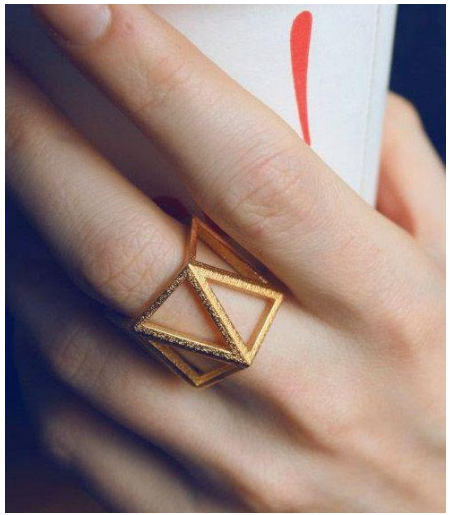
TEXPO:
Teaching with Additive Manufacture
April, 25th 2017

Because **3d prints** can be produced in a **wide range of materials and sizes**, encourage students to think about how the products or objects they are designing may have a **wider variety of uses** than the original function.

Example:



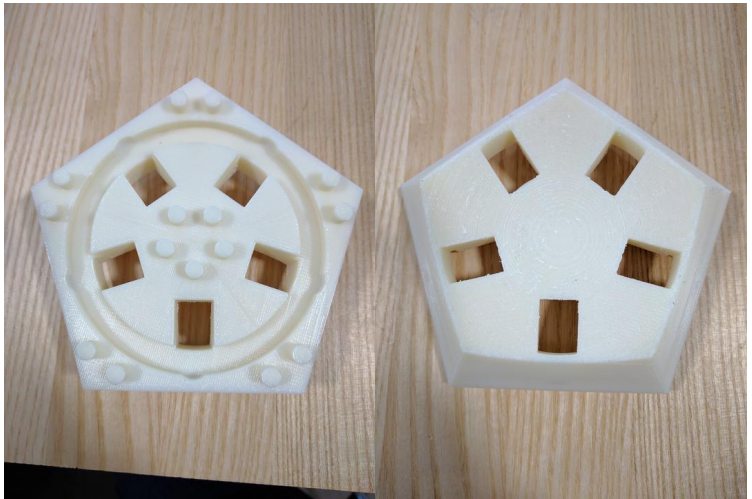
Gold sintered ring - **Silver glazed ceramic napkin holder** - **Plastic FDM bracelet**

Whenever appropriate, teach additive manufacturing **alongside** more traditional manufacturing as a way to emphasizing using the **right tool for the job** as well as how the two can **complement** each other

This process enables them to:

- Become more **tool independent** through having a variety of “tools in their tool box”
- Hands on **increases their creativity** and subtle analysis of the objects they design
- Hands on **increases their patience** through the methodical methods of traditional prototyping
- Combining digital technologies with traditional processes (often) **saves money**

Example: Recently when multiples of a part were needed, students 3D printed the original part, then made the numbers needed using a silicone rubber mold.

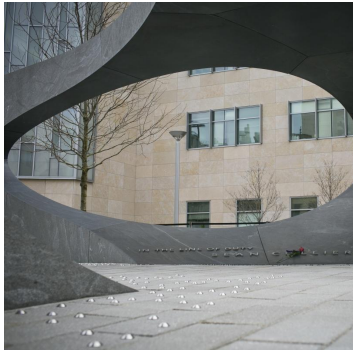


Because with additive manufacture, complexity is (for the most part) free, work with students to (re)-integrate **functional patterning** into designs to **increase the effectiveness** of their design with **minimal extra effort**.

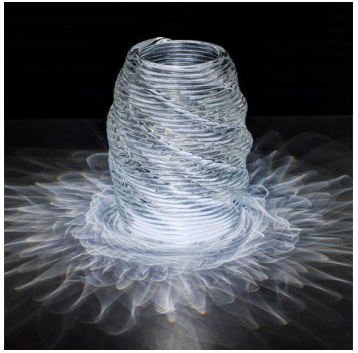
Four main pattern themes:

1. **Aesthetic**
2. **Information**
    a. Text and Symbols
    b. Knowledge
    c. Social Distinction
3. **Functionality**
    a. Comprehension (of use): *Helps the user understand what the function an object is*
    b. Performance: *Helps the object to accomplish its function*
    c. Usability: *How easy it is to actively use an object*
4. **Faux**
    a. Imitation
    b. Illusion
    c. Camouflage

Information:
Social Distinction



Functionality*:*
Usability



Faux:
Illusion

Interdisciplinary work often suffers from **multiple vernaculars** that do not translate easily.

Because additive manufacture as used in many different disciplines, it may be used like a **Rosetta Stone** to facilitate successful interdisciplinary work

Early conversations can be had and **common ground** may be found around additive manufacture; materials, machines, software, culture, process etc.