THE FUTURE OF DESIGN PEDAGOGY IS NOT ART

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1. INTRODUCTION

In 2014, Fast Company published an article entitled "8 Reasons Why Creatives Will Rule the World" (Cooper, 2014). The reasons are interesting, and include hints at how right brainers handle complexity by being adaptive risk takers who understand the power of stories in an increasingly complex world. Although designers might be tempted to equate being a creative with being an artist, the article clearly points in another way

An experience at a recent conference break out discussion session focused on design foundation courses was insightful (Design Principles, 2017). The descriptions by the participants about foundational design courses at their institution highlighted the continuing influence of the artistic legacy in design. An attendee from Europe at an earlier design conference held in Australia, when listening to the presentations and subsequent discussions of designers from the United States, observed, "I don't think that Design in Europe carries the same artistic baggage that design seems to in the United States." (Futureground, 2004)

Although industrial design programs recognized by IDSA and NASAD are spread between Colleges of Art, Design, Architecture, and Technology, many Industrial Design programs today begin the educational experience of design students with the abstract compositional concepts described as the "Elements and Principles of Design" – some version of Point, Line, Shape, Form, Texture, Color, Proportion, Balance, Scale, Unity, Contrast. Compare this to the concepts of Complexity, Creativity, Adaptation, Understanding Values, The Power of Stories, Risk Taking, and Empathy combined with Rational Thinking. As we develop the ID curriculum of the future, are we moving in the right direction?

In 1999, the Industrial Design program at Brigham Young University moved from the College of Fine Arts and Communications to the College of Engineering and Technology and into the newly formed School of Technology. The move was a survival tactic. The then Dean of the College of Fine Arts and Communications said, "*A University needs to have the Arts…It doesn't need Design*." Harsh words, but reflective of the political climate at the time. Life in the new technical environment has been interesting, and although there is a subtle underlying anxiousness regarding the question "are we in the right place?", the current situation is seen by its faculty and students as being largely successful and beneficial. In commenting about the new location of the Industrial Design program, the last two NASAD review reports have the following comments:

> "*…the most vial and successful programs are those that have either transferred to the College of Engineering (Industrial Design) or are jointly administered by the College of Engineering…The industrial design student work is very strong in both content and execution…*" (NASAD, 2005)

And…

> "*Industrial Design…is leveraging this opportunity through interdisciplinary research and collaborative teaching senior capstone and related project collaborations with faculty in Mechanical Engineering in addition to other campus units. Industrial Design is taking the initiative on campus to lead the emerging national movement in the professions and in education that embraces design thinking as an alternative to the scientific method of inquiry. The program is disseminating design thinking methods through its collaborative Creativity and Design Thinking design course open to non-majors.*" (NASAD 2017)

The change from the College of Fine Arts and Communications to the College of Engineering and Technology has provided discoveries, driven changes, and created benefits that may be insightful to others in the future development of industrial design curriculum and pedagogy.

2. DISCOVERIES

The following paragraphs will discuss the discoveries of *Working with (and valuing) Authentic Peers*; *Separating Creativity from Expression*; and *Value-Based Communication with Process Partners.*

2.1. WORKING WITH AUTHENTIC PEERS

The move from Fine Arts to Engineering precipitated a radical change in educational peers for our students. Previously, students and faculty alike worked with their *creative* peers in Graphics, Illustration, and Interior Design. Post move, students and faculty worked with Mechanical and Manufacturing Engineering, Information Technology, and other technical disciplines. Additionally, Business students and faculty seemed to have more connection with the College of Engineering and Technology than with the College of Fine Arts and Communications.

ID Students felt an immediate lack of creative comradery. However, based on the pre-educational working experiences of the faculty and the internship-based work experiences of the students, the educational peers seemed reflective of their "working" peers. Students gain valuable experiences and understanding through their new associations.

In terms of future Industrial Design curriculum and pedagogy, it is important to think about who the real educational peers of Industrial Design should be, and where and how do ID programs have access to them.

