SUMMARY OF INVESTIGATORS OF PRACTICE ACTION RESEARCH PROJECT

Context:
I teach visual art at Byram Hills High School, primarily in the sculpture and ceramics program. The program consists of a foundation-level, semester-long Sculpture & Ceramics course; Ceramics II, which is also a one-semester elective; and new in 2014-2015, a full year Advanced Sculpture & 3D Design. The new course is the prerequisite for AP 3-D Design to be added in the 2015-16 school year. Students in grades 9 through 12 may take Sculpture & Ceramics. Classes are typically diverse, with both academic high achievers and students with special needs. Sculpture & Ceramics is the prerequisite for the other two electives, Ceramics II and Advanced Sculpture & Ceramics.

We decided to add the full year advanced and AP level courses to serve students who want to pursue advanced level work in sculpture, but had no opportunity to do so except through independent study. The few students in previous years who prepared AP 3D design portfolios as independent study students produced high quality work and earned passing grades of 3 and 4 out of 5 possible points from the College Board, so we were confident that more students could benefit from the chance to do in-depth work and be attracted by the AP designation. The value of sculpture & design for cross-curricular learning and 21st century skills factored strongly in the decision as well. To broaden the scope of the program, which had been entirely focused on ceramics when I arrived at Byram Hills eight years ago, we planned to include sculpture materials like paper, cardboard, wire, paper mache, wood, plaster, fiber, and found objects.

In the 2013-2014 school year, we introduced nonclay materials with limited success. Students were somewhat resistant to using other materials because they love the immediacy of clay and are very familiar with it. A well-rounded sculpture curriculum should encourage students to embrace materials that are new to them and see possibilities for expression using these materials. This year I focused on gathering data on what engages students in the sculpture classroom. Ultimately, my aim is to use this information to create a potent sculpture curriculum that helps students develop their personal artistic voices.

Action Plan:
My research question was: What factors most promote—or limit—student engagement in art, particularly with respect to 3-D design?
For instance, are students (or—\textit{when} are students) more likely to be engaged with an assignment that takes 1 week to complete vs. 3 weeks? When is the best time to introduce new materials? How much practice do students need with new materials to accept them and innovate with them? Are students more interested in creating pieces that are utilitarian or expressive? Do students respond better to abstraction once they learn about it, or do they remain attracted to creating representational subjects? How important is an artwork’s permanence to student engagement? How important is size? How do limits help or hinder student work?

At the beginning of the IOP process, I sought to define for myself what constitutes student engagement. Based on my observations of students over time, my definition of “student engagement” is when students:

- are excited to start work every day
- are on task for the whole class period
- actively solve problems as they arise
- pursue their projects to completion
- are excited to show their work to others
- take their work home

I gathered data in the following forms:

- Student surveys
- Anecdotal evidence of classroom interactions
- Record of teacher perceptions
- Student self-assessments of the work they produce
- Examples of quality student work
- Quantitative analysis of how much quality work vs. less high quality work is produced
- Analysis of course enrollment trends (i.e., who continues on to higher level course work)

\textbf{Results:}

In September, I told my students, particularly my advanced students who had taken at least one other sculpture & ceramics course, that I would be collecting information about what they like and don’t like about the projects, materials, and concepts we would be covering. They were happy to participate and didn’t hesitate to let me know what they thought. The IOP process fostered informative conversations since they felt free to say “I don’t like this project,” and why. Often another student would respond that they like it and a discussion would begin. An excerpt from a conversation during a new lesson where students were learning about abstraction and subtractive sculpture methods through carving plaster went something like this.

\begin{itemize}
  \item \textbf{Student 1:} I don’t like this project because I want to make something representational, like a dragon.
  \item \textbf{Student 2:} I like it a lot! I enjoy the freedom of working abstractly
  \item \textbf{Student 3:} I like it but I wish we were working bigger. It’s hard to carve this size block of plaster.
  \end{itemize}

(The other students agreed.)

This and other conversations throughout the year, as well as surveys, examples of student work, and quantitative analysis of high vs. low quality work, have helped me to modify lessons and instructional materials so that more students are engaged according to my own definition. I learned the following:
Most students strongly favored

- projects with familiar materials, like clay.
- projects using more durable materials.
- projects that they executed on their own rather than with a partner

I also learned:

- Students were more accepting of trying new materials than last year.
- If students didn't like their own work in a particular medium, they did recognize and appreciate quality work by their peers.
- Although most assignments include a degree of choice in how they are executed to help students make personal connections, students often requested more choices.
- Sometimes unexpected factors limited a student’s liking for a material, such as how it smelled or felt to touch.

Not surprisingly, the best work by the majority of students was done in clay. This can be attributed to the availability of good examples of student work and teacher expertise, besides students’ relative familiarity with the material and techniques.

I realized well into the year, however, that I had been so busy creating assignments, demonstration projects, and assessments that I had neglected to look at research on student engagement.

Researchers conclude that “engaged students learn more, retain more, and enjoy learning activities more than students who are not engaged” (Bowen, 2003). Student engagement can be viewed through multiple dimensions: behavioral (e.g., time on task), emotional (such as a sense of belonging), or cognitive (demonstrated through perseverance and problem solving) (Fredericks, 2011), distinctions I had not considered. I discovered several scholars whose definition of student engagement resembled mine. Phil Schlechty is often cited by other writers for his work on student engagement. Head of the Schlechty Center for Leadership on School Reform, he identifies three characteristics of engaged students: “(1) they are attracted to their work, (2) they persist in their work despite challenges and obstacles, and (3) they take visible delight in accomplishing their work” (Strong, Silver, and Robinson, 1995). In their research into what motivates students, Strong, Silver, and Robinson arrive at a model of student engagement they call SCORE. They write:

As the responses to our questions showed, people who are engaged in their work are driven by four essential goals, each of which satisfies a particular human need:

- **Success** (the need for mastery),
- **Curiosity** (the need for understanding),
- **Originality** (the need for self-expression),
- **Relationships** (the need for involvement with others).

...Under the right classroom conditions and at the right level for each student, they can build the motivation and **Energy** (to complete our acronym) that is essential for a complete and productive life.

I believe that this concept of student engagement sets out the conditions I should address in designing effective lessons, NOT whether a lesson should use material X or Y, or how long it should optimally take to complete. Success—mastery—seems to be the key element for high school students. That students have
typically been resistant to materials other than clay can be seen as a desire for the *mastery* they know they can achieve with the familiar material. Familiarity with a material fuels a student’s ideas for how to use it, or his need for *self-expression*. Success attracts recognition from others, or *positive relationships*. I therefore conclude that I need to put into place conditions where students can experience similar mastery with nonclay materials.

**Implications:**
My original research question has changed from “What factors promote or limit student engagement in art, particularly in 3D design?” to “What can I do to help students achieve mastery that leads to personal engagement and high quality work?” The SCORE model of engagement suggests that focusing on strategies to improve students’ understanding of what success looks like is a good place to start. These will likely include:

- Providing multiple and varied examples of quality work
- Modeling skills and breaking down procedures
- Scaffolding instruction--building from small successes to larger ones
- Providing consistent, clear, and immediate feedback

These are all relatively obvious conditions for effective instruction. Because I want students to discover their own artistic voices and be willing to take risks, I would also add:

- Establishing a culture in which experimentation and failure are seen as steps on the path to success.

I will continue to solicit student responses to the assignments I create, but rather than attempting to measure student engagement in a systematic way, I feel that focusing on instructional design for the next year will best meet my students needs. The literature on quality work design reviewed by Bowen (2003) and the resources of the Schlechty Center may be helpful.

**References:**


