**Encouraging Creative Behavior Through
Art Education**

**The Degree Master of Arts (MA)
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By

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Abstract

In this thesis, I discuss different strategies that encourage creative behavior through high school art education that I argue would have benefits beyond the limits of art. By examining theories around creativity and creative behavior through particular published sources including Ken Robinson's (2011) Learning to be Creative, Theories of Flow by Mihaly Csikszentmihalyi (2008), and the Handbook of Creativity by Robert J. Sternberg (1999), I analyze how creativity functions on a psychological level. Additionally, in order to provide practical examples, I examine a number of art programs designed specifically for high school students where the focus is on the development of teens' creative behavior. Guided by the principles of qualitative research methods and in particular those of participant observation, I document through description and analysis my own teaching strategies designed to enhance creative behavior of high school students participating in a series of after-school art classes. This thesis concludes with a critical analysis and discussion of the characteristics of the art studio as an active learning space that encourages students' creative behavior, which I argue would also benefit students in areas other than art.

Chapter I
Introduction

Statement of Research

The term "creativity is described as a phenomenon whereby something new and somehow valuable is formed. The term itself is not limited to any one discipline, however, it is often thought of as a gift associated with "geniuses" who are often considered somehow different from the majority of individuals. The term is also often associated with specific creative activities, such as art making or writing. It is a heavily labelled term that excludes people. As a designer, maybe an artist also, I consider myself creative, so do many other artists and designers. But what about other people? How likely is that that any individual would consider themselves to be a creative person? Why and why not.

Human intelligence is essentially creative, except that many of us, I would argue, are not good according to (Robinson, 2011) at exporting their creativity. Then, an essential question becomes how can we as educators develop creativity in our students? What kinds of activities could help students explore themselves and enhance their creative abilities? And, what is the role of education and educators in the encouragement of creativity? One arena, of course, that is always associated with creativity is art and design, which in this thesis is my area of interest.

As I launched into my own art teaching experience, I became curious about whether it is possible for art educators to develop a framework that encourages creative behaviors among students that would have benefits beyond the limits of art. I have come to believe that if art instruction in schools were not primarily focused on the development of skills and techniques, then it could become an active space in which possibilities could be explored. Art education could provide a safe space for student to present their ideas and in doing so to discover more about themselves. In this thesis investigation, I explored specific elements within an art class that spark creativity, and how such knowledge can contribute creativity through art education.

Background

As a designer, and someone who lives in what Somerson & Hermano (2013) describe as an environment surrounded by strong creative energy, I embarked upon my own teaching of an after-school program with local high school students, and I soon recognized that art making was not a natural thing for all my students. It is not that my students didn't lack ideas – they just did not know how to start. While enrolled in a RISD Design Education Workshop, I along with my peers, had the opportunity to work with 10th grade students that attended the Metropolitan Regional Career & Technical Center (The MET). In one assignment, the students were tasked to make models with paper and tape developed from observations of specimens found in RISD's Nature Lab. This was the first part of a larger project where the students' observations were going to be used as inspiration for final designs. We asked students to work with paper and tape specifically because we wanted to convey the idea that design is a process accessible to everyone and which could be done even with the simplest materials. However, what we had not considered was that paper and tape for teens with little experience of modelling was a greater challenge than we had ever imagined. Because of our prior experience and knowledge as college art & design students of how to transform a two dimensional material into a three dimensional form, the task we had set our high school students presented us with no challenges as we started to make our models. However, it was all too evident that the majority of the MET students found great difficulty converting paper from a two-dimensional surface to three-dimensional form. For instance, one of the students whose object was a seed pod that included a volume stared at the paper and the object and was clearly not sure what to do. After seeing this, one of my classmates intervened, by demonstrating in perhaps less than 10 seconds how to cut out a triangle of paper and tape two sides to form a volume. Immediately, the student in question started to work on the rest of her models, at first with the triangle technique, then I noticed she started to change the size and angle of the triangle cut outs, and started to add on other elements she wanted to explore with the paper. All of this eventually led to the production of a complex, experimental and exciting model of the seed pod.

Of course, there are numerous ways to make a form like a seedpod, and producing triangle cut outs and taped edges is probably not the easiest method, but it is direct, effective, and it includes a few different processes. In reflecting on this particular student's situation, I thought there must have been something within that short demonstration that

changed the student's way of thinking and triggered the resulting creative behavior. As both participant and observer, I became very curious about what it was that might have caused the changes and encouraged this individual's creative behaviors. Was it because it presented this student with a clear method of treating the material - breaking the division between two-dimensional objects and three-dimensional objects, or was it the provision of an example that made the student believe that the task was within her ability and gave her confidence of continuing? All of these questions led me to the topic at the core of this thesis - encouraging creativity and creative behavior through art and design education.

Methodology

My research question is framed within my teaching experience in RISD's Department of Teaching + Learning in Art + Design (TLAD) and developed through selected graduate coursework focused on different pedagogical theories and community-based programming. I was introduced to the Ken Robinson's (2011) book Out of our Minds where the author discusses the relationship of creativity, our society and education system. I then continued to explore through RISD Library's Fleet Search database other theories on creativity and related articles. Since this is a topic of scholarship much discussed and reviewed, I was able to collect and study a select number of articles that provided me with insights on art classes or workshops carried out by others. Indeed, my own understanding of creativity and strategies to develop creativity blossomed as a result of this literature review and my critical analysis.

My research investigation is qualitative in nature, and was multi-method combining case study, personal experience, interviews, and artefacts, (Denzin, Lincoln, 2005) to find answers to my core research question: What and how to contribute creativity in the high school art classes. The case study component of the investigation occurred as a result of a Graduate Teaching Assistantship at RISD with Project Open Door – a college access program for urban teens attending public high schools. I was the instructor for a weekly after school class for students from Woonsocket High School. Throughout a sequence of after-school sessions, I introduced each week elements designed to foster the student's creativity after which I was able to analyze the results of the students' work as well as my own teaching practice. My use of this case study also utilizes principles of participant observation where the researcher is also participating in the experience and making observations while

participating (Kawauchi, 2005). My roles a participant and observer importantly allowed me to gather insights from two perspectives – instructor and researcher.

Scope and Limitations

The most significant limitation in this thesis is that it was developed during a very short period as RISD's MA in Art + Design Education is only one year. Hence, there were a good number of restrictions I needed to place on myself for my research investigation to be manageable. For instance, I came across numerous articles that could easily have either side-tracked my investigation or dealt a slightly different context and while of interest, I just had to limit the scope the review all the time knowing there was a good amount of material I just could not explore. The topic of creativity and creative behavior continues to produce a full range of scholarship that I could not possibly process. So, this investigation represents my analysis of a select amount of academic literature combined with material introduced most particularly in the MA program's required art education courses. Ideally, I would have preferred the case study component of the thesis to have occurred with a span of age groups and environments, but due to limitations of time, I decided on focusing on students from a single local high school. And while

there are a huge variety of art programs for high school students in Providence that I could have involved in this thesis, Project Open Door was the only program where I could guarantee a consistent number of students participating and which provided me with greatest freedom in regard to curriculum design and implementation. While, I identify here limitations in terms of literature review and case study, the investigation informed my understanding and it is my hope that others will find it insightful.

Structure of the Thesis

This thesis is divided into four with Chapter One providing the introduction of my research. Chapter Two is a focused literature review of select scholarship related to creativity theories, creative behavior. In this chapter I aim to clarify the first essential question of my research: What characterizes creativity and how is it defined? I also review articles that examine programs designed to foster creativity in pedagogy, as well the analysis of methods and other possibilities in terms of the creative process. Chapter Three presents the documentation of my own practice and experience while an instructor in Project Open Door. Here following the guidelines of Participant Observation as a data collection method, I reflect on the practical and scientific

observations on my practice. Chapter Four is essentially a summary of my research investigation in which I compare, and contrast findings discovered in the literature review with the analysis of my participant observations. In this chapter I attempt to draw some conclusions from the combined evidence of my practical teaching experience and the literature in order to provide some answers the essential questions at the heart of my thesis: What is involved in the process of creativity and what strategies might me we engage through art class activities that promotes creative behaviors in high school students? With my case study as an application of theory to practice, I reflect on the practicability of theory application in art classes and finally ask if there are other elements that influence the development of creative behavior that are not currently being applied in art education.

