

# Safety and environmental protection in the arts

With the recognition that there are inherent occupational and environmental hazards in the visual arts comes the challenge of finding suitable ways to educate future artists, provide for regulatory compliance and help reduce the potential for accidents and injuries in the studio. Owing to the diversity of activities, products and processes used in the visual arts, meeting this challenge is not simple and requires more than one approach. At Dartmouth College, part of our approach has been to develop a mastery-based training program that covers the fundamentals of occupational and environmental safety in the studio arts.

*Safety and Environment in the Arts* is the outcome of collaboration between the College's Studio Art faculty, its students and the Office of Environmental Health and Safety (EHS). The program provides a basic introduction to EHS issues in the studio, satisfies a number of occupational and environmental regulations, and provides a foundation on which each faculty member then gives studio-specific information. At a minimum, all students are provided with consistent information across several disciplines using a web-based program that is accessible at all times. At the end of the module, a brief test helps to measure comprehension. A separate administrative interface makes record keeping easy.

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## INTRODUCTION

Visual artists oftentimes use hazardous materials and processes in their work. These hazardous materials and processes can exist singularly or in some combination in an art studio. Some hazards are obvious to even a casual observer and some are not. Sometimes the hazards are comparatively small but the risk of harm (chance of occurrence) is significant because they are not well controlled. Common studio hazards can include the potential risk of injury or illness from physical causes (noise, acute or cumulative trauma, slips/falls, musculoskeletal, thermal

burns, "welders flash", etc.) and chemical exposure (solvents, heavy metals, inorganic dusts, etc.). Environmental harm can occur without provisions for proper hazardous waste disposal.

Some occupations have always been hazardous.<sup>1,2</sup> In some cases, the visual arts are no exception. Chronic exposure to lead may have contributed to Vincent van Gogh's so-called "toxic psychosis".<sup>3</sup> Even as safety and environmental awareness has grown, current academic art literature reminds us of famous artists whose demise was likely hastened by the materials they used in the studio.<sup>4</sup>

Improvements in mechanical safety mean that the power tools and equipment available to artists today are inherently safer to use. Art materials are also safer today than just a few years ago.<sup>5,6</sup> Artists today are also playing an active role in finding safer ways to practice their craft sometimes with materials and methods that span centuries.<sup>7</sup>

Since the 1970s, federal and state safety and environmental laws require that employers using hazardous materials and processes comply with various enforceable standards. These regulatory standards along with an ever-growing safety and environmen-

tal awareness by artists mean that an art studio can be safer today than just a few years ago. In many instances, safety and environmental compliance is not optional. If the studio is a workplace, school or cooperative, then the answer is simple—federal and state safety and environmental standards apply—in addition to legal liability. If the studio is private or within a residence, then less direct regulation will apply but liability in one form or another always remains, as do the hazards and risks.

While artists are uniquely individualistic in how they express themselves many of the hazardous materials and processes they use are similar to those found in fabrication and manufacturing—typically on a smaller or laboratory-like scale. A metal sculptor faces the same potential hazards in their private studio as a welder in an OSHA compliant assembly plant.<sup>8</sup> The hazards and inherent risks are present whether they are well controlled or not.<sup>9</sup> However, do artists know enough about safety? Maybe a better question is simply: do safety practitioners understand the culture of artists? One-step further, do safety practitioners sometimes miss the point by harping on regulations, fines, and liability at the expense of what is ulti-

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mately important—preventing harm? Are there better ways for safety practitioners and artists to work together?

Our experience demonstrates that a progressive, iterative process combined with a desire to do the right thing can lead to a sustainable dialog between artists and safety practitioners. In turn, both professions can learn something important from one another. The purpose of this paper is to relate a partnership that has grown overtime, with the development of a web-based training program as one of the positive outcomes.

#### **ASSUMPTIONS AND STARTING POINTS**

- Ten years ago, artists and safety practitioners at Dartmouth College understood the need for greater attention to safety and environmental compliance.
- The hazards and risks in our studios were observable in some cases, not so obvious in others and yet to be discovered.
- Trust and confidence were shaky.
- Both parties needed each other to be successful.
- Both parties understood their obligation to train and educate future artists to be safe and environmentally conscientious.
  - Train them in specific practices and procedures—some unique to Dartmouth College.
  - Educate them to apply fundamental concepts in new situations and to share with others in the future.
- Safety and creativity are actually compatible ends and both rely on process to ensure success.
- Safety can be more colorful and creative when artists are involved.

#### **OSHA standards that may apply**

- Electrical safety/lock-out/tag-out
- Fire safety/evacuation/egress
- Hazard communication
- Personal protective equipment
- Machine guarding
- Welding

#### **EPA's college and university inspection initiative**

- Inspections have included art studios and darkrooms
- Key issues include waste determinations, waste collection, handling and disposal
- Hazardous waste training
- Some schools have faced enormous fines

#### **SAFETY AND ENVIRONMENT FROM AN ARTIST'S PERSPECTIVE**

Teaching art in a liberal arts college has some unique environmental health and safety challenges. The introduction of young and largely inexperienced students into the unfamiliar confines of an art studio means that safety and environmental protection suddenly becomes more dynamic—and more complex. For art faculty, our responsibilities are to instruct, to engage our students in the creative process, while protecting them from harm. There are very few absolutes in the world of art, but in the academic world, it is unquestionably necessary to construct a creative environment that protects these young people from illness and serious injury.

As an artist and an educator, there are essentially two hazard categories. The first category is comprised of “external” hazards (the potential injuries that can result from the inattentive use of power saws, careless use of sharp carving tools, or injury from flying debris). The second category consists of “internal” hazards (potential harm from dust, vapors, fumes, noise and welding flash). Categorizing potential hazards is a hazard in itself, for it should be obvious to anyone who has spent any time at all in an art studio that the creative process is a complicated enterprise. There is very little that falls neatly into one category or another.

I have been a practicing artist for more than 25 years. As an undergraduate, I studied fine arts with a concentration in sculpture. After graduation, I spent time at a professional art school before completing a Masters of Fine Arts degree in sculpture. Even with this

educational background, my training in environmental health and safety was rudimentary at best: wear your safety glasses and dispose of your hazardous wastes where they do not bother someone else. With little background and information to rely upon, my role as an art instructor was hampered by the inadequacy of my own training and resulting poor work habits. Until recently, it would be fair to say that I logged more hours without safety glasses than with them. For many years, my own philosophy with power tools was simply: “I’ve always done it this way and haven’t been hurt yet”.

Artists tend to be somewhat impetuous and impatient, and this can be further complicated by an underlying sense of immortality—at least while young. The artistic spirit of boldly going forth can be an advantage in the creative process, since art requires a willingness to take risks. However, at the same time, the reality is that this attitude can result in accidents and long-term health related consequences. When pressed, I suspect most sculptors would admit that wearing safety glasses in the studio is a good idea. On the other hand, during the course of the day, many may tend to think: “It is only one cut – and an easy cut – one that I have made a thousand times before, and I know I won’t get hurt, the glasses are all the way on the other side of the studio, so ...”

My own experience suggests that sharp tools, inattention or hazardous materials are not the cause of most studio injuries, but rather an individual and collective sense of hubris. Artists are by nature nonconformists. Encouraