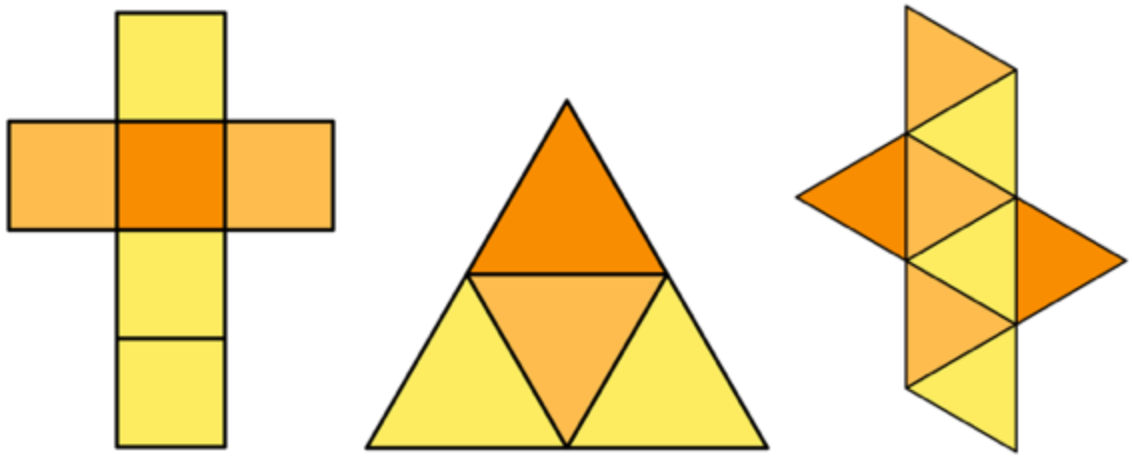
Unit Assessment for Art 145 3D Design

Prepared by Paul Wandless, Unit Liaison-Art & Architecture



Introduction

Art 145 (3D Design) is a foundation course that is part of the required program core courses in the AFA Studio Art Pathway. Optimally, it's to be taken during a student's first semester, along with Art 144 (2D Design), by students pursuing the AFA Studio Art Degree. Art 145 is also one of the four IAI approved courses in the AFA Studio Art Degree. Art 144 2 Design, Art 131 General Drawing and Art 132 Advanced General Drawing are the other three IAI approved courses.

Two sections of Art 145 are offered each Fall and one section each Spring. Each section enrolls 16 students. This course has a lower cap due to safety considerations, available working space and storage constraints for artwork and art materials. Art 145 (3D Design) is also the prerequisite for Art 198 (Beginning Sculpture). Harold Washington College is the only City College that offers 3D Design, Beginning Sculpture, Beginning Ceramics and Advanced Ceramics. This cohort of courses represent the full 3D Area.

Art 145 has several concepts among the principles and elements of design to pursue for assessment purposes. There are also many tools, materials and fabrication techniques available to assess. Core concepts include plane, form, line, spatial relationships, surface, color and kinetics. Fabrication techniques include additive, linear and mixed-media construction, assemblage, modeling, mold-making, cold casting, relief and carving. General hand tools and small handheld power tools are introduced to work with the wide variety of materials and mediums used in the course. Approaches to painting, covering, texturing, sealing and staining are among options introduced during the semester to address finishing surfaces. Three dimensional lexicon, art history, contemporary practices and aesthetics are also a regular part of this course.

3D Design is anchored in the ability to use tools and fabrication techniques for the successful manipulation of materials with proper application of the principles and elements of design. Fabrication techniques and associated tools are introduced and reinforced with the expectation that students will then be proficient with them by the end of the semester.

How to accurately measure, cut, assemble and manipulate a given material with the proper tools and techniques are hands-on skills and concepts that can be assessed and measured. So the pilot assessment will focus on having students make platonic solids to demonstrate these skills.