Chapter II
Literature Review: Creativity and Psychology Theories

This chapter explores through a review of a select number of scholarly articles various theoretical concepts associated to the term "creativity" and how in art education can creativity be encouraged. Many psychologists had proposed different theories trying to explain the definition of creativity and the essential components that encourages creativity. Although the literature covers a wide variety of such theories, this review will focus on four major themes that I have found to emerge repeatedly throughout the literature reviewed and are closely related to as well as applicable to art education. The themes are: (1) personal intellect, (2) context of the activity, (3) motivation of the student, and (4) the learning environment. Following the psychology theories, I reviewed how creativity plays a role in art classes with a general analysis of in school education and an example of practicing case study of creative out of school learning environment.

Intellect

Creativity according to (Sternberg, 2010) as an act of human creation did not emerge until after the Enlightenment. And when defined it described an individual able to deliberate a certain unique, intellect approach to problems or missions according to their personal ability and conditions. Psychologists have developed a number of different systems to review the criteria of creativity. Guilford (1971) presented one of the earliest models that attempted to gain a better understanding of creativity through models of intellect. Guilford's model hypothesized that all mental tasks – one hundred and twenty in total – that consist of three parts (1) an operation, (2) content and (3) a product, where one of the operations, "divergent production" is a vital component of creativity. When a divergent production is coupled with a content, the product being created is then the creativity of the person where Guilford identified as "divergent thinking" According to Guilford's assumption, creativity is not an abstract concept or a single concept,

but rather a category of the ability for other researchers to look at with possibilities of various perspective. He then divided creativity into the following six components:

1. Sensitivity to problems, to the ability to recognize problems.
2. Ideational fluency, or the ability rapidly to produce a variety of ideas that fulfill stated requirements.
3. Associational fluency, or the ability to generate a list of words, each of which is associated with a given word.
4. Expressional fluency, or the ability to organize words into larger units, such as phrases, sentences, and paragraphs.
5. Spontaneous flexibility, or the ability to demonstrate flexibility.
6. Adaptive flexibility, or the ability to produce responses that are novel and high in quality. (Guilford,1971)

Guilford developed this model from studying intellect (cognitive ability) and categorized as a subset of cognitive ability. Hence, it is reasonable for us to conclude that Guilford believed intellectual requirement is essential for human creativity.

Content

Psychologist Kerrie Unsworth proposed a similar but more open creativity model which they referred to as "Unpacking Creativity" (Unsworth 2001, p. 289). Unsworth argues that context is another vital factor of creativity apart from intelligence. And further contends there are two aspects of context (1) the problem type and (2) motivation. And these two aspects could each be further broken into two categories that forms four different types of creativity:

1. Expected creativity, required solution to discover problem. (e.g. creating artwork)
2. Proactive creativity, volunteered solution to discovered problem (e.g. unprompted suggestions)
3. Responsive creativity required solution to specified problem. (e.g. responses produced by think tank)
4. Contributory creativity, Volunteered solution to specified problem. (e.g. contribution by non-project member)
(Unsworth 2001, p. 291)

Unsworth first divided all types of problems according whether they are clearly defined. An open problem will need one to discover what the problem

before they start, yet a close problem according to the author is already being defined. Then, based on the source of the driving actions, motivation can either be internal or external. This model brought attention to the context of creativity. "There are many theories concerning the creative process, yet the proposition that the process may change depending upon the type of creativity has not been considered" (Unsworth 2001, p. 294)

Motivation

In comparison to Guilford (1971) and Unsworth (2001), Amabile (2011) argued that a componential theory of creativity is more comprehensive, especially with constant evolution and modifications after it was first published in 1980s. This author believed that there are four components of creativity (1) domain-relevant skills, (2) creativity-relevant processes, (3) task motivation, and (4) the social environment. Domain-relevant skills include knowledge, expertise, technical skills, and perhaps talent of the domain that ensure that the individual is not going to be limited by their abilities. Creativity-relevant is similar to Guilford's theory, in that it values the cognition and personality of the individual. However, Amabile focuses more on how people generate ideas, such how they are able to take new perspectives on problems. Motivation is one of the most important components of creativity. Unlike Unsworth who categorized motivation by internal and external factors, Amabile examines internal motivation primarily by interest, enjoyment and satisfaction, which is also related to the challenge of the work itself to the person. For example, we are likely to feel bored if the task is seen as being beneath our ability, which is then not likely help boost or generate an individual's satisfaction in completing the task. The social environment applies to the environment the individual works in, for instance if work team is supportive or if the supervisor provides a supportive and encouraging environment that makes people feel comfortable. While the four components are independent, they influence one another. For example, motivation is probably most directly influenced by the social environment as it is examining the feeling of a person. Hence, according to this theory creativity is at its highest when 1) an intrinsically motivated person with 2) high domain expertise and 3) high skill in creative thinking 4) works in an environment high in supports for creativity. (Amabile 2011, p. 3)

Environment

Csikszentmihalyi (1996) had

also published a considerable amount of writing about creativity. And has argued that "creativity results from the interaction of a system composed of three elements: a culture that contains symbolic rules, a person who brings novelty into the symbolic domain, and a field of experts who recognize and validate the innovation" (Csikszentmihalyi, 1996, p.6). This is described in his proposal of a theory of Flow which, constitutes eight mental states of the learning process: anxiety, apathy, arousal, boredom, control, relaxation, worry and flow. These mental states are results of combination of skills and challenge levels of the tasks. Flow is according to Csikszentmihalyi the most optimal of these states as it is here where the skill level of an individual and the challenge level of a task are balanced to the highest point. Such a state attracts and encourages the learner to be intensively focused on their subject matter and feel a sense of loss of time. Thus, Flow is predicted to lead to positive affect as well as to better performance, such as more active mind and thinking or more likely to generate ideas. (Csikszentmihalyi, 2008) Hence, it is often said that people are most creative at the "flow" state. Csikszentmihalyi's theories of approaching the flow state are similar to Amabile's, however, he believed that environment is the most influential element. To quickly increase one's creativity, the most effective

method is to change the environment, as being in specific spaces that encourage creative thinking. Learning environment is then one of the most essential components of creativity, which is being greatly discussed by other educators, especially in terms of art education. Creating an artistic space, or the idea of an "art studio" had been a common topic of art education.

Education Model and Individuals

Sir Ken Robinson is a major advocate for arts education and for the restructuring of the educational model. Robinson (2007) believed that a contagious attitude towards creativity with emotion and empathy through education in the arts is necessary. In this his thinking is very similar to the previously mentioned authors. Robinson combines imagination, everyday problems solving, and passion together with the individual and community to illustrate how creativity is contagious. Imagination here is similar to creative thinking ability, which is applied to produce an original thought. (Robinson, 2011) Although, Robinson believed that creativity is an ability that all human beings possess naturally, he argues that the current education model is not at all supportive or encouraging of students to fully develop their creativity into daily learning of the

arts. He suggests that educational model is linear and was designed to fit the needs of industrialism of manual labour work force and therefore not appropriate for today's society. Robison (2009) argues if individuals wish to move into careers that are intellectual, a new type of educational model is needed. Workers, he argues, need to be able to think critically and creatively to solve problems, which Robinson views as being counter opposite to a standardised exam system, which does not take into account individuality For especially in art education, creativity usually is associated with experimentation and failures, and a successful result is not always achievable within the limit of class time.

