

Arts Discipline Examples

VISUAL ARTS

CONTEXT

Teachers from multiple schools participating in a three-day course on the integration of science and art have been notified that the Department of Education is planning on implementing the Next Generation Science Standards (NGSS). After talking with multiple teachers and administrators about how NGSS is being rolled out, the teaching artist discovers that many schools have not yet begun to formally adopt these new standards. In anticipation of this coming transition, the teaching artist plans the PD experience to include a guided inquiry of the overall structure and format of the NGSS. Then, over the course of the workshop, participants explore how the visual arts can assist in the scientific process of creating models to visualize natural phenomena—one of the eight scientific practices emphasized in NGSS.

ESTABLISHING PURPOSE

As part of a multi-year initiative to develop arts-integrated strategies, an elementary school participated in a series of full-faculty PD experiences. In order to establish purpose at the beginning of this process, the museum facilitators shared the following research example and teacher quote about the impact of arts integration on student engagement:

Research

The research of [Catterall and Peppler \(2007\)](#) suggests that the visual arts may help boost student engagement and focus. These findings support the idea that integrating the visual arts with other content may help to increase engagement in learning. Their study of third graders from inner city schools in Los Angeles and St. Louis revealed:

During arts classes, the entire class was engaged and focused 15% to 30% more of the time than in their home classrooms, depending on which participating class we observed. Participating students were able to maintain higher levels of focus and engagement in their home classrooms for longer periods of time when compared to their non-participating peers. We could venture a modest case for the transfer of increased focus and engagement from the arts classroom back to the home classroom based on these data (p. 557).

Teacher quote:

I was mostly surprised about the student's engagement level. The students wanted to continue to read and research the Hot Spot Theory. Others loved drawing and sketching their understanding of fast processes. Overall, they were able to re-create what they saw

and not merely record observations. They were able to gather and synthesize information by using art.

-5th Grade Teacher

LEARNING TARGETS

In a 3-day institute, teachers apply visual arts techniques within field journals. Since the first day of the institute is outdoors, the teaching artist sends the agenda and the learning targets via email in advance, and verbally reminds participants on site.

Enduring Understanding: Art enhances observation, and observation enhances art.

Essential Question: How do visual arts techniques help us observe and record the natural world?

Objectives: Teachers will...

- KNOW a variety of place-based and adaptable strategies for utilizing field journals to gather and synthesize information about the natural world.
- BE ABLE TO apply a variety of place-based and adaptable strategies for utilizing field journals to particular situations and circumstances.
- Be ABLE TO approach art making with confidence.
- BE ABLE TO develop classroom lessons that integrate art, literacy and science using field journals.
- APPRECIATE interdisciplinary approaches to making meaning of the natural world.

ARTS CONTENT FOCUS

During a one-day workshop on creating visual narratives from primary sources in Social Studies, teachers learn about multiple-panel narratives by viewing exemplars from comics and graphic novels: *Bacchus Vol. 1* by Eddie Campbell, and *Bright-Eyed at Midnight* by Leslie Stei. Together, they select specific panels, using these to discuss conventions, possibilities and to identify key principles of design:

Balance - The sense of stability achieved through implied weight of an object

Emphasis - When one element of an artwork stands out more than another

Movement - The visual flow of the artwork

Proportion - The ratio of one art element to another

Variety - The counterweight to harmony creates visual interest by slightly changing or using different elements together in a composition

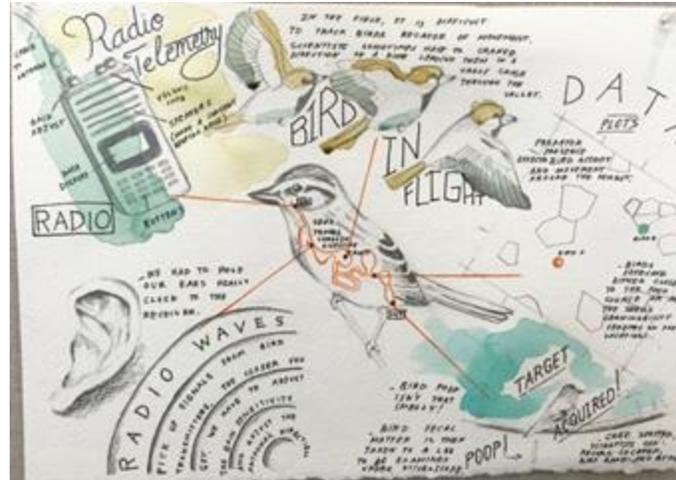
EXPERIENCE

During this intensive, three-day course on thematic units that integrates Science and Visual Art, teachers participate first as learners within a model unit. They begin by engaging in a series of drawing and watercolor exercises, through which they develop some artistic skills they will use to gather and synthesize information throughout the unit. For example, the teaching artist provides guidance to help participants better synch the movement of their eyes and hands as they draw, and provides pointers on