2.2. SEPARATING CREATIVITY FROM EXPRESSION

An important discovery was the recognition and conscious distinction between creativity and expression. Creativity can be described as being FLEXIBLE (or looking at a problem from a *variety* of viewpoints), having FLUENCY (or the ability to generate *multiple* ideas), with the result that ideas have a newness or NOVELTY, with enough definition that someone else can ELABORATE on your ideas and develop them further.

Being expressive is different, and gives someone the ability and courage to emote, engage, and pro-actively share and do. Artists are almost always *expressive* but they may not always be *creative*. There are engineers who are creative, but are often not emotionally capable of being expressive. Taking the new environment of Engineering and Technology, and comparing it to experiences in the College of Fine Arts and Communications, a conscious decision was made to focus on *creativity* over *expression.*

Separating Expression from Creativity and evaluating the proper influence of each in an ID program is important for Industrial Design curriculum and pedagogy in the future.

2.3. VALUE-BASED COMMUNICATION WITH PROCESS PARTNERS

The School of Technology has neither a history with nor an understanding of the "artistic tradition". Discussions in the College of Engineering about why Industrial Design is a part of the School of Technology comes up every so often publicly, and probably everyday privately.

Clarity and relevance are key to maintaining continued support in this environment. Rather than talking about design in the context of the artistic traditions of the past (Art Deco, Bauhaus, Memphis) success has come when talking about industrial design as a part of creating VALUE for the organization as a whole (In this case, the School of Technology and the College of Engineering and Technology). Industrial design needs to communicate its value clearly, reinforcing the core values of other disciplines that are also key players. Statements such as the following work to build credibility and support.

> *"Industrial Design is part of the School of Technology, and is focused on providing RELEVANCE to the promises of Technology. The disciplines in the School as a whole deliver solutions that are relevant to the human condition with the intent of helping us all to work, live, and be better."*

And…

> *"In the same way that Engineering uses scientific principles to solve practical problems, Industrial Design uses principles of culture and human value to solve practical problems.*

Industrial Design Pedagogy is influenced by how industrial design defines itself, and how it communicates those definitions in a variety of unique, non-art/design venues. To whom are the current definitions about Industrial Design that are driving curriculum and pedagogy directed? How might students be prepared during their educational experience so that they can communicate their value in a variety of important settings outside of Art and Design?

3. CHANGES

The insights gathered from these discoveries and other influences have driven changes. It was not possible to move the ID program from one culture to another without change happening. These changes have not always been conscious, and have more often than not been evolutionary rather than revolutionary. Two noteworthy changes are *Looking for Creative People Everywhere*, and *Clarity through Focus.*

3.1. LOOKING FOR CREATIVE PEOPLE EVERYWHERE – OPENING DOORS

Even after the switch from Fine Arts to Technology, recruitment focused on students that had demonstrable, visual, artistic ability and showed signs of being "expressive makers". However, after a few years in the new environment, faculty members met many students from a variety of disciplines who were dynamic creative problem solvers with strong maker ability who did not have an artistic portfolio. We wanted them in our program!

The requirement of an artistic portfolio at the pre-major level was eliminated. The current application engages hopeful students in a series of short experiences that test their ability to be creative, visual (not necessarily aesthetic), and adaptive. This has opened the ID program at Brigham Young University to an entirely new group of students. During a recent graduation exit interview, one student said, "…I loved the first year sketching class because I HAD NEVER DRAWN BEFORE." (Student, 2017) This student did not have an artistic background, but had the aptitudes to be creative, visual, flexible and successful. Many of these students exist.

This broadening of the applicant pool has changed the type of student that makes up the program. Collectively, the students are different than they used to be. Based on one way design is talked about at BYU, i.e. that design is about *creating engaging solutions to other people's problems,* it has been more effective to find creative people *wherever they may be* rather than just focusing on the arts.

One influence on future ID Pedagogy may be the questions, "What are the necessary aptitudes that should be nurtured for success in the future through these educational experiences? Where will I find students that have these aptitudes?"