Education Model and Individuals

Manchester Craftsmen's Guild (MCG) is a free after-school art programme for Pittsburgh high school students founded in 1980s by an African American ceramic artist, Bill Strickland. MCG developed two core programmes, the after-school apprenticeship training programme (ATP) and art classes for teens at risk, to extend the same opportunity for the teens that are disadvantaged due to various reasons to transform through the arts. This means, not only that they want to teach their students how to make art, but also trying to help everyone one

of them to become "an individual with aspiration and the passion to learn and grow" (Green & Kindseth 2011, p. 338). As mentioned earlier, schools follow an education system that is not supportive for personal development of creativity, which Green & Kindseth reviewed as the rubric being used for assessment in art classes (2011). Standard rubrics allow schools to assess individual student's performance according to the tangible results of instruction, which inevitably tend to make students develop similar works that adhere to the guidelines. After-school programmes however have the advantage that there are no such hard standards that must be achieved. Thus, it allows programs like MCG to develop a student-based learning approach that focuses on the learner's personal development. Their assessments "extend to intangibles-like representation of identity, interpersonal collaboration, personal resiliency-present in the artwork, and art making process, of the students" (Green & Kindseth 2011, p. 338). In MCG all participants are asked to submit a personal journal that identifies their interests and their class is then assigned accordingly. Being in a well facilitated environment and surrounded by other students that share similar interest became an essential part of the MCG programme that establishes a learning environment conducive to the "flow" stage that has the potential to encourage

students' creativity. Similarly, MCG also identified three attributes that they believed encourage student's creativity: (1) providing challenging and new activities, (2) a sense of belonging and (3) attention to the physical environment (Green & Kindseth, 2011).

Out-of-school time learning compared to in-school art classes arguably permits a greater degree of divergency and partnership that has the potential to connects students to places or people other than their classmates. Hence in the case of MCG is able to develop programmes such as art classes for at-risk- teens that personalizes the learning process through an environment that emphasizes physical and psychological safety, which makes the learning space comfortable for students to reveal their hidden creativity as well as other talents. One of MCG's projects for at-risk teens is a collaborative ceramic bowl assignment where participants are asked to reflect on their experience at the programme with the following four questions: 1) What do you like about MCG/What is the best thing about MCG? 2) What do you like about art/ceramics? 3) Do you think art is transformative? 4) Do you think art has transformed you? (Sandoval, 2015)
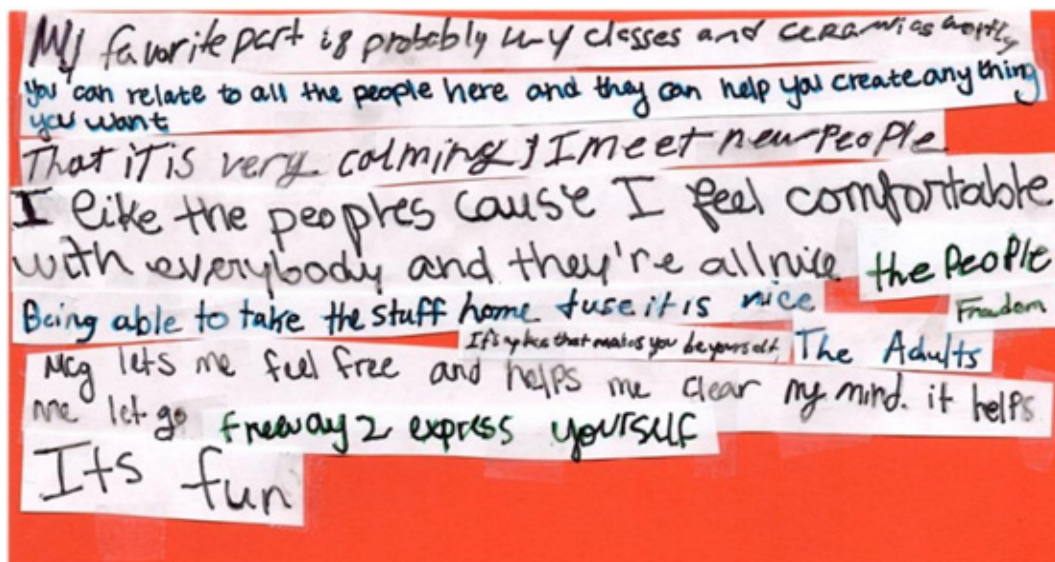
Figure 1. Sample answers from students to question: What do you like about MCG/What is the best thing about MCG?
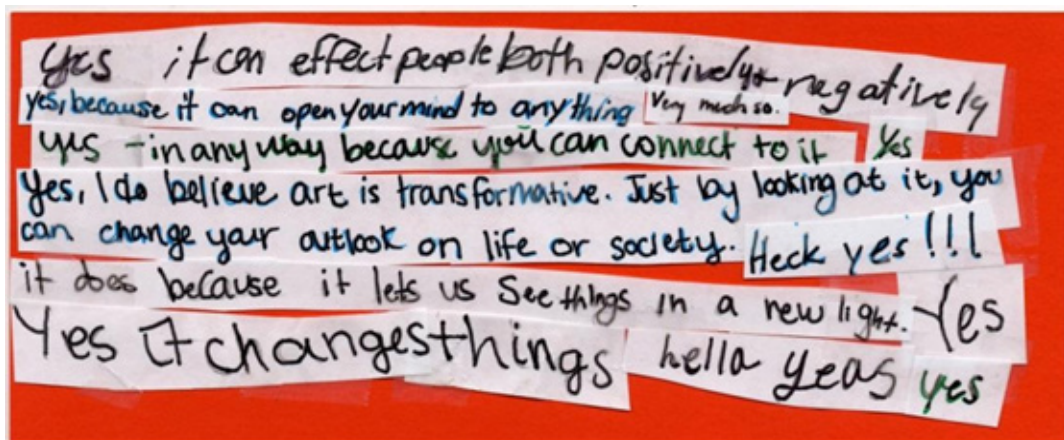
Figure 2. Sample answers from students to question: Do you think art is transformative?

The responses to these questions provided clear evidence the program had created an environment that made students feel safe and comfortable to be themselves because they were not being judged by what they did, but how and why they make their pieces. The students were able to make connections with both their peers and the environment and appreciated the value they placed in themselves and through art making. Evidence also showed that the program is making positive impact on students' social life and behavior in school of other subjects. I believe that the Manchester Craftsman Guild's student-centered approach to teaching and learning provides values lessons for after-school programs wishing to develop participants' creativity.

Chapter III
Case Study with Project Open Door + School

In September 2019, I started my journey in Art Education in the RISD's Department of Teaching + Learning in Art + Design where I had the opportunity to enrol in the elective course, Design Education Workshop II, that involves a teaching practical teaching experience. I, along with my peers were asked to plan design related projects for a group of 10th grade students from the Metropolitan Regional Career Centre (MET) high school. During my time with these students, I noticed several interesting student behaviors that related to some of our demonstrations of how to handle tools and materials. I became very aware that particular actions taken by my peer group encouraged creative behavior in these high school students and this became the focus of my research. In addition to working with MET students I also had the opportunity through a Graduate Teaching Assistantship to be assigned along with a Master of Arts in Teaching (MAT) graduate student as an instructor for Project Open Door an after-school programme at RISD for teens from local high schools. I decided to use this as an additional opportunity with specific art assignments with to explore ideas about creativity.

