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r e s e a r c h

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The following is part of the Problem-in-Lieu-of-Thesis on which I am currently working:

Creativity: *The belief system which holds that one possesses the ability to bring into existence new, novel and imaginative forms, [ideas, and concepts], as if out of nothingness. Behind this belief is the observable fact that visual forms evolve out of disciplined thinking processes.*

—<http://www.public.iastate.edu/~design/ART/NAB/Glossary.html#C>

Section One: Introduction

In this Problem-in-Lieu-of-Thesis (PILOT), I will examine the question:

Can creative problem-solving methodologies be integrated into university art foundations curricula as effective tools for improving project outcomes of foundation-level design/ drawing students while teaching valuable critical thinking skills?

Concepts of Creativity and Self Expression

Ideas, cited in curriculum guides, that art production promotes creativity, self expression, and other noble aspirations would be most valuable and basic to education if they took into account the in-depth content developed about these topics, not only by the arts but also in related fields such as psychology, philosophy, anthropology, and other scholarly disciplines. This, in our opinion, is seldom the case in the art curriculum. The mere statement of expectation or possibility of a basic outcome is not the same as a sound educational structure for promoting that learning. New Art Basics teachers/researchers strive to develop teaching strategies, that are soundly structured for accountable educational outcomes. Discursive intelligence is not as basic to the educational value of art instruction, in our opinion, as performance intelligence. New Art Basics content is based on thinking skills and indepth knowledge that, we believe, is basic both to art production and makes art experiences basic to gaining a sound general education for life.

—<http://www.public.iastate.edu/~design/ART/NAB/old5.html>

Section Two: Contextualization

Although foundations programs are not traditionally concept-based, I think it is extremely valuable to consider the benefits of incorporating creative problem-solving methodologies and critical thinking skills into skills-based foundations projects. It seems relatively simple to re-frame our project statements to include aspects that encourage students to think about ideas and concepts as they relate to the elements and principles of design. I will explore ways of re-framing foundations projects in my PILOT process.

I have always liked to let things simmer in my mind for a long time before setting them down on paper.

—Somerset Maugham (1874-1965)

Typically, students cobble together memories, life experiences, education and expectations combined with all the traits that make them unique in order to come up with ideas they can call their own. All some of us need is time to contemplate and let our thoughts simmer in our unconscious mind before an idea comes out in a “eureka” moment. For others, or for other types of problems, a more structured, methodical, external plan for inventiveness is needed so that we come up with more than just our initial idea and get beyond obvious solutions to problems. Often, structured thought is needed in order to facilitate the dissection of complex problems. This is where creative methodologies come in. When pure chance or luck or whatever we choose to call it runs out and our ideas get “blocked,” we need a strategy to get beyond the obvious solutions to challenging problems.

Many of mankind's greatest ideas and creative solutions have come as a result of hardship, suffering, necessity, or convenience. We know that solutions to complex problems can be very elusive, especially when we are young and have a limited amount of life experience from which to draw our ideas and concepts. What methodologies can our students employ to help them generate multiple solutions to complex problems? How can we encourage our students to dig deeper and get beyond drawing ideas only from their immediate popular culture? How can we help them know when it is appropriate to do so?

How do we know one idea is better than another? This question harkens back to our culture, education, background, and expectations. We use our intuition to discern which solution is most appropriate for a given situation. Intuition is defined as the ability to understand something immediately from instinctive feeling rather than conscious reasoning. Where does our intuition come from? How does intuition help us find the unexpected and successful amongst all the obvious solutions? I plan to show how method-based creative problem-solving can be made accessible to foundation-level art and design students by creating a reference system/device that will help students develop the tools they need to expand their creativity and critical thinking skills.

I will study proven, time-tested methodologies from various sources and expand and/or combine them to create hybrids, and innovative ones of my own, specifically suited to foundation-level, university student artists and designers.

Section Three: Rationale

Art, no less than philosophy or science, issues a challenge to the intellect. The great works of music, sculpture, painting, engraving, and all other forms of artistic expression engage the mind, teaching lessons about order, proportion, and genius.

