy group that reaches out to me; I've made some decent money for other groups as well.

Questions and answers that were added after the interview was done:

Have you ever found that your way of doing things (approaching a problem, considering all the options etc) have annoyed others? If so, what do you think made it so?

I have found that sometimes people have been annoyed by my "divergent" attitude towards problem solving. I find myself having to explain that "this is an idea that would need more development, let's not judge it and try to improve it before dismissing it"....I would rather develop and think about ideas before dismissing it and sometimes my co-workers a quicker to dismiss an idea. At the end though, I often hear "I'm so glad you made us think about it and grow the idea instead of not using it" or "I never thought that would work, thanks for sticking with it." Keeping people open to no premature closing isn't easy but always worth the struggle!

Growing up, how would you characterize your environment?

I was raised by my grandparents and education was very important. I was an only child until I was 7, when my brother was born. My childhood was somewhat atypical, as I lived with my grandparents until I was 10, then I lived with my mom until I was 18, although I remained close with my grandparents. I started day care at a young age and was considered independent from the get-go by my family. I was very close with my grandmother, who I spent most of my time with. I wasn't babied by her and always participated in outings and activities with her.

I was an only child raised by my grandmother and I "played" alone or sometimes with her. I think her expectation that I would "play" by myself made me able to work independently and pass the time without disrupting others. I also was able to experiment with things and take my time understanding them. When I was interacting with her, we often were cooking or baking. I learned a lot about measuring, following recipes and processes. I also went to a lot of places with her and learned how to interact with a wide variety of people.

I think this has all impacted me because: I enjoy having the freedom to work independently and to understand and to consider things at my pace. I also am big on structure and enjoy "following recipes" so to speak -- in my current job, those recipes are grants. I always review a grant and understand the various requirements before I get started. It is like getting the ingredients and supplies ready for cooking! I am able to communicate with many people and am known for bringing people together. I think this is a direct result of my grandmother's ability to interact with people from many walks of life.

Appendix D

Implementer interview

How do you usually approach problems?

I defiantly scramble to find the correct answer and then just deal with it. I don't take my time with things, which is a problem, a lot of times. Especially at work, if we are having a problem I defiantly jump to solve it. I'm defiantly a mediator when there are conflicts. I try to fix it immediately because I don't like any conflict. I think that is the waves of my implementer side. Fear of conflicts (Laughter).

If you can explain a little more of how your thought process works.

I guess, as soon as I'm faced with a challenge I get really anxious. I think about it a lot; especially if it's something I don't know how to solve. I think about it a lot, and I do try to put it out of my mind, but it doesn't always work. But I defiantly try to incubate a lot. Even though I'm not good at it I see the value in it. I defiantly find myself brainstorming especially since being in the program I make a lot of lists. I defiantly make a lot of lists. I usually highlight and get rid of ideas I don't like and I do that mentally too, not just physically lists. I quickly check things off that I don't think will work and focus on things I do think will work.

You said that you brainstorm, is that something you have always done or is it something you have learned to do?

You know, when I was a kid I was placed into this advanced class. During school hours they would pull you out of class and you would meet with a group. And we actually did deBono's Six Thinking Hats when I was a kid. In the program I was reintroduced to it and I remembered it and I didn't even know I knew it. I think I learned how to brainstorm from that experience, but from as long as I can remember I've been doing it. Even when I don't intentionally do it I'm constantly generating ideas, but I'm always quick to focus in on one. Really quick. And that gets me into trouble – a lot. (Laughter).

Do you have any examples?

Well, the examples are that it worked out, I guess. Like this program, I found it immediately and was very excited about it. I did research it but I didn't really look around very much. I found it and fell in love. At work it does get me into trouble sometimes, especially when I'm working in a group with my co-workers. They are still off deciding what we are going to do but I'm already starting to solve the problem, so I think they probably get frustrated that I'm so quick to act. And sometimes I'm so quick to act that I don't realize that the problem has worked itself out and I'm still struggling trying to fix something that is not broken anymore.