This case study is presented from the perspective of researcher as participant observer. I include my insights concerning the behaviors of students during each week's classes and describe specific activities or planning we embedded into our instruction to encourage creative behaviors. Each week, my partner and I would spend about three hours in preparation for the lesson, and two hours teaching. In addition, I devoted additional hours to research and reflect on possible theories that we might apply during a particular week to the activities and projects we had planned. Since I was co-teaching, it is challenging to remain fully engaged with the students while also taking notes to document the class. I thought it important to establish a format of documentation that I could reference for further analysis and reflection. So, I decided to use photography as my method of note taking as it would, I felt, cause the least distraction from teaching, while still providing a good deal of information. I worked with high school

students both fall and spring semesters until the cancelation of school due to the pandemic of COVID virus. During the four months in the programme, I investigated the possibility of embedding into our instruction elements relate to creativity in pedagogy by examining the organization, the students who participated, the space where the programme took place, and the programming of the projects. With the notes from class planning and research, photographs taken during class, and reflections made after classes, I composed the following portrait of the after-school programme in the Project Open Door studio with students from Woonsocket High School students.

Project Open Door (POD)

In 2005, a group of students from Hope High School, a public high school in Providence, came to the basement of a RISD building, asking for information about after-school art classes that they heard from their friends. At the time, RISD had not yet developed any after-school art programme for high school students, what they probably heard about was the art studio that Dr. Sproll, Head of RISD's Department of Teaching + Learning was running voluntarily for students from Feinstein High School, a Providence public school. However, this incident marked the beginning of Project

Open Door (POD) at RISD as Dr. Sproll became aware that there were in local urban public high schools other talented but under-served teens craving for an "artistic outlet." He also saw that working with such teens could also be an extraordinarily meaningful opportunity for RISD students who were interested in Art Education or public engagement to practise and explore their ideas within the programme. In 2015, POD gained a new studio space which this time above ground with large windows and this was where our classes with Woonsocket High School students took place. Apart from working on the projects every week, we also appreciated the beautiful view of sunset and the magical sky color palette of Providence, which we could see from the studio's windows, which definitely became some of the inspiration for students' work.

There are four different programmes currently offered at POD, Saturday Portfolio Studios, POD + Schools, Workshops, and Summer Studios. RISD students are encouraged to initiate either single or a series of after-school workshops based on topics that are of interest to them and which encourage teens to think and make in new and creative ways. Summer Studios are short term but immersive studios that provide student opportunities to work with artists and organizations of certain topics.

Saturday Portfolio Studios are designed to provide teens with foundational skills in art and design that support portfolio development for college applications. The programme that is the focus of my case study was a POD + Schools programme that "provided teens with an opportunity to develop their creative talents while exploring different approaches to art making" I applied for an Assistantship to work as teaching artist at POD after I began my graduate studies at RISD. I was assigned to co-teach a Tuesday after-school programme with Julia a MAT student. We called our programme It's Only Nature as both of us were interested in nature and environment, and we wanted to share with the Woonsocket teens something we were both passionate about. Considering the programme was voluntary for participating teens, we decided to break the semester long programme into several small projects that gradually increased in complexity. Hence, students with full attendance would be able to obtain a series of techniques to work with nature and methodologies to work on nature related themes, while it would still be possible for students to miss some sessions or join half way without feeling being left behind.

People

Before enrolling in graduate studies, I majored in industrial design as an undergraduate and had some working experiences from internship and freelance projects. I also worked as teaching assistant and shop monitor for many years. Thus, I am experienced in some common techniques of making and tools to make art. Being as a teaching assistant and monitor also gave me experience in giving demonstrations designed to introduce students to new skills. My partner, Julia had more of a fine art background especially in print making techniques, and also had some experience in teaching art classes to primary school students as well as student teaching in her graduate programme. Although this after-school program provided us both with challenges compared to me, Julia had much more experience in how to plan and facilitate lessons. Indeed, during our preparation, Julia's experience and knowledge became very helpful to me as I learned a great dealing from her about planning in the kind of that would make our ideas for projects become practical lessons that would actually work with students. Also, as an international student where English is not my first language, I sometimes struggled to understand some of language that teens used daily and I lacked also a full understanding of popular American culture. These factors sometimes put me at disadvantage when it came to communicate with the Woonsocket teens, as I did not always fully understand their

ideas and thoughts when it came to my proving them with support. Nonetheless, I noticed that such problems in regard to not knowing certain terms or cultural references actually helped me connect to the students. The collaboration between Julia and me worked out well as a team we had different strength that would cover each other's shortcomings, so we were able to provide the teens the best of our individual abilities.

A unique feature of the POD-in-Schools programme is that it is completely voluntary to the students, neither POD nor the Woonsocket High School requires attendance. Additionally, given the fact that Woonsocket is about half an hour drive from our Providence studio, joining us after a day of school could be hard for our participating teens. So, I always very much appreciated the fact that everyone came to our classes when it was not easy thing to participate requiring a good amount of effort on the part of the teens. Even though, there were many external reasons that might impact attendance, it meant that only students with great passion for art making would take advantage of the programme. This made teaching a good deal easier for Julia and me as all our students were very willing to participate and worked hard to fully use their time in the space.

Our Woonsocket High School (WHS) students were freshman and sophomores and some of them had taken the class the year before. These become the leaders of the group and because of their experience and would sometimes give Julia and me advice that was very helpful in improving our planning and teaching. I soon became aware from my conversation with Kelly their supervisor and the students that most had very limited access at their school to art making tools, facilities and materials. Much of their artwork had to be done digitally, which I could see as a significant limitation when it came to these students thinking and making even when they were presented with possibilities outside the digital realm.

The students in the class divided themselves in the studio by their year and further their friendship group. Given that WHS is indeed large, our students came did not necessarily know one another even though they attended the same school. They also diverse backgrounds and interest in art. Some of were interested in photography, some were more into drawing and some were more into making models. This kind of diversity not only existed in interest of art, but other areas as well. For instance, most were interested in games, but this would vary from colorful cartoon character games to violent gun games. Additionally, they also shared interests across their smaller

friend groups sometimes even across the "year boundary", in things such as Naruto (classic Japanese animation), and K-pop dancing. I could see how these particular interests became a chance for teens to break down the barriers between themselves and develop new friendship and connections. It sometimes also functioned as a trigger that helped them to break down the barriers of thinking created by themselves. As the programme developed students also began to share more about their background and would sit and work together with people share similar backgrounds, which sometimes was presented in their artwork.

Projects

The projects in this class we designed were all connected thematically to nature and involve natural materials, nature related techniques or used nature as subject matter content. Due to the fact that students might not come every week, most of our projects were one-off assignments. Each week, students were introduced to a new project that was based on different techniques, usually also involving the use of unusual materials. Julia and I wanted to make the class fun for the students to be part of and for there to be some level of mystery so that students would be curious about each week's class and would feel excited

when they were a part of it. The only two-week project we developed was a final Bio-philia design project, which was planned to be more comprehensive to reflect the students' understandings as a result of taking the programme. Our ultimate goal of these projects was to introduce teens to alternative methods of art making, that could be done with or without traditional artistic materials. Therefore, most of the projects we prepared could be done easily at home. Alongside the weekly projects, we asked students to keep an artist journal to document moments that they enjoyed during the week and to share those with Julia and me and with the class if they so wished. The following are some of the projects completed during this after-school programme.

Cyanotype Print with Found Objects

Before the programme began, Julia and I due to schedule conflict, which was unexpected were not able to visit Woonsocket High School to introduce this after-school offering to prospective students. So, we were worried if at their age they would find Nature as a topic interesting only by seeing our flyers. So, we decided to shift our course plan slightly, by making the first session cyanotype printmaking and asked Kelly their supervisor to share this programme change with the students. Cyanotype printing is a fairly well-known technique

and seeing the change of color reacting to sunlight is one of the most intriguing moments. The cyanotype printing process is extremely easy as you only need to apply the chemicals, plan your composition, and let the reaction happen with UV light or Sunlight. Julia and I believed that this would be a perfect first week project as it is self-explanatory and could be something, we thought that students would be eager to do

The number of students joined the first day was class was far more than we ever expected. There were about 18 teens, yet we had been told there were about 8 to 10 of students who had had signed up. This created several problems that distracted me a little bit, for instance, we did not have enough materials prepared for the group to make two prints each, lack of facilities (sink, working space and layout space, etc.) made waiting time much longer than expected. However, as instructors of the class, Julia and I were both very excited as it showed that our plan worked, and the class was attractive to the participating teens. Since I have a strong interest in science and history, I suggested to that we make a presentation to the students on a brief history of cyanotype prints and the science behind the color change given the richness of the technique. I presented this presentation after our initial greetings. I, however, could see the initial energy slowly slipping away as my presentation proceeded. I was not until we took a break for snacks and started the collecting materials and began the making process that students became energetic again.