3.2. CLARITY THROUGH FOCUS

With this transition from art to technology has been the opportunity to focus - critical in an environment of limited resources. Recognizing their limitation, the ID faculty classify the curriculum as a "series of introductions" rather than opportunities for mastery. Additionally, some classes, projects, and assignments being held onto were identified as "heritage baggage". The two-semester first-year foundation curriculum for example was simplified down to one semester. This allowed the experience to be opened up to twice as many students in the course of the academic year and was helpful in finding more creative people, wherever they may be.

Are there some potentially meaningful experiences that have been left out? The faculty recognize that there are, with feelings of nostalgic regret. But the sacrifice is constantly being judged against the end

result. Are the students going to be O.K.? Are they gaining the tools to be successful in the long-term? Are we eliminating experiences that are losing relevance and adding experiences that are building long-term strategic competencies? Based on internship and final job placement, the answer seems to be YES. Internships are still strong, and comments from those who have hired our students as employees and interns are positive.

Removing oneself from a heritage mindset (either artistic or design), decisions can be made separate from feelings of nostalgia, and curriculum can be evaluated with more objective clarity.

4. BENEFITS

Now 18 years post move, there have been many benefits. Two are highlighted here – *Peer Influence for Change* and *Leadership & Impact* – are related to each other and also have an impact for future pedagogy.

4.1. PEER INFLUENCE FOR CHANGE

After working to gain the trust of the other members of the School of Technology, the ID program was able to champion the creation of an "Innovation Boot-Camp" based on simplified design thinking principles. This experience is now required by four of the five programs in the School, influencing over 600 students at any given moment. Students from Industrial Design, Information Technology, and Manufacturing meet together to learn about empathy, shaping observations into insights, exploring ideas with Flexibility and Fluency, and sharing ideas through quick verbal and physical prototypes. One non-ID student, in a review of a manufacturing internship experience, said of the course:

> *"… the innovation boot camp was helpful for me during [my] internship, specifically when working on the redesign of the relay station. During the innovation boot camp, I learned valuable principles about the innovation process. I specifically used the principles related to product design as we considered possible redesigns and did some market research. The experience I had [during the boot camp] interviewing mothers in the grocery store [was helpful]…We followed a similar process…and the research showed us perceptions and insights we would not have otherwise considered." (Harmon, 2013)*

This student is now a potential peer that understands the power of the design process and has experience with Industrial Designers making valuable contributions in a group, problem-solving setting. One question to consider for future ID curriculum and pedagogy might be, "How does this curriculum build tomorrow's collaborators and engage more people in design processes and design thinking?"

4.2. LEADERSHIP & IMPACT

Recently, the Director of the School of Technology was an Industrial Design faculty member, with the charge to provide organizational vision, faculty support, and be the champion of the technology, education, and management programs. Having a "creative" lead engineering and technology programs gave visibility to the ID program through several layers of University administration.

In the College of Engineering and Technology, having built a relationship of trust, the ID faculty members have the opportunity to define vision, participate in NSF funded research, and join with entrepreneurial peers in collaborative business development efforts. Interactions with the Technology Education program provided opportunity to influence Junior High and High School curriculum regarding design thinking and innovation practices.

Industrial Designers have skills that make them suitable as leaders in organizations where they reside, even technical ones. Consideration should be given to leadership knowledge and skills in the Industrial Design curriculum and pedagogical approaches in the future.

5. CONCLUSION

The knowledge and experience gained transitioning the Industrial Design program from the College of Fine Arts to the College of Engineering and Technology have provided insights and driven changes that might be used to influence curriculum development for design education in the future.

Central to this is recognizing the role of artistic heritage in definitions of design that then drive curriculum decisions. Is this heritage a good thing or does it amount to restrictive and blinding baggage? The experiences at BYU might suggest that "baggage" is the more appropriate descriptor.

Concepts such as actual vs. apparent peers, creativity vs. expression, clarity of definition, inclusive application opportunities, curricular focus, influential outreach, and education for leadership are all critical topics for consideration while developing the Industrial Design curriculum of the future.

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