

Unit assessment for Art 145 3D Design

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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. The class has been run at 25% capacity due to COVID19 requirements for the 2020/21 Academic year. 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 and answering questions about the terms associated with the process and application of 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 focuses on technical skills that students learn during the course of the semester. This tool measures a subset of tasks that cumulate into the overall technical skill set. Creating a platonic solid has a subset of tasks that includes accurately measuring the template, properly cutting and folding into a cube, then cleanly securing the edges with tape. 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 a platonic solid and the individual tasks required for its successful completion. The rubric also measures the level of craftsmanship of the manipulation of materials and level of difficulty for the chosen platonic solid.

Pilot assessment tools and processes

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



The exercise of making a platonic solid using Bristol board is an assignment during week 1 and 2 of the semester. This is where the skills are introduced and then they're 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 retained these skills and their ability to apply them when making volumetric forms.

The rubric scores the degree to which the parameters were met for each hands-on task. Craftsmanship and level of difficulty are 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 ran week 15 after all the tools, fabrication processes and core concepts have been reinforced the whole semester. One class period (2hr, 50min) was used to complete the assessment. The supplies of bristol board, rulers, exacto knives and tape were given to each student to provide consistency of these creative variables. Students used their own pencils.

The pilot of this assessment was originally 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 with provide supplies, it couldn't be run remotely.

The pilot was able to be run Fall 2020 when classes resumed as “blended” courses meeting once a week in class and once a week remotely. The pilot was run again Spring 2021 with the class still being run as a blended course. Because of social distancing policies set by the CDC the class sizes were just 25% of the normal cap. So the sample size is small for the data, but is still a good start to administering this assessment.

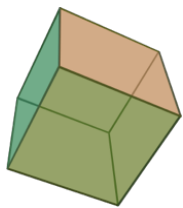
Data analysis

The platonic solids students made during week 1 and 2 provided them with an opportunity to learn how to make a volumetric form that's a symmetrical polygon. This prepared them to successfully create and fabricate project 1, which is a volumetric sculpture made of multiple volumetric forms. This project is normally completed in week 4. The skills introduced through making the platonic solids are used and reinforced while making their forms for the volumetric sculpture. Some forms incorporated in the project are platonic, but students also apply these fabrication skills to making any volumetric form that needs to be drawn, cut and folded.

The platonic solid assignment at the start of the semester and the pilot assessment at the end of the semester use the same 3 platonic solids to choose from. The difference being the assignment requires 2 solids be made over the course of two classes and the pilot assessment requires just 1 to be made during one class.

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.

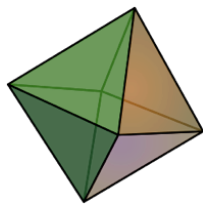
While the students are expected to only make the cube and tetrahedron for the assignment, a few also make the octahedron as well. The choice to do a higher level of difficulty solid is made by students who 1) have made platonic solids before, 2) planned to make complex shapes for their project or 3) simply wanted to challenge themselves. For the assessment, students can choose from any of the 5 platonic solids.



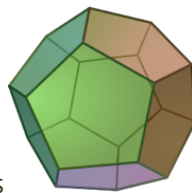
Cube, 6 square faces



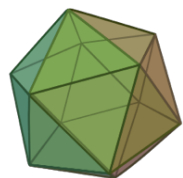
Tetrahedron, 4 triangular faces



Octahedron, 8 triangular faces



Dodecahedron, 12 pentagonal faces



Icosahedron, 20 triangular faces

Assessment Data

The pilot assessment results are from one section of Art 145 held during Spring 2021. Because of COVID-19 class size limitations, the sample size is very small. Studio classes were kept to 25% of normal cap, which meant there were 4 students because the class cap is normally 16 students. So the data will be viewed in the context of seeing how the tool worked and not in determining any norms based on the results.



The range of platonic solids chosen were 2 cubes, 2 tetrahedrons. No one chose the octahedron, which has the highest level of difficulty to create. The cube is the lowest level of difficulty and the tetrahedron is medium difficulty.

Both cubes scored a perfect 16, which reflects the lower level of difficulty for this solid. The level of craft score each was 3.

One tetrahedron scored 14, which consisted of 3's for measuring and folding and 4's for cutting and taping. The level of craft score was 2.

One tetrahedron scored a perfect 16. The level of craft score was 3.

Supporting evidence-based change

Since this was the first pilot there is no change to report from a prior assessment

Program assessment update in discipline

The blended modality of studio classes made it unrealistic to do any program-wide assessment. Program assessment strategies will be pursued again once COVID-19 parameters are changed to allow for course to meet under normal conditions.

Conclusion

This was a good start and demonstrates that the tool and amount of time to complete the assessment both work well. Unfortunately the sample size is too small to draw any real conclusions about what the data means or represents. There will be 2 sections of Art 145 offered in Fall 2021. This assessment will be run again and the Fall results will give a larger overall sample to consider.

Recommendations to apply to Fall 2021 assessment.

- 1) Give all 5 platonic solids as options to choose from 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 where they make a cube, tetrahedron and an octahedron. This may result in the octahedron being chosen for the assessment. The octahedron was not included as a solid to make in the past and this may have contributed to it not being chosen on the assessment, even though students did make it on their own for a few projects.

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.

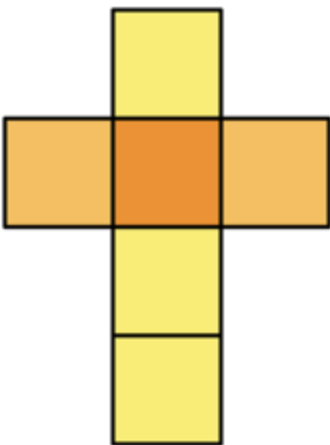
Exacto knife and ruler

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

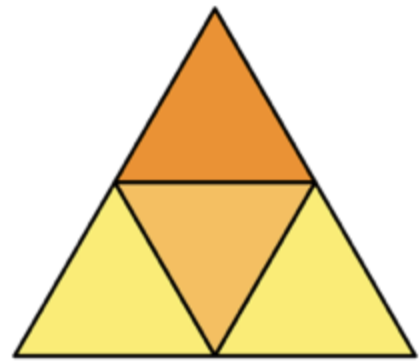
ruler

Taping - Tape seems to secure the edges.

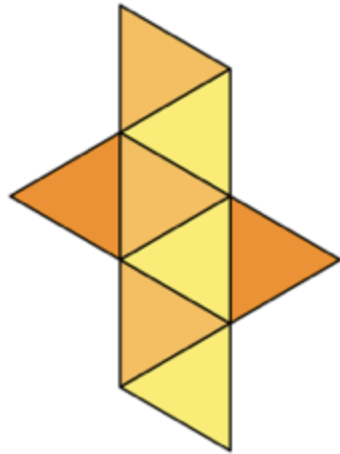
tape and Exacto knife



1 - cube



2 - tetrahedron



3 - octahedron

Assessment Rubric

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

Rubric	4 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	Octahedron 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.	