As I reflected later on what had occurred, I could see that the presentation format was for too similar to a regular class procedure at the students' school, which was something that we definitely wanted to avoid in an after-school programme. The time we spent outside collecting materials were when the students who did not knew each other before began to establish connections with each other. They were shared their found objects and locations they were discovered. I also started to hear more talking about the classes at school they took during daytime. After we regrouped back in the studio, Julia helped to set up the tables with random tools and materials such as markers, tape, paper among other things that created shadows We start with a short demonstration on the general procedure, intentionally using many of the tools set out on the table, to hint at what these things could do. The demonstration was effective at some level, however though there had been a wide variation usage of the materials, most of what we came directly from what we showed in the demonstration. We were expecting more uniqueness or originality.

Sculpture with Found Objects at the RISD Farm

This project is inspired by artist Andy Goldsworthy's sculpture with found materials from the nature. Since we had access to all of RISD's properties, we decided to hold this class at RISD's Tillinghast Farm that has grass fields, woods, and access to a beach. The environment is exciting with a wide selection of different things be found and used in to create sculpture. Since Goldsworthy's work has been has published in numerous books, we decided to bring physical books and some printout images to the Farm as our new method to introduce the project and artists. It turned out to be a surprisingly successful strategy. Students were very excited to see the books, even before we started talking about it. I could clearly see how the colorful images of Goldsworthy's work played an essential part in encouraging this behavior. Also, I could see how being in an exciting and different environment led to a higher level of participation, thinking and experimentation and energy

Figure 3. Students work, when tide rises, water will rise to the pond and reach to the monument at the top

flow among the students. Whilst the environment definitely helped encourage students' creative behaviors, other incidents led to distractions. For instance, whenever a dog passed by, students' attention was likely to be drawn towards the dog. Interestingly, however, such distractions did not necessarily result in slower progress or poor performance. Indeed, the work created by the students that day were some of the programmes most successful. Some students gave their sculptures a background story, while others connected their work intentionally to the natural environment to things such as change of tide or change in sunlight.

Papyrus

This project is inspired by an ancient Egyptian papermaking technique that uses thinly sliced plants which results in translucent, colorful veggie paper. The technique, compared to the others we introduced to students was more complex for apart from the artistic process of compositional planning, it also involves cutting, boiling, pressing and drying. Learning from our earlier project experience at the RISD Farm, we instead of a screen presentation we introduced the techniques and history through a number of books we brought to class. We especially planned this session to the take place RISD's papermaking studio where we would be able introduce and use the hydrostatic press machine. In similar ways to the previously described sculpture project, this was another project in which our students were introduced to uncommon artistic materials, in this case plants and vegetables as art making material. This concept was slightly difficult for some of the students to relate to in terms of art making. I wondered if it could because vegetables had such a strong association with "food" that made it hard for the students to break their barriers of thinking when it came to what was appropriate when it came to what they considered to be art or art materials.

Painting with Food Colors

This project was another that used food as art making material. Julia and I prepared some colors extracted from food such as berries, turmeric, tea, which we wanted students to use as "ink" to paint on birch boards and compared to the Papyrus project, this approach was much more positively received. Students were asked to choose one type of food from the collection and treat it in their own way. Then, put all the colors or inks being produced together and share with the class to use. The Birch board provided a surface, which gives students more opportunities to create. During the process, we became aware that some documentation was happening. For

instance, one of the students painted ink squares and labelled them with the food source and method as if for future use. She explained that there was not enough time for her to do another piece that day, so she was going to make some of the colors again to work later with these notes. I came to believe that this action means that this process triggered more comprehensive ideas that needs more time to work on.

Figure 4. Swatches done by students on sketch book.

One of the students asked me if it was possible to mix some paint media with the food colors like what they do with regular paints. However, at that time, I had not experimented with it or previous experience to answer the question responsibly. Hence, I suggested that we might to experiment together in order to find out. I asked the student to bring the media they wanted to use, meanwhile I brought in some ink made from food color. The experiment worked successfully but what was more exciting was that I noticed some changes in students' behaviors that they became more experimental. Some of them start to dig in the boxes and drawers in POD studio to look for possible materials or tools to work with. It seemed that students were actually very closely taking note our Julia and my actions as instructors in the studio space and this led them to become aware of what was okay to do or say. Admitting to students that I did not know the answer of the question and start experimenting broke the rule that only what had been demonstrated or "proper" actions for drawing and painting could be done. Having seen that it was OK for Julia and me to take materials out from studio shelves established a working atmosphere where students know that they too were allowed to find things they are interested in and work within their project. A similar example was when Julia used carving tools to carve into the boards to treat its surface. They saw her doing this quickly gathered around her to learn about what she was doing so they could incorporate it into their own work. This informal and

unplanned "demonstration" I saw had the potential attract students with a higher-level attention than if were regular or formal demonstration. Although being more experimental is different from being more creative, a student's level experimentation is, I feel, an indicator of future creative potential. It also indicates that a student is starting to change the way they think about art making by showing a willingness to break out of their comfort zone, which I believe could importantly take place in areas other than art as well.

Bio-Philia Design

Julia and I planned this comprehensive final project so that would reflect students' progress in thinking, making, and working throughout the semester. Bio-philia design is an interesting subject as it represents object's that are inspired by nature's design. We asked the students to identify a problem they experienced in their everyday life and develop a design proposal to solve that problem, then produce a concept model of their proposal. This assignment requires critical thinking skills to identify problems and provide solutions. The making process requires students to be experimental and to think outside of the box when it comes using various materials to represent the environment, and their ideas. It required students to reflect on their daily experiences and the sharing of these experiences with one another definitely increased their passion towards the project. The development of a proposal was challenging due to a lack of information. The students' proposals of solutions supported by facts proved to be most convincing.

The second session provided students with the opportunities to translate their ideas into models. And working with alternative art materials as they had done in earlier projects really helped students to break outside the box. They were willing to experiment with the materials much more than was evident the beginning of the semester. Some students had a construction background and were experienced with using tools and making model. Others were stronger in developing an environment for their object to be set in. The connections established between students during the semester made it easier for them to ask for help and suggestions from one another. For instance, one of the students, who knew how to use hand saw, decided to volunteer to give a demonstration on how to cut wood dowels in order to help those who did not knew how to. It was clear to see how the studio had become a more effective learning environment as students engaged more with one another and as they became more open to new ideas.

Chapter IV
Photo Essay

In Chapter III, I described my journey at Project Open Door with words. I have collected a great number of photos as documentation during the programme which I would be regretful if they are not being included in this thesis. I am including a selection of the images in this chapter that relates to some of the moments I described earlier. The visuals will present and speak more about my process, and how it lead to my reflections. The images are organized chronologically including mostly student's works and some moments in class.