Department buy-in and outcome definition

Department buy-in was focused around what outcomes were most appropriate to assess. The decision was made to focus on technical (skill based) outcomes since skills and technique can actually be measured with agreed upon degrees of successful completion or execution. The technical based outcomes are also represented at the degree level, program level and syllabus level, so it fulfills the requirement of how a measured outcome is represented at all levels.

Currently there is a working set of agreed upon AFA Degree PLOs. The 3D/Sculpture Program has a working set of LOs and all the syllabi have SLOs. Only the syllabi are official

and PACC approved. The degree and program level outcomes are still in discussion with all the AFA studio faculty. The hope is to have a set that all can agree upon to run through PACC in the future. Below is what's being used for this assessment.

Technical AFA Degree Learning Outcome

1. Develop technical competence in a broad range of skills and tools for the manipulation of materials and mediums within the fine arts disciplines.

Technical 3D/Sculpture Program Learning Outcome

1. Demonstrate competence in the application of a broad range of technical skills for the fine arts disciplines with appropriate tools, materials and mediums.

Technical Student Learning Outcomes (Art 145 syllabus)

1. Effectively and appropriately use the tools, supplies and materials necessary to create three-dimensional work.
2. Demonstrate an understanding and knowledge of how to appropriately, effectively and safely use tools, adhesives, binders and instruments of three-dimensional design.

Assessment research and design

This assessment tool will focus on particular sets of technical skills that students learn during the course of the semester. The tool will measure a subset of tasks that cumulate into the overall technical skill set. For example, the platonic solid sub-set tasks are accurately measuring, cutting, folding and taping. The rubric scores each one of these tasks individually to ascertain the student's level of command. This allows for measurement of the overall skill of constructing platonic solids and the individual tasks performed to successfully complete the form. The rubric also measures the level of craftsmanship with manipulation of materials and level of difficulty based off platonic solid selection.

Pilot assessment tools and processes

The pilot assessment tool will measure the technical skills of the student to measure accurately, cut cleanly and precisely, fold properly along pre-drawn lines and cleanly tape edges to create a platonic solid. There are specific instructions indicating the parameters for measuring, cutting, folding and taping the supplied material of bristol board to make the platonic solid.

I gave the exercise of making a platonic solid using Bristol board as an assignment week 1 and 2 of the semester to introduce these skills. These skills are then reinforced with a project requiring them to make a wide variety of solid forms with stiff paper boards. So

assessing these skills at the end of the semester is to learn how well they retain these skills and their ability to apply them in making volumetric forms.

The rubric will score the degree to which the parameters were met for each hands-on task. Craftsmanship and level of difficulty will also be scored in relation to execution of the tasks.

The pilot assessment tool and the rubric are included in the appendix.

Administer specific assessment

The assessment will run towards the end of the semester in week 14 or 15 after the majority of tools, fabrication processes and core concepts have been and reinforced. One class period (2hr, 50min) will be used to complete the assessment.

Tools and materials required for successful completion of the assessment will be supplied or made available for the students. For consistency of specific variables, the materials and tools provided will be bristol board, rulers, exacto knives and tape. Students have their own pencils.

The pilot of this assessment was planned to run in the final weeks of Spring 2020, but due to the Covid-19 Pandemic, all classes were converted to remote teaching after week 9. Since this is a hands-on assessment, it would not be feasible to successfully run it remotely, so it will now be run Fall 2020, if/when F2F courses resume.

Data analysis

The platonic solids they made during week 1 and 2, when these skills were first introduced, provide students with an opportunity to learn how to make a volumetric form that's a symmetrical polygon. This prepares them to successfully create and fabricate project 1, which is a volumetric sculpture made of multiple volumetric forms that is normally completed in week 4 or 5. So the skills introduced through making the platonic solids are used and reinforced while making their forms for project 1. Some forms they incorporate in the project are platonic, but they apply these skills to making any volumetric form that needs to be drawn, cut and folded into forms needed to make their project.