I do all the maintenance for our website where I work, and I'm not a web designer so I'm kind of self taught and I will run into problems and I'm like googling all these things to find the best answer and then it's not that hard to fix. I think I have problems with asking for help. I like to do things myself.

You mentioned incubation and is that something you learned you need or should do?

I think I've always done it but I didn't know what it was called or that I didn't really know what was happening. And now that I see it happening, like, I really believe in that. That is one of the strongest principles I've learned about. People say it came to them out of the blue, you hear that all the time and people don't know what to call it. I think everyone's using that, but they don't know they are using it.

What about the implementation of something; what is it that you like about it and why?

It is very satisfying to finish something so you can see your hard work. Whenever I talk to someone who doesn't like to implement I get really confused. A lot of it probably has to do with me being into visual art too. Like, I love creating a piece of art and then hang it on the wall and get to look at it. 'Look what I did 😊'. I'm really product driven, for sure.

You feel it's ok to hang something on the wall, you don't feel like you need to go back and fix something?

Never. What is done is done. I'm not one to go back unless I get a glaring problem. I mean, I have gone back but usually it's done and I can step away.

When you are solving a problem or working on something, how do you need the environment to be?

I defiantly need quiet, because I really need to focus. I like music but not a lot of chaos going on around me, like people talking and stuff. I defiantly notice when I'm attacking a challenge I'm doing like three or four things at once. For example when I'm at work and I'm working on something specific and I have like four windows (internet tabs) open and I'm constantly circling through all these different things that I'm doing. I'm looking at different tabs and checking out this thing even though I should be focusing in on one. But it's like I'm a multitasker and that is how I work best.

You like that...?

Yeah, I need that. I need breaks from things, so even though I'm trying to focus on getting one thing done I'm constantly getting a little bit distracted. But I think it's good, it helps with incubation.

Has that changed over time for you?

Yeah, I think it has. I remember in my undergrad when I would write a paper or do homework, I would go to the library and go all the way upstairs and sit in a corner in silence by myself and I wouldn't let myself do anything but the task at hand. I think as soon as I entered a professional job were it wasn't school work, it was something for the greater good and for my job, something I actually got paid to do, I let myself find what worked best for me instead of forcing something. Even when I was writing papers and doing homework that way, secluded, it was working but it didn't feel good.

When we talk about the environment, is there something in the physical environment, like colors that affect you, messiness or tidiness? Do you notice something...

Actually my desk is up against another girl's desk at work and my desk is specifically smaller, which I like, because if I have a lot of space it get cluttered and I can't work like that. But her desk is right next to mine and it's always covered with papers and stuff everywhere. I'm constantly shoving her stuff of my desk. I defiantly need clutter free and I like warm colors around me. I found it comforting. Like red and orange.

If there were a lot of cool colors or messiness around you, how would that affect you?

When you said cool colors I immediately thought like sterile environment, and I think that reminds me of how I used to work when I would go and hide to seclude myself.

So sterile is not good?

No, I rather feel more comfortable. But I think when I think of cool colors I think sterile – like hospital. I would never choose a color like that for a room – like blues and greens, I would rather have warmer colors.

Do you work best alone or in a team setting? What do you prefer?

I prefer to work alone, but I enjoy working with other people. I guess it depends on the situation. I think with the job I do, I'm a program director for a non-profit; a lot of what I'm doing is interacting with people. I'm e-mailing people back and forth, and I'm setting schedules up and writing lesson plans for what we do with kids, so a lot of it is not working in a group but it's up to me. But we do have a crew of volunteers that intern that I direct. So often I work in groups with them and lead. I enjoy that too, but I think I prefer to work alone because I don't have to stop and explain things to somebody which is, it sounds mean, but when I'm working with a volunteer who has never done what we are doing before, it is understandable that they don't know what we are doing, and I don't get frustrated with them, I just know that I can do it quicker on my own a lot of times.