Figure 5. Cyanotype Print, Composition waiting for the chemicals to react with sunlight. Creating shadows with found plants, cut out shapes and sharpy.
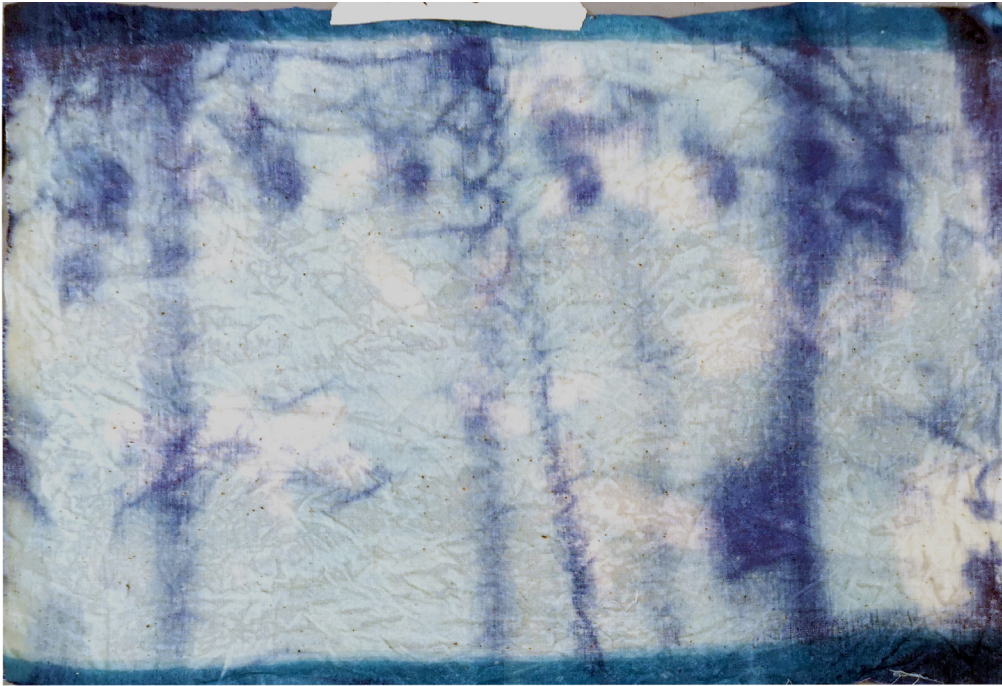
Figure 6. Cyanotype print of the view outside POD Studio Space. Using different thickness of the plexiglass to alter the amount of uv light passing through and react with the chemical.

Figure 7. Walking to the beach area at RISD Farm.

Figure 8. Nearby dog visiting during class at RISD Farm.

Figure 9. Sculpture with found objects at RISD Farm. Student work, the underground house with bay that protects the house from rising tide.

Figure 10. Vegetables and fruits prepared for Papyrus project.

Figure 11. Cutting vegetables with tools in different forms that creates different pattern on paper.

Figure 12. Boiling vegetables for making papyrus paper.

Figure 13. Laying out on board for composition. Top left corner is made with leaves collected by the student on the way to the studio.

Figure 14. Papyrus made from grapefruit, pineapple, cucumber, pear and carrots. The work is based on a magic pattern from an animation the student recently watched.

Figure 15. Papyrus made from red and yellow onion, cucumber, and pink radish. Trying to work on color gradient with vegetables' natural colors and layering.

Figure 16. Preparing wire for structural frame.

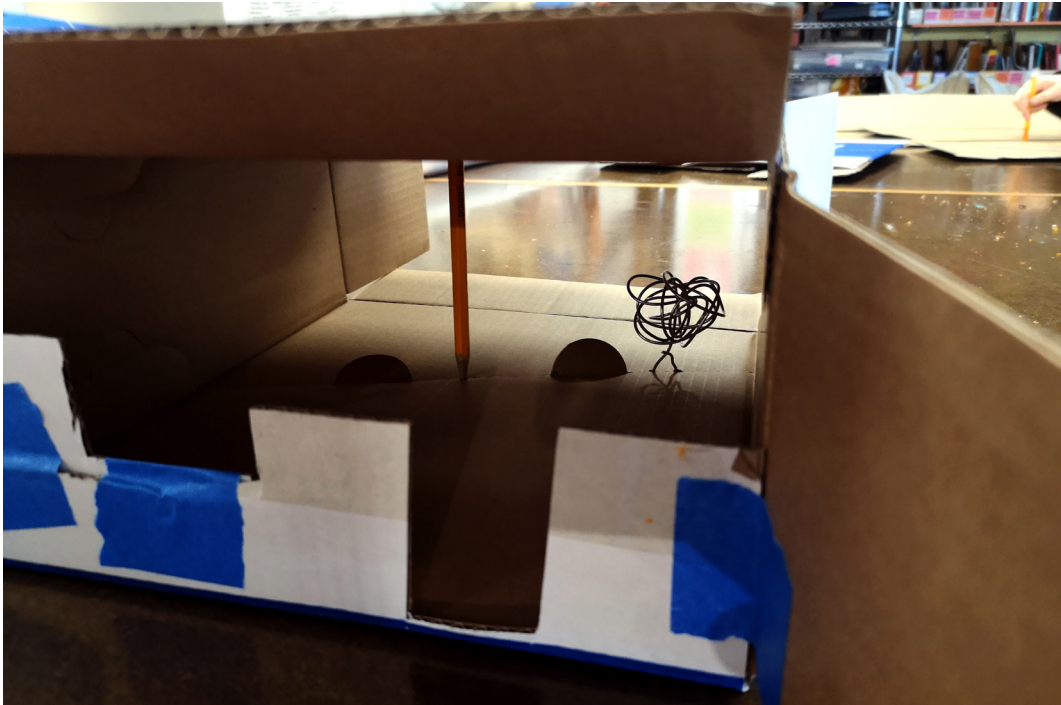Figure 17. Silhouette sculpture. Creating a scene by adjusting light color.

Figure 18. Silhouette sculpture in a box.
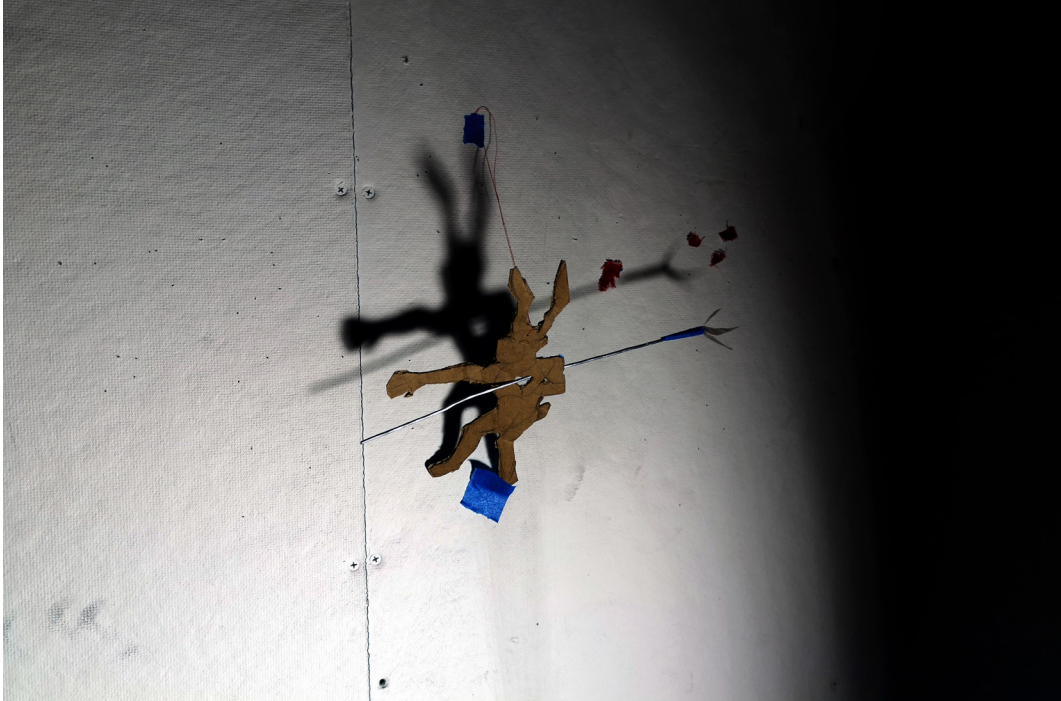