Even though there is no data from a pilot, there is anecdotal data from that initial platonic solid assignment that can be used for recommendations in the conclusion on how to tweak the pilot assessment to run in Fall 2020.

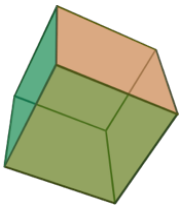
Data analyzed - Choice of platonic solids to build.

The platonic solid assignment from the beginning of the semester and the pilot assessment designed for the end of the semester have the same 3 choices of solids to build. The difference is that the assignment requires 2 solids be made and the pilot assessment requires just 1 to be made. This is because the assignment is meant to introduce several skills, and they have 2 class periods to complete the assignment, allowing for trial and

error. The assessment is only 1 class long and is meant to see if the introduced and now reinforced skills can be done with no instruction and at a higher level of difficulty.

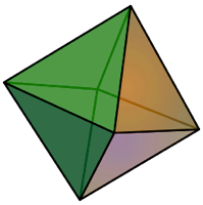
For the platonic solid assignment, they make the cube and the tetrahedron to learn the specific template drawing skills associated with them. These skills are built upon to create the octahedron, the dodecahedron and the icosahedron which are all more challenging. Each platonic solid has a different level of difficulty to create. The cube is low difficulty, the tetrahedron is medium difficulty, the octahedron and the dodecahedron are high difficulty and the icosahedron is the highest difficulty. The symmetrical polygon used, the number of individual measurements needed, and the complexity of folding required determines the overall degree of difficulty for the solids.

While the students are expected to only make the cube and tetrahedron, a few also do the octahedron as well. The choice to do a higher level of difficulty solid is made by students who 1) have made platonic solids before, 2) planned to make complex shapes for their project or 3) simply wanted to challenge themselves.

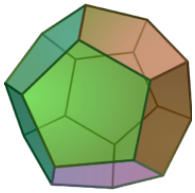


Cube, 6 square faces

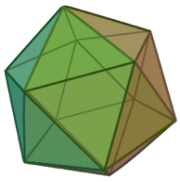
Tetrahedron, 4 triangular faces



Octahedron, 8 triangular faces



Dodecahedron, 12 pentagonal faces



Icosahedron, 20 triangular faces

Supporting evidence-based change

There is no data to include here this semester, but I look forward to the results discovered when the pilot is run in Fall 2020 and to future discussions about how we as faculty can improve student learning.

Conclusion

Due to the Covid-19 pandemic, all classes were converted to remote teaching after week 9. Since we were planning to conduct a hands-on assessment, it would not be feasible to successfully run it remotely. The decision to not run the assessment remotely was made because not all students have what is needed to successfully and reliably complete the task. Most of their supplies are at school, and insisting that students order and secure such materials on their own would be an unfair financial request. Another factor we considered is that their individual home work spaces, cutting surface, etc. vary greatly in terms of adequate room to do the assessment. This would impact the quality of what they could make. Since these variables and conditions wouldn't be consistent and equitable for all the students, the data from the results would not be reliable. Additionally, it would not be feasible for faculty to physically see the solids to examine and measure them from all sides properly for accurate scoring.

With this being the case, I was still able to analyze the platonic solid assignment and anecdotally come to conclusions about how it impacts the pilot to see if I should tweak it a bit to run the pilot Fall 2020.

Recommendations to apply to Fall 2020 pilot assessment.

1) Give all 5 platonic solids as options to create instead of 3. This will allow for higher level of difficulty forms to be chosen by students who feel their skills have grown over the semester beyond the first 3 forms.
2) Create a shared vocabulary list for students to reinforce the specific terms associated with this assessment
3) Use the platonic solid assignment as a pre-assessment as well. The results of this can be compared to the assessment given at the end of the semester. This will show if there is an increase in the skill scores and if platonic solid level of difficulty is higher.

