

Collaborations in Education: Focus on High School Students

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Collaboration with Public Schools



Historic Cemetery Conservation

Science: Geology, structure
Art history: Iconography & working methods
Fine arts: Preservation and repair

Sample Powerpoint slide from BHSA lecture.



The Brooklyn High School for the Arts (BHSA) in downtown Brooklyn, New York has a special interdisciplinary academic focus on Preservation Arts, fine arts, visual arts, and performing arts combined with artisan skills training and an internship component. We were invited to participate in the Visiting Artisans program in the Preservation Arts track for two consecutive years. Our 3-day visits included lectures, brief science experiments and hands-on workshop activities that introduced concepts of both stone and metals conservation.

The curriculum at this school utilizes case studies of historic sites to illustrate preservation issues and to teach general high school topics. As Green-Wood Cemetery

in Brooklyn is a major component of this curriculum, we initially focused our talks on the issues of degradation of outdoor stone and methods of conservation intervention in cemeteries. We also provided an art historical context for these types of sites in New England, discussing historical stone carving techniques and iconography. On our second visit, we expanded our subject matter to include an introduction to the science, working methods and conservation of metals, for the students who had attended our lecture the previous year. Each visit also included a general introduction to fine arts conservation as the intersection of science, art and history, and an explanation of the different specialties in the field.

Station 1 names of students in group:

ALL GROUP MEMBERS MUST WEAR GLOVES. Repical and lime putty. (Repical is a trade name for a marble patching compound. It is supplied in various grain sizes. Lime putty is the base for many marble mortars. Lime is made from roasting limestone, and then adding water to hydrate the resulting calcium oxide. Over time, when exposed to air, the lime will eventually turn back to calcium carbonate—the chemical makeup of limestone.)

Instructions:

Using a popsicle stick and the plastic palette, mix a small amount of water into the Repical. Spread the repical on the cardboard. Add a small amount of pigment to the wet Repical. Spread the tinted Repical out on cardboard.

Next, put on a pair of safety glasses. Using a popsicle stick, spread out a small amount of lime putty onto the cardboard. Working in small amounts, add one type of marble powder until the mix sticks together but it crumbly, like damp sand.

Next, add sand to the lime putty, in the same way you added the marble dust.

Questions:

1. What differences do you observe between the Repical and the lime mixtures? How about between the marble dust and the sand putties?

2. Which material did you best prefer to work with? Which one the least? Why?

Collaborations with Museum Educators

Metropolitan Museum of Art:

We have offered Saturday outreach classes to high school students for the past four years at the Metropolitan Museum of Art (MMA). These classes are free for the students, and given through the Education Department. Topics have included stone conservation, panel paintings conservation, glass conservation and historic preservation. We provide students with a general introduction to the field of conservation and its specialties before focusing on a specific material. The classes are structured into three parts:

- Powerpoint lecture (approx 45 minutes)
- Hands-on activity (focusing on either conservation treatment or studio art techniques, approx 45 minutes)
- Gallery visit (approx 30 minutes)

In the gallery, we engage the students in discussions about the chosen artworks, to help them apply the information conveyed earlier during the lecture.

The students have been a diverse group of high school juniors and seniors interested in museum careers. They usually are very familiar with the chemistry concepts we cover and are interested to find a real-world application of their high school education!

Museum of Modern Art:

During the initial planning stages of our Met class, Rika Burnham, Director of High School programs at the MMA, connected us with Heather Maxson, former Educator at the Museum of Modern Art (MoMA). Heather, Chris McGlinchey and Roger Griffith were designing a similar but more extensive class for high school students at MoMA. The development of both of our classes was enriched by this communication, during which we exchanged ideas that helped to differentiate our approaches. We continue to have a relationship with this class, by providing tours for the MoMA students of the MMA's conservation labs, and some students have built on our class by then attending the classes at the MoMA.



Materials -Surface

First - glue layer to seal the wood, reduce absorption of moisture

Gesso layers:
Traditional gesso = rabbit skin glue + chalk (calcium carbonate)

Gilding layers:
Bole or other preparatory layer
Gold (or silver or tin) leaf
Burnishing

Paint layers
Pastiglia
Sgraffito

Sample Powerpoint slide from MMA lecture.



Future Directions

Students...

These classes have led to ongoing relationships with students who are interested in conservation careers. We are mentoring one former class participant as she prepares a two-year science project focused on the use of enzymes in objects conservation, and two other students continue to volunteer in varied capacities with the department of Objects Conservation.

Teachers...

We look forward to expanding our outreach to include sessions for teachers through the MMA Education Department. This effort will eventually include both grade school teachers and high school science and art teachers. We are beginning with a general introduction to conservation for a group of local teachers, and hope to expand the program to half-day or full-day seminars, webinars, and/or group visits to the galleries. Our approach will include lesson plans that introduce scientific concepts through the use of the museum's collections, thereby both broadening students' appreciation of the collection and providing them with a real-world application of their science education. For example, a lesson plan may focus on the chemical and physical properties of metals and how these relate to artists' working techniques, as illustrated by Renaissance or Egyptian bronze sculpture.



School Districts...

We would also like to develop a conservation-based curriculum package that will offer supplemental lessons in applied chemistry and biology to high school classes. Similar packages are already offered by the fields of forensics and environmental science. The lessons would be designed around the existing standardized curriculum requirements for New York State public schools, and would be developed in conjunction with high school science teachers. This curriculum could also (or initially) be offered through homeschooling groups.

YOU!

We hope to hear from colleagues who are interested in these projects and have ideas, suggestions, connections, etc. Please contact us at WWW.SBECONSERVATION.COM