


# Bringing Student Choice to Assessment in Science Classes

---

 [edutopia.org/article/bringing-student-choice-assessment-science-classes](https://edutopia.org/article/bringing-student-choice-assessment-science-classes)

## Assessment

What happens when students can opt to skip tests and instead give oral presentations or create art to show what they know?

By John Dorroh

November 13, 2019



Art Directors & TRIP / Alamy Stock Photo

One day while I was giving a lecture on the life cycle of ferns in a Biology I class, I noticed several students doodling rather than taking notes. Having learned to pick my battles, I ignored this rather than making a big deal about it.

When class was over, I asked one of the doodlers if I could see his notebook. I was flabbergasted to see that he'd made a series of spot-on sketches on the life cycle of ferns.

He explained that he was experimenting with a new note-taking technique using art. He'd been sketching his way through several other classes and was fairly certain that he was understanding and remembering the content better. I told him to continue doing whatever helped and to keep me posted.

Throughout the semester I noticed ways that other students excelled. One enjoyed giving oral reports that incorporated video clips and digital pieces of supporting evidence. Another crafted beautifully written essays, and another was an encourager in her small group, leading her group through some rather sophisticated problem-solving.

I made a list of all of the ways in which I evaluated my students throughout the semester. There were seven: journaling, lab work, oral reports, a writing cluster (drama, fiction, poetry, and essays), small group work, artwork, and written tests.

When the spring semester began, I told my students that I would be evaluating them using a new approach what would bring student choice to assessment.

Here's the system I set up: Each student would choose at least three modes from the list above for the nine-week grading period. If they didn't want to take tests, they wouldn't have to—they would use other modes to demonstrate the learning that I would previously have tested. Once they made their choices, they had to stick with them for the whole grading period.

It's important to note that students were evaluated only with the modes that they selected. Let's say that a student didn't chose lab work. When we went into the lab, that student went with us—and could participate—but would not receive a grade. I never left any students unattended, and they always had the option to participate.

To evaluate their art and writing—not a common practice in science—I developed Fact Sheets, one for art and one for writing, that were a relatively easy way to do this objectively. If a student created a poster to show their learning, they had to attach an Art Fact Sheet that included 10 facts from the content for that objective that were evident in the poster. On a poster of a typical animal cell, for example, they might write, "Animal cells have mitochondria that are involved in energy production." They would prepare a legend that allowed me to easily identify their facts.

I used the same approach for writing. If a student wrote a short play based on bioengineering principles, for example, they would attach a Writing Fact Sheet and underline the facts from the content for that objective, numbering each one for easy identification.

Writing in science journals can be very subjective: How would I assign a grade to a student's thoughts? Sometimes I used specific questions that had to be addressed. If the student did address the questions, credit was given. At other times I asked that they write a half-page on a given topic. If they did, I gave them full credit.

To make sure their parents and guardians understood this system, I held three open houses and invited several of our local business partners to participate by bringing snacks and a few cool door prizes—I really wanted to encourage participation because

it was important that parents understand how my system would work. About 75 percent of my students' homes were represented.

Get the best of Edutopia in your inbox each week.

---

## What Students Chose

---

It was no surprise that very few students signed up to take tests. For the two or three students in each class who chose traditional testing as one of their modes, I made sure they had a comfortable space in the breezeway between the classroom and the lab. Other students worked on their projects while test-takers were busy. It worked out quite well.

Although the student choices were all over the board, the overall percentages that first semester looked like this:

- lab work: 95 percent of students
- small group work: 93 percent
- journaling: 90 percent
- oral reports: 40 percent
- writing cluster: 15 percent
- artwork: 12 percent
- written tests: 6 percent

The most common choice combination was lab work, small group work, and journaling—a combination that seems naturally tailored for an active science classroom and lab. Students did not have to participate in the activities of the modes they didn't choose, so 5 percent of my students didn't do the lab work, 7 percent of them didn't participate in small group work, and so on.

Students often forgot what choices they made, so I posted their choices in lists on the back of the classroom door. I also posted the protocols, guidelines, and deadlines on large poster boards.

In order to prevent deadline overload, I staggered deadlines so that no student had more than one project due on any single day—the products in each mode were due on different days.

## Reality Check: My Principal's Input

---

My principal was curious about my new system—and concerned about whether my students were meeting all of the standards and objectives. He asked me to administer one written test at the end of each grading period. Although I didn't think this was necessary, he was the principal.

As it turned out, most of my students performed well on those tests, and after a year my principal seemed convinced that the new system worked well without them.

My original goals in giving students a choice in how I would evaluate them were to provide ownership in the process, to put the burden of responsibility of learning on the students' shoulders, and to help each student be as successful as possible. I also wanted them to discover on their own which modes worked best for them. Most found it refreshing to know that if they made poor choices, they could change them in the next grading period.

An unexpected side effect was that I was never bored—the students constantly surprised me with their creations and apparent understanding of content. And switching from orthodox methods of evaluating student progress—written tests, canned lab activities, and the occasional report—to a choice system created an environment that fostered authentic understanding of scientific principles and concepts. Students began to see themselves thinking and behaving like scientists.