That is probably the implementer in me coming out and like 'just give it to me, I'll do it'. I defiantly find that happening a lot at work. It takes me longer to explain something to somebody than it would take me just to do it.

I think when you are the leader, or when I'm in a situation that I'm leading that I rather give people an assignment to work on, on their own.

What excites you and what gets you going in your work?

I get excited when I'm doing something I've never done before. Especially with my job and at school when I'm studying something I've never done before or planning an event we have never held. This past summer we had this huge event and it was the first time we were running it and it was just really exciting. I got to see the end product of it the day it all happened and it was just very rewarding and really fun. I really like the idea of being the person that came up with all of these ideas. I think I like being the first person to do something.

What drags you to be the first person, is it the recognition?

Yeah, I think recognition from my superiors and for myself. Being able to look back and say 'I did that and that's really cool'.

Is there something about problem solving or the process or anything that you feel is painful or that is hard for you or that you are uncomfortable doing?

I don't think it's painful and I see the value in it, but I have a hard time with clarifying because I always think I know what the problem is. I know that I don't always know that, but I defiantly have that inclination to skip it even when I'm not using CPS I skip that and I would always rush to solve something maybe even before I understand the problem.

Has it backfired on you before or is it more that you find a way to...

I usually can find a way to fix it or to react differently.

Growing up, how would you characterize your environment?

I defiantly got my implementer way from my mom. She is an implementer in the worst way. She got pregnant when she was 18 and ended up getting her Master's degree. She is a wonderful woman. I think she has always been in a struggle to get things done; having young kids, going to school and having a career. I think it was always her gut instinct to finish things. Even, like, for cooking we would suffer because it was always so hasty and she always had this narrow goal and she wore blinders and just like 'have to get there' and there is nothing else going on around her to distract. So I think from watching her I got that.

I am the youngest of four (siblings) and I always felt like if I didn't catch up or finish something I would be left behind, so I was always rushing to do things. I have an older sister so I was always trying to keep up with her. Also, in school, whenever we were doing a project or a test I was ALWAYS the first person to finish. Even in high school I remember even tests like math, and I'm not good at math, I would be the first person to finish the math test. I would know that something was wrong, because I know I should have taken more time, but I have always been so quick with things like that. Sometimes it's to my better judgment and it's not good. But that has always been the way I am.

In my undergrad and early master experiences, not this semester, but I would get my syllabus and start working on projects way ahead of time to get started on them, even before I understood. Like, right now I'm not doing my master's project yet but I'm starting to work on it.

So, that's not a problem for you?

No, no.

You don't feel like you need to get it done right away you just want to get ahead?

Yeah, it's more about getting ahead. Right now, I don't feel like I should be done with my master's project. But the idea of starting it and getting started on it as a means to an end, so the sooner I start this I'll finish.

So, you don't feel rushed when you start early?

No, I think it just makes me feel better to get started early on something. That's why I have a problem with clarifying because I always just want to start.

Do you see yourself as a creative person?

Yeah.

Why or how?

Eemh...jeez. What a question! I think I'm creative because I often in social situations and in academic situations I often found myself thinking of things that other people don't think of. At work when there is a problem, I'm usually the person to solve it, which is the nature of my job, the description. But I'm constantly in interaction with people who are surprised by the things I come up with. Maybe it's based on reactions I've gotten from other people. I've never thought about it that way. So maybe like validation that I've gotten from other people.

I'm also very into painting and drawing so I think visual art has always contributed to that creativity. So I think being an artist also makes me feel more creative too.