Appendix

Art 145 Assessment Pilot Tool

Fabricating a Platonic Solid (measure, cut, fold, tape)

Choose one (1) Platonic Solid from the 3 options of cube, tetrahedron or octahedron template options provided below. Supplies needed are ruler, pencil, Exacto knife, tape and 1 sheet of bristol board. All but pencils will be supplied.

Steps and Suggested Supplies

Measuring - Length of side must be 2" for each face for chosen template.

ruler, pencil and sheet of bristol board

Cutting - Cut out the drawn template.

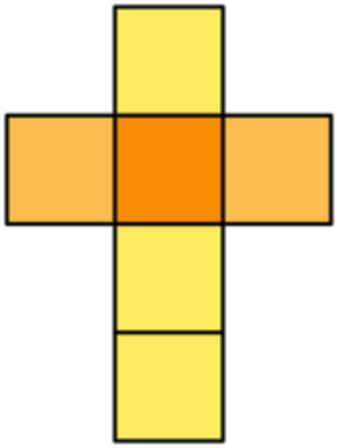
Exacto knife and ruler

Folding - Fold template along the proper lines to form the platonic solid.

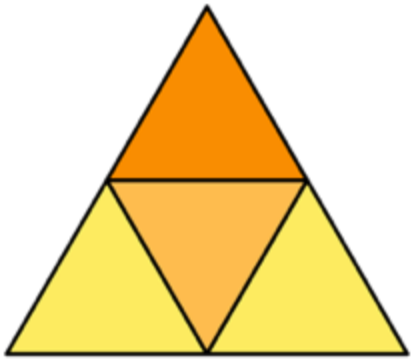
ruler

Taping - Tape seems to secure the edges.

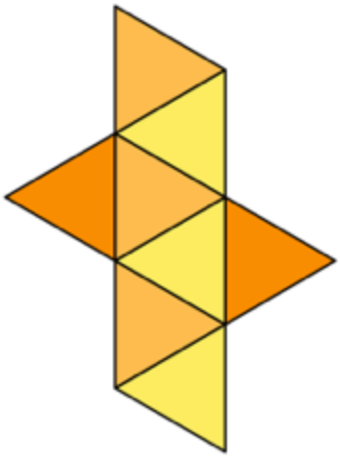
tape and Exacto knife



1 - cube



2 - tetrahedron



3 - octahedron

Assessment Rubric

Fabricating a Platonic Solid (measure, cut, fold, tape)

Rubric	3 Met	3 Proficient	2 Room For Growth	1 Not Met
Skill				
Measuring	100% (All) faces are correct	75% - 99% (majority) of faces are correct	50% - 75% (most) of faces are correct	Less than 50% of faces are correct
Cutting	100% (All) cuts are correct	75% - 99% (majority) of cuts are correct	50% - 75% (most) of cuts are correct	Less than 50% of cuts are correct
Folding	100% (All) folds are correct. No gaps on edges.	75% - 99% (majority) of folds are correct. One gap or 1 - 2 partial gaps.	50% - 75% (most) of folds are correct. Two gaps 3+ partial gaps.	Less than 50% of cuts are correct. Gaps or partial gaps on all edges.
Taping	All edges taped neatly and edges cut to fit.	All edges taped neatly, but not cut to fit.	Edges taped, but not neatly and cutting irregular.	Edges not taped with poor cutting.
	3 High	**2 Average**	**1 Low**	
Level of Craft	All sides meet with no gaps. All cuts are clean. Tape is cut neatly.	All sides meet, with minimal gaps. Tape could be cut or aligned better.	Sides don't align well. Gaps on most or all edges. Tape poorly used.	
	3 High	**2 Above Average**	**1 Average**	
Level of Difficulty **Solid**	Octohedron 8 triangles. Challenging to draw equilateral triangles with lateral arms. Challenging to fold.	Tetrahedron 4 triangles. Challenging to draw an equilateral within an equilateral triangle. Folding is simple.	Cube 6 squares. Simple to draw and simple fold.	