how to artistically capture birds in motion. Teachers head into the field for an immersive experience with researchers, investigating the roles that native and introduced birds play as seed dispersers within Hawaiian ecosystems. As the researchers gather birds from mist nets in the forest, take morphological measurements, and band birds, the classroom teachers document the experience in images and writing in their field journals. Teachers have the opportunity to explore a number of questions, ranging from the nature of how science is carried out, to what role humans should play in managing the dynamic relationship of native and introduced species in Hawai'i. Through artist demonstrations, guided practice, and artmaking, the teachers strengthen their understanding of artistic principles and techniques, and grow more confident as artists.



This classroom teacher focuses on the story of birds in Hawai'i—how endemic species evolved on the islands and the impacts of humans and introduced species on those endemic birds.



In this illustrated narrative, the classroom teacher focuses on how researchers in the field gather information about bird movements using radio telemetry.

FACILITATION

During a 1-day workshop on creating inquiry-based museum experiences that connect to Social Studies and Science standards, classroom teachers participate as learners in a range of protocols that encourage active responses to artwork. A protocol is a structure that makes it safe for participants to listen, challenge each other, and ensures that all voices are heard. For example, in the ODI+1 protocol (see Resources), six teachers gather around a piece of art and observe it for one minute in silence. They begin by describing the artwork in detail, including the language of the elements and principles. Next, they discuss their interpretations or inferences about the meanings depicted within the artwork. Finally, each asks a question or makes a “wondering” statement about the artwork. After exploring multiple protocols such as this, classroom teachers move to an exhibition that is new to them. In small groups, each teacher chooses from one of the protocols and takes a turn facilitating this for others. After this practice-round of facilitation, teachers reflect as a group on how they might implement these protocols with their students.

REFLECTION

Teachers are participating in a half-day workshop to develop object-based learning strategies. The teaching artist presents them with a range of authentic objects from a museum lending collection however, the objects are covered, and the teachers must sketch them using only their sense of touch as they reach under the fabric cover. They write inferences about the object based on these observations, and then record questions they have about the object. At the end, they are able to uncover the object and add more details to their drawing and written observations. Teachers then pair-share with a partner to reflect on the experience, responding to the following prompts:

- How did drawing from touch affect the way you gathered information about your object and how you drew it?

- What was it like using your own senses to explore the object first, before learning anything about it from outside sources?
- How might you adapt this activity for the students in your classroom?

ASSESSMENT

Teachers in a three-day PD course focused on Micronesia explore Palauan folktales and the traditional, wooden storyboards that depict these tales. They create their own versions of storyboards in a printmaking activity. They then look at examples of storyboards students created as a way of visualizing the main events of a folktale that was read aloud in class. The teachers discuss these samples of student work in small groups and assess them based on the following criteria:

- How did the student incorporate traditional storyboard design motifs?
- How does the student artwork reflect key events from the story?
- What creative choices are evident in the artwork??

PLANNING

After participating as learners in a thematic unit that integrates art and science, examining the unit structure and reflecting on their own experience in the workshop, classroom teachers form grade-level groups to plan thematic units for their classrooms. They use a unit template and receive support and feedback from the workshop facilitator.

EVALUATION

This full-day workshop is intended to help classroom teachers: a) become more familiar and comfortable with the museum; b) develop strategies, aligned with their curriculum, for engaging with art at the museum and in their classrooms; and c) increase their skills in drawing and bolster their confidence as artists. The end-of-workshop evaluation asks specifically about these goals, but also includes open-ended questions to evoke further explanation. The teaching artist collects the completed forms, summarizes the quantitative data, and continues to experiment with different approaches in order to improve the areas that indicate the highest need.