Appendix E

Empathy Map of a Clarifier

SEEING:

- Noticing color combinations around her
- She notices the symmetries of posters and logos

SAYING:

- Money, grades and recognition motivates her
- She starts on an assignment at the beginning and systematically go through it from a-z
- Not very good at ideating

DOING:

- She does not settle for anything but perfection
- Spends a lot of time identifying obstacles that she needs to overcome
- A lot of times after identifying obstacles she will end up changing the original problem statement
- Categorizes and lists all the elements that are needed to get the task done
- Spends a lot of time figuring out what she wants to do
- Takes the lead if there is no progress in a group

THINKING:

- How will what I say or do affect someone else?
- How do I know my work is good enough?
- It needs to be perfect, if not I will not be happy
- What does the professor want from me?
- What do I need to do to get a good grade in this class?

FEELING:

- Drawn by outside motivation
- Not wanting to fail something because she misunderstood the task
- Like to be recognized and in control but not alone at the top

PAIN/CHALLENGES:

- If she gets stuck
- Challenging to accept the obstacles and just move on

HEARING:

- A person who is set out to please
- A person who does not want to fail because she did not understand the task that was given to her
- A person who now sees herself as creative
- A person who needs an open space when working
- A person who works best when there a clear guidelines

Appendix F

Empathy Map of an Ideator

SEEING:

- She is noticing all the esthetics around her from the different colors to the lighting.
- Is the room empty? Messy? Clean? Tidy?
- She looks for patterns
- Everything she sees or that she can look at excites her and can stimulate her when she is working
- Prefers magazines over newspaper because of the colors, the pictures and the short snips of concrete information

SAYING:

- She is the one who always has another idea or solution to suggest
- Why do I have another idea? Why do I come up with something different?
- To her, creativity is coming up with something very original and useful that is leaning towards innovation
- She enjoys finding patterns

DOING:

- She is in control of her own environment
- She likes to have her environment tidy and clean
- When it comes to design work she prefers to work alone, but she is testing her comfort zones because she wants to become better at designing in a team environment
- If the problem is tangible or an open-ended question she starts ideating without clarifying more than what the background information provided has given her
- Does not follow the CPS process step-by-step. When she is done ideating she jumps to implementing and the idea she implements works most of the time
- When she is working on a personal issue she follows her emotions, needs and interests
- She uses dance as meditation for her mind
- When she is working on her computer and has been sitting still for a couple of hours she needs to get up and move around

THINKING:

- Her mind is turned on 24/7
- She is constantly thinking and on the go
- She tends to get stuck in clarifying when she is working on a personal issue
- She does not stop to evaluate her ideas when she is working on a tangible problem/open-ended question
- She does not reflect over her own ideas, but is trying to do so by using an idea-book
- She thinks of herself as creative because she believes in her solutions, but she is not sure if this makes her a creative person

FEELING:

- She has felt and sometimes still feels misunderstood
- She does not feel creative when working on a personal problem, only when she is working on something tangible

- She feels good when she is finished with a project and can see the results
- Enjoys the collaboration teamwork offers
- Before she used to work and work for hours without taking a break, her mind/body balance was lost and she would end up feeling blue and demotivated

PAIN/TOP CHALLENGES:

- Ideating is painful to her
- An over stimulated room can be painful to her

HEARING:

- She can get easily distracted
- She has felt like the odd one out because of her ideating skills
- She thoroughly enjoys playing with her creative side when there are few restrictions posted by others
- She knows the CPS process but is not comfortable following it because she trusts her ideas and her implementation skills
- When she is working on a personal issue she follows her emotions, needs and interests, which are not something tangible. Therefore she does not see herself as being creative because she does not create something new
- She is a person who has learned a lot about herself the last year and has come to love and accept her ideator side
- She has control of her own creative process
- Movement refreshes her mind

Appendix G

Empathy Map of a Developer

SEEING

- Lists
- That everything is in order on her desktop
- Is an observer
- She notices things around her, but no specific colors or similar affects her in any specific way