—former US Secretary of Education William J. Bennett

At universities all across the country, students in core/foundations programs learn the elements and principles of design and craft through a variety materials and media. Then, in subsequent semesters, they move into more advanced studio classes where they are expected to have creative ideas. Who teaches them how to generate ideas? Where in our programs do they learn how to come up with ideas and innovative concepts? Does students' frustration in art programs come from learning theory and hand-skills or from a lack of knowing how to generate meaningful ideas? Do we leave our students staring at a blank sheet of paper hoping for an idea to fall out of their heads? Are we assuming that creative ideas are inherent and cannot be taught? Where, if not in the core, are creative thought processes to be learned? Can these methods be effectively integrated into an art school's foundation curricula? Why can't foundation-level projects include a message or a concept? Creative conceiving and problem-solving in core design would result in more innovative, engaging and interesting assignments and solutions. It would enable students to get beyond craft and into creative communication and discovery of ways of expressing ideas beyond the media. The value of message-making could be realized at the most basic, foundational stages of design education. These methods, in conjunction with educated use of media and craftsmanship, could then be carried forward and used effectively in any of the art majors.

In foundations classes, at the very beginning of students' art education, why do we prioritize skills and the ability to use tools over the ability to generate ideas, and skillful use of media over sound critical thinking methods? Could it be because of the difference in the purpose/function/intention of design versus the purpose/function/intention of studio art, and that traditionally, the vast majority of foundations classes are taught by studio art professors? Although both design and studio arts bridge a wide array of disciplines, the impetus for design is generally external in nature, satisfying an externally defined problem whereas for studio arts, like painting and sculpture (with the exception of commissioned work) the impetus is generally "internal" in nature, often satisfying the purpose of the artist alone. Shouldn't one of the basic skills and sensibilities we teach in the core be creative problem-

solving or, to put it another way, shouldn't one of the basic tools covered be critical thinking methodologies? We all need creative methodologies to enable us to overcome artist's block, that paralyzing lack of ideas and halting of forward movement that we all fear will come at exactly the wrong time, and to help us add rich meaning and dimension to our art messages. Freshman college students are generally too young to have lived and experienced enough to have conceptual ideas already defined that they want to express. Lack of maturity as artists may hamper their ability to spontaneously and intuitively come up with creative ideas. Where do we begin to deal with idea generation, or lack thereof, in art education? Where do ideas come from anyway? What processes should we teach?

Many creative problem-solving methods exist that can help our students develop skills and sensibilities that will serve them throughout their lives. These methodologies have been developed for and used successfully in other professions, such as: business, engineering, sales, etc. Their function is to expose many and varied solutions to a problem through the use of creative methodologies. Brainstorming, alone or in a group setting, can help students learn how to get beyond obvious solutions. In brainstorming all ideas are recorded without editing. By articulating all of the ideas that come to us, we make connections and references to other ideas by free association. Another useful methodology is to create a framework of limitations for an assignment, that is, to create a format or scenario in which students can think about a problem. It is often helpful to list certain traits or define context for a problem to find new ways to approach it. Doing the opposite of what comes naturally or combining ideas and forcing connections between ideas begets new ideas. By allowing our minds to consider incongruous ideas, we open up a dialogue that can lead to new, more interesting solutions. Using these strategies, among others, we can bridge the gap between design theory and application and help students to make the leap from words to images or combine the two effectively. These are just a few examples of the many creative problem-solving methodologies available to us.

As educators, I propose that our task is to realize the importance of teaching students the processes that should come before the media if more meaningful and communicative expression is sought. We can promote change in our own curricula by adjusting and shifting our focus from teaching vocational skills and tools (including software techniques, after all the computer is one of our tools) and media-driven projects to more transcendent methods like critical thinking, problem-solving and idea generation. By making small changes in awareness, we can facilitate fundamental changes over time. Changes like:

- Recognizing the value of thinking skills as they relate to art.
- Encouraging the integration of interdisciplinary study, outside the school of art, through minors and electives in order to broaden students' knowledge base and experience from which they can draw ideas.
- Formulating projects to include innovative logic processes.
- Discussing the "how" and "why" of students' designs.