Figure 19. Silhouette sculpture of a hero character created by the student. Using strings and color of material to present the death of the character.
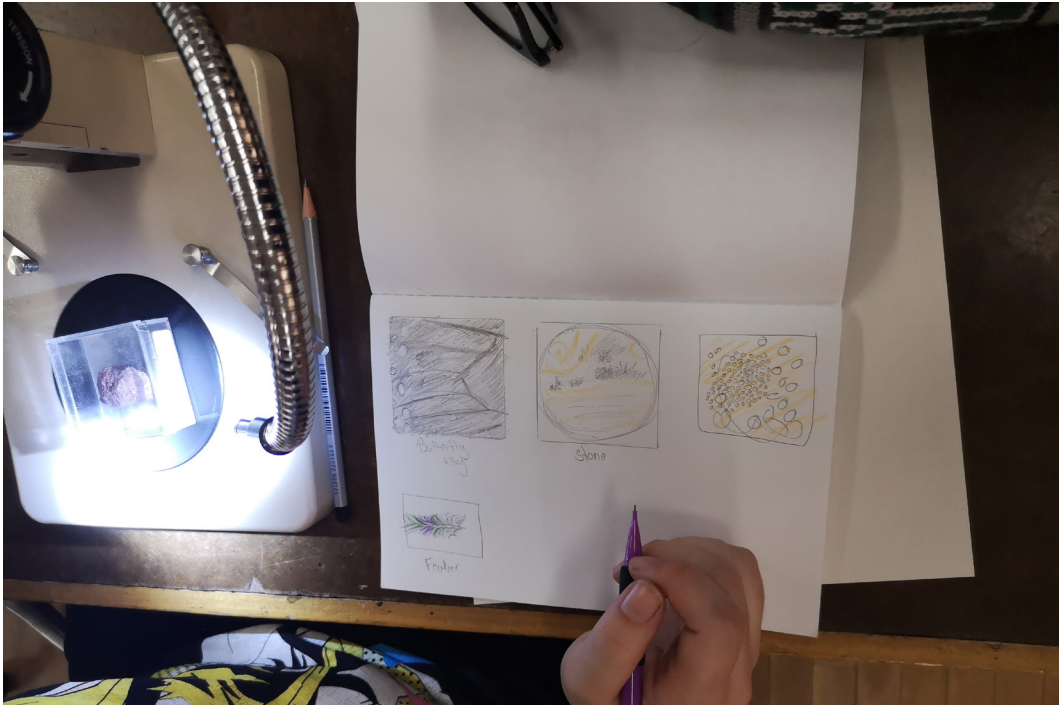
Figure 20. Studying patterns of objects from nature lab under microscope.

Figure 21. A print of micro patterns.

Figure 22. A print of fish from nature lab.

Figure 23. Mono-prints of space man character created by the student.

Figure 24. A print of the student's house. Using the shape of pine leaf to represent tree and create texture in background with paper towel.

Figure 25. Natural colors from food prepared as a class.

Figure 26. Using color from cranberries to paint sunset.

Figure 27. Landscape painting with food colors from tumeric, tea, cranberry and walnut shells.

Figure 28. Studying a bird skeleton.
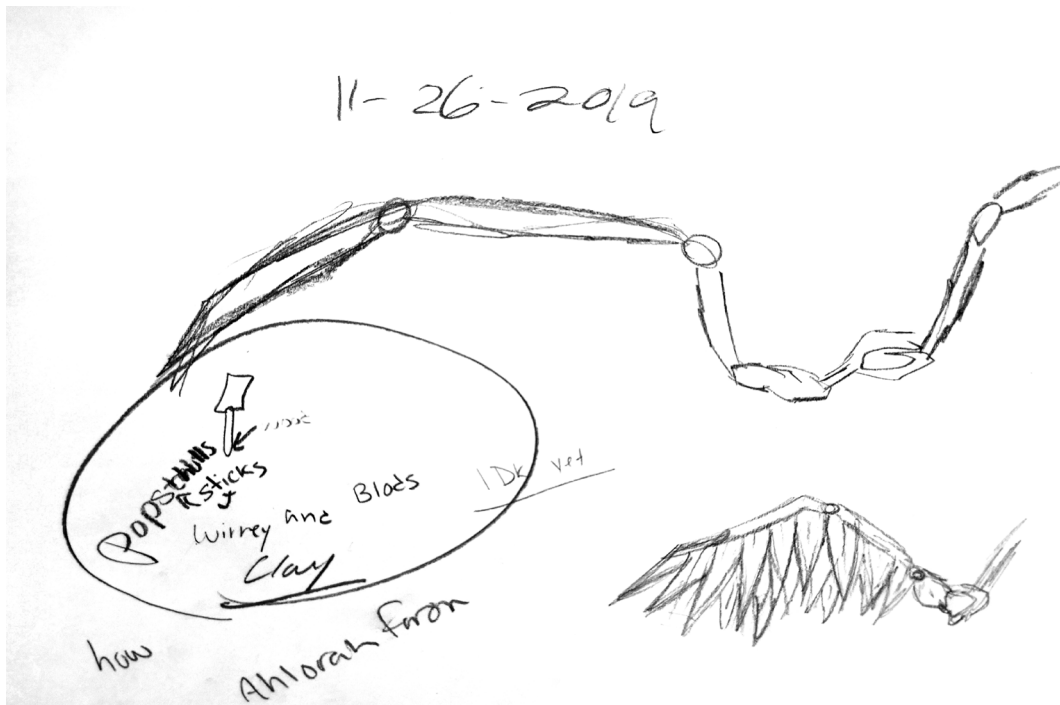
Figure 29. Bio-philia design project proposal. A add-on part to protect the joints of bird wings.

Figure 30. Model of bird wing joint.

Figure 31. Bio-philia design project. Working on a glove with bear hawks.
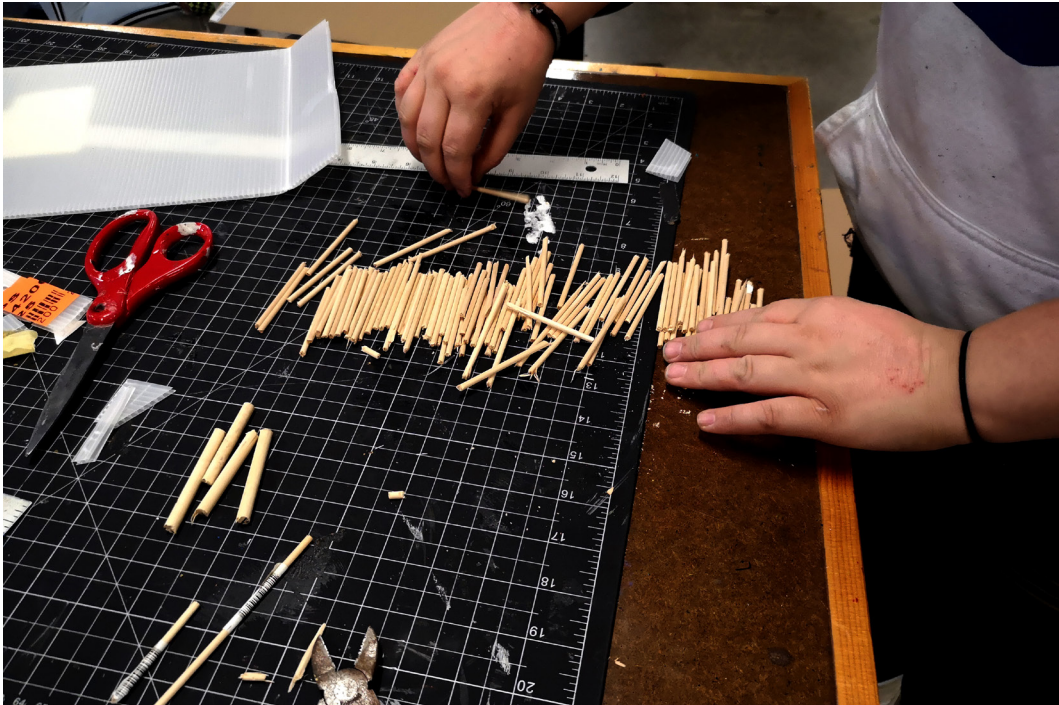
Figure 32. Bio-philia design project. Preparing materials for model.