SAYING

- She says she likes to consider all the options/ideas before moving forward
- She says she wants to figure out the best way to do things the first time
- Loves the PPCo
- Brings people together – bridge builder
- “I’m consistent in the way I do things”
- Flexible and can work in any condition
- She’s a “spreader-outer”
- She wants to have a positive impact on people
- She is a hard worker

DOING

- She makes lists – both for work and her private life
- She makes action plans
- Tries to stick to the project plan
- Tries to stop and address any bumps before they get out of hand
- Slow to get started on things because she wants to consider all the options
- Can work for hours once she starts
- One of those “sleep on it” people
- Goes in-depth when considering her options – spends a lot of time on this before moving forward
- Once a path/idea/solution has been chosen she moves quickly
- Uses PPCo as a means to teach her co-workers to look at things in a different way
- Many times facilitates the conversations she is in to make sure they are all on the same page
- Relaxes/recharges by doing something physical
- Likes to spread her work out on a big table
- Enjoys DIY crafts

FEELING

- Recognizes and trusts her intuition
- Values incubation
- Feels that everyone’s opinion should be heard
- Feels like a team builder
- Can get overwhelmed with things that happens in society (things that are negative)
- When she gets overwhelmed it turns into motivation for her to be better

THINKING

- Does not want to do rework of things
- In need of information upfront before she starts on something
- Is constantly planning and making lists
- Always considers her options
- Is everything in order for me to start working?
- Is my coffee cup filled up? Do I have all my materials? Snacks? How is the temperature? How is the lighting?
- Her ideas/thoughts are always with her but she tries not to focus on them when she is taking a break (but her mind never really clears)
- Thinks of herself as creative

PAIN/CHALLENGES

- If only having a short time to do something
- Fluorescence light bothers her

HEARING

- PPCo changed her life – one who has come to appreciate what type she is and now she is using that to her advantage
- I hear someone who is very interested in what other people can contribute
- By facilitating a conversation she makes sure everyone is heard
- Hearing someone who likes to prepare and have everything in order before starting something
- Likes the open space with lots of room to spread out on
- Enjoys what nature has to offer – fresh air, colors, and natural light
- She is playful in the way she uses colors
- Someone who believes in teamwork
- When she is motivated and driven by a cause she will go all the way to understand that part or parts of a story/way of doing things
- Hearing someone who chooses her profession according to her ethical standpoint
- Someone who has taken the divergent and convergent principles to heart
- Influenced by her upbringings

Appendix H

Empathy Map of an Implementer

SEEING:

- When working on something specific she notices messy surfaces
- Constantly seeking out things to distract her
- Draws energy from warm colors
- Loves seeing the results of something she has been working on

SAYING:

- Can get distracted if her desk is messy
- Prefers to work alone
- Enjoys leading groups, but not in an instructional way

DOING:

- Would rather start working on a task yesterday
- Diverge but quickly focuses in on one idea
- When chosen one idea/solution to work on she never looks back
- Rather do things herself instead of spending time teaching someone new
- Multitasking – works best when she can circle through different things at the same time
- The first one to finish a test at school

THINKING:

- When faced with a challenge it completely takes over her mind
- Likes to be recognized
- Always thinking that she knows what the problem is
- She thought she had to be the first to finish a test or project in school no matter the subject
- Always better to start something early because the sooner she will finish
- Always thinks of things that other people don't think of
- Thinks of herself as a creative person

FEELING:

- Satisfying to finish something
- Belief in her ideas and accomplishments
- Feels anxious when faced with a problem

PAIN/TOP CHALLENGES:

- Fear of conflicts
- Making others uncomfortable because she rushes to start something
- Sometimes so obsessed with solving something she does not realize it has already been solved

HEARING:

- Influenced by her mother
- Influenced by her childhood – youngest of four siblings

- Someone who has found herself – used to do things a certain way because that is what she thought was best for her
- She has always thought that finishing quickly is the best way to go
- Always on the lookout for things to do/accomplish