- Prioritizing curricula so we are effectively connecting formal issues of design with conceptual problem-solving, idea-generating, critical thinking methodologies.

Once we make the fundamental distinction between media, tools and ideas, how can we not address this important triad in our core programs? Creative problem-solving methodologies are tools that can be applied in almost any situation or to any design project. They are tools that will empower students to reach beyond what they perceive to be their potential as designers and artists.

Section Four: Primary Problem

Can creative problem-solving methodologies be integrated into university art foundations curricula as effective tools for improving project outcomes of foundation-level design/drawing students while teaching valuable critical thinking skills?

Research Questions:

- Which methodologies are most useful/appropriate for university art/design students?
- Do students apply/utilize methodologies in the expected/prescribed ways?
- What is the effect on students' enthusiasm/confidence/stress levels from using creative methodologies versus not using them?
- Does the use of creative methodologies affect group dynamics in a positive way?
- Are project outcomes measurably better, more creative/exploratory, with the use of creative methodologies?
- Are creative methodologies readily integrated into current foundations projects?
- Does the use of creative methodologies cause projects to take more or less time to complete?
- Are students more satisfied than usual with their project outcomes when creative methodologies are used?

Section Five: Significance

Clearly, the skills students learn in art class in relation to critical thinking have tremendous carryover value to the rest of our curriculum. I believe that a major weakness in most schools is the failure by teachers to challenge students at the higher cognitive levels.

—Michael Milligan, Principal
Wellsburg-Steamboat Rock High School, Iowa

The importance of this problem is far-reaching in the lives of students. Creative problem-solving methodologies will allow them to understand how to come up with many and varied ideas for solutions to any problem from the very beginning of their education. Foundations students can benefit from learning to solve problems creatively in their design work as well as in all aspects of life. Design is ultimately about messages and meaning and how that meaning is created and then conveyed. The interaction between meaning, design and communication create experience that touches all aspects of our lives.

The greatest thing...is to have a command of metaphor.

—Aristotle (384-322 B.C.)

Students could utilize the critical thinking skills they learn in foundations in all of their other life pursuits. For example, writing English papers would not seem as daunting if you had a clear method for defining ideas. However, before I can wholeheartedly support the idea of incorporating creative problem-solving methodologies into skills-based foundation projects, I will need to find the answers to the research questions I have presented in Section Four: Primary Problem. Only then will I feel confident in bringing about these changes in foundations programs of which I am a part.

Section Six: Scope and Limitations

The subconscious may greatly shape one's art; undoubtedly it does so. But the subconscious cannot create art. The very act of making a painting is an intending one; thus to intend and at the same time to relinquish intention is a hopeless contradiction albeit one that is exhibited on every hand.

—Ben Shahn, artist

The scope of this PILOT will be limited to defining the creative methodologies that I deem most useful to university design and drawing students at the foundation level. I will present these methodologies in a usable reference format.

In the future I would like to expand my research beyond my MFA into a text covering the various aspects of creative problem-solving methodologies as they apply specifically to foundation level design, drawing and communication-design education.

Section Seven: Methodology

The best way to get a good idea is to get a lot of ideas.

—Linus Pauling, Nobel Prize winner

I will recruit a group of UNT Design I and/or Drawing I students to participate in this study. Using an existing foundations semester project (with permission from Foundations Professors), I will demonstrate the difference in project outcomes and student reactions/interaction between Group A (students to whom I have taught an appropriate creative problem-solving methodology) and Group B (students with no prior knowledge of creative problem-solving methodologies). I will examine project outcomes of both groups and provide a comparison between them. I will use questionnaires and interviews to obtain students' responses to my study. I see my PILOT outcome as a field test of a prototype for a reference tool using university art and design students as my control group.

Nothing is more dangerous than an idea when it is the only one you have.

—Emile Chartier, philosopher

Please Note: This PILOT represents my attempt to stimulate dialogue and introduce issues about critical thinking and creative problem-solving methodologies as they relate to foundation design. I do not presume that foundations instructors not aware of these methodologies only that I think the methodologies are not being widely utilized in the foundations area. I would like to investigate the effects of incorporating them into existing foundations curricula