[Big] Data: Driving Curricular Change with External Evidence

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Background

Contemporary design, as a discipline, is diffuse (relative to previous definitions and conditions).

Some factors:

• Intrinsically fluid.
• Highly influenced by (external) technological developments.
• Intensively technical:
  • Work activities once completed by many workers are now the responsibility of a single designer (since the advent of desktop production using personal computers).
Effective design curriculums must consider external factors, i.e., design industry norms, perhaps to a greater degree than other majors.
SIDE PANELS
To block peripheral vision for better concentration

OTTOMAN

HIDDEN BOOK SHELF

SPACE SAVING DESIGN
Ottoman slides easily underneath when not in use

INSPIRED BY MID-CENTURY MODERN DESIGN
PROCESS

ORIGINAL DESIGN
I started with a three-dimensional typeface that was strictly angular and based on a grid. I ran into issues when I started creating numerals because it was difficult to discern between the ‘3’ and the ‘8’.

FINAL
In the end, I applied a few methods to make the typeface more desirable and dynamic. I applied three line weights, a varying thick to thin weight, curved corners, and dynamic crossbars.
The moisture sensor sits at 3 inches below the ground. Grass roots usually grow between 2.4 inches below ground. The valve sits 6 inches below ground which is about how deep water lines run. The solar panel is the only exposed element which is protected by a transparent polycarbonate cover.

The housing will be manufactured using injection-molded high-density polyethylene HDPE. There needs to be a water tight seal around the seams of the two parts. A hermetic enclosure may be necessary to keep the internal components from being exposed from water, dirt, or grime.
Irrio App

Smart Irrigation Monitor
The Irrio App monitors outdoor water usage, via Irrio, a smart irrigation valve. Irrio uses a moisture sensor to water grass efficiently and uses a flow sensor to calculate water usage.

The app also reports which areas of the lawn use the most water. This is due to the area receiving a lot of sun or being at an incline.

Water Usage
The Irrio app quantifies the water usage of sprinkler systems on a daily basis. At the end of the month, the user is prompted with a monthly report card showing the total monthly water usage compared to previous months. Through interviews and surveys, I found that most people don’t know how much water they use.
Effective design curriculums must *habitually* consider external factors, i.e., design industry norms, perhaps to a greater degree than other majors.
Research

The data research helps to underpin the discipline-specific model of assessment created for San Francisco State University's School of Design.

First look:

- **AY 2016-2017 Alumni survey**
  - Many positive indications about program
  - Ultimately lacked criticality due to its “wide net” of respondents
    - Included Alumni as far back as the late 1960s
  - Was not sufficiently granular to the program level. Product Design program delivery has different concerns and issues compared to Visual Communication Design program delivery.
Research

Second look:
• Developed a proof of concept using alternative data sources and methods to help accurately define employment conditions of DES alumni.

• Publicly available data
• California State University data
• Methodology recognizing resource limitations; one that could be automated in future
Research

Goal:

• Correlate undergraduate course selection and performance data to employment trajectory and salary levels for five years of graduates.
Research

Lens for “industry preparedness”:

- GPA
- Difficulty of class selection
  - Including election of non-required internships, election of non-required design studio experiences.
  - Whether or not the student produced a non-required design portfolio prior to graduation.
- Employment trajectory in the field (initially and over time)
- Types of employment within the discipline, i.e., design studio-proper versus allied roles.
- Compensation by role.
Application

• **Findings may influence:**
  • Student goals with regard to individual course choices,
  • Student advising,
  • Course Student Learning Outcomes (SLOs),
  • Program Learning Outcomes (PLOS).
Findings

• **Healthy patterns of employment** (but this is consistent with the current market)

• Alumni self-define as a designer, but that they were most often dependent on a non design job, too.

• Self-definition was certainly aspirational, i.e., have not abandoned their undergraduate course of study or dream to be a designer.
The Teagle Grant
A faculty-led curriculum design program at SFSU funded by the Teagle Foundation’s “Faculty Planning and Curricular Coherence” Initiative.

Benefits:

• Resources for faculty time.
• Faculty learning community: Reflection, shared wisdom.
• Continuity of learning community gatherings: helps momentum and meeting goals.
• External consultants.
• Validation of goal: Institutional affirmation streamlines faculty consensus/buy-in.
The Teagle Grant

Outputs:

• Initial findings: Patterns of employment in the last 5 years.
• Plans for additional statistical analysis (Fall 2017) and automation of data sets.
• School of Design Director’s report.
Thank you

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