Figure 33. Bio-philia design project. Underground house covered with plants for camouflage.

Figure 34. Bio-philia design. Patio with translucent roof and plants.

Figure 35. Bio-philia design project. Indoor botanic garden with dinosaur skeleton.

Figure 36. Bio-philia design project. Bird house with plants.

Figure 37. Bio-philia design project. A bio-philic living room.

Chapter V
Reflection

During my experience working with the Woonsocket High School (WHS) students at the Project Open Door (POD) after school programme, I was able to see progress in development of their creativity. Creativity, as such is an abstract concept, however, by drawing from theories, I am now in a better position identify behaviors that may be indicators of creativity. There are various strategies that can be adopted to encourage students to become more creative. In my work with WHS students the process of art making provided an entry point for these students to explore alternative ways to learn and think outside the box. I can see how creativity will not only help students not only make more intriguing art works, but also has the potential to have positive impact on performance in other fields. This experience also allowed me to practice and develop pedagogical skills that would encourage creative behaviors. While I began my research on theories related to creativity and education with the curiosity, I now return to teaching as an improved educator with a deeper understanding of how the theories I examined can help students

generate creative behaviors. This final thesis chapter is my reflection based on my experience of teaching at Project Open Door, observations of students' responses, and how and where theories about creativity and creative behavior made an impact during this after-school program. My reflection addresses four areas of importance that I have become aware of as a result of this experience; they are: (1) Motivation, (2) the Learning Environment, (3) Presentation & Demonstration, and (4) Communication & Connection

Motivation

The motivation of students is I believe, one of the core components that determines creativity and in this instance they made a special effort to be part of the programme, which indicated to me that they were craving for more art connections than they were given at school. Hence, a programme such as ours filtered out those who were not so passionate in or interested in art making

opportunities. I can say that our students came with high level of motivation and were very willing to participate in our activities. This does not mean that programming is not important, it required efforts on the part of instructors, Julia and I, in order to maintain, or to promote even more motivation from the students. We started planning projects without knowing anything about the perspectives of our students, which is challenging when trying to increase participation. There were moments during our teaching when I sensed a lower level energy among students due to lack of interest in our projects and activities. However, as we got to understand more about them, and the age group, we understood that teens have strong opinions about what they want their works to be about, which made it harder to ask for insightful works with given prompts. From my point of view, student work was significantly stronger when projects were based on techniques or materials.

Learning Environment

The learning environment is another strength of Project Open Door's (POD) after-school programme. The POD studio space is great for treasure hunting; there are many shelves, boxes and drawers waiting for students to explore. Whenever I am in the space, I could not even help to pull out boxes and drawers to see what is new inside as there are always surprise waiting for me to find. The studio space has an exploratory character that invites students to become more exploratory themselves in terms of how that think and to work as. There was incredible number of elements in the space calling the students to engage with one another, which again leads to greater participation and motivation that eventually helped students develop their creativity. Our students also benefited from participating in an after-school programme that was outside of their school regular school facilities, and which was even in another city! Another POD teaching artist working in another school-based after-school observed that our classes with Woonsocket High School (WHS)were much more energetic than theirs, which took place in a school. The WHS teens were more willing to talk to each other and share their works in front of the group. There was also a good deal more physical movement among students in the studio space. It was very evident to me that being in a place that is different from everyday school life was definitely encouraging students' creative behaviors.

Presentation & Demonstration

Presentations are often used

to introduce projects, and ideas about in school art classes. And similarly, demonstrations are often used to instruct students in techniques and tools. It is reasonable to say that these are two inevitable elements of typical art classes. However, from my experience as a student and observations made during teaching, traditional format of presentations and demonstrations are not very effective. For instance, in this after-school class a darkened environment required for screen presentations made students sleepy. And perhaps it was very too similar to how regular classes in school are taught, which was not very attractive to the students. I have come to see that the out-of-school environment needs to be very different from what students usually would experience in school is vital for attracting attention. During my time at POD, I tried a number of alternatives to regular presentations on screen. For instance, I brought in books about artists and techniques of the day to introduce projects. These books were effective because they were usually in larger sizes with a lot of images. The visuals encouraged students' curiosity, which then attracted their attention and willingness to learn about the context. Considering that circumstances might be different, there will be situations where such options are not applicable. However, demonstrations can also be adjusted to become more effective. One

of the methods I continuously practiced later was to become almost one of the students and to work with them. I would intentionally do things that I would have presented in a demonstration while working next to them. Again, students became curious about my actions and would start ask for the techniques, tricks, and tips. The problem I came to better understand with regular gather around the table demonstrations is that it is too much information given out at once. As instructors, we often want to give our students as much knowledge as much as possible, however, it can be hard for students to absorb all at once, which can result in a lack of attention and inefficiency. By working with students and then sharing during the process of making allowed me to break the large amount of information into smaller pieces that were easier to be absorbed by students. It is also more flexible as there might be things students will discover by themselves, which is a great evidence of creative behavior that would perhaps be lost of just being talked at.

Communication & Connection

Most of the teens participating in this after-school programme were freshmen with a few sophomores. Hence, most of them were also just starting their high school experience, which can be both

a nervous and exciting time. I would argue that other than art making, am after-school programme such as the one Julia and I offered in the Project Open Door (POD) studio also functions as a place for students to develop new connections and friendship with their schoolmates and even relationship across different grade levels. Being more engaged within the community of other students in a programme such a POD's can help them feel more comfortable to be themselves. This level of comfort had the capacity to encourage actions that led to increasing creativity such as greater communication and sharing with one another and more asking for advice from more experienced classmates. Student work was also more likely to reflect their personal experiences and thoughts.

My practise at Project Open Door is a precious experience that I will not be able to receive anywhere else. The nature of the programme gave me great freedom that allowed me to arrange my classes with my research. It provided me a chance to experiment, review and reflect on my understanding of scholarly literature. There will always be a gap between literature learning and practising, no matter what subject and content it is. Thus, this case study presented me a preview of methods to relate the two and problems that I might experience in the future. Theories usually are general as they have to be applicable for a broad range of cases. Even with examples provided, the generality of theories still makes it hard to make direct connections with class planning. Hence, when drawing from literature in real practises, I find it important to understand my students and programme's characteristics and modify or review the theories accordingly. I have also noticed that literature does not usually share unsuccessful examples and problems and difficulties that might happen while practising. It is always a challenging process as unexpected things will continuously take place in class. At earlier stages, I was very nervous when things did not happen as I had planned with my partner Julia, however, I realized that sometimes it was part of the developing process, and more importantly, it is the nature of classes in real world. I am facing students that are creative and energetic which would be contradictory to the purpose of the programme if I would expect them to behave as planned. The unpredictable characteristics of art classes became attractive to me as educator and researcher that I would want to study more in my practises beyond this thesis.

Encouraging creativity through art classes had been a topic that I believe every art educator will be interested in. Scholars in various fields had published rich literature for educators to reference.

Nonetheless, the gap between the two is giving difficulties for people to relate. I would like to view the theories as the source of class planning and preparing that would better serve the students' need and help them to develop a better self. Literature certainly will not be the only answer and will not be able to solve all the problems that I will face while teaching, it will be the guide that directs me to future explore and develop my own pedagogy to transfer art classes into a tool that encourages student's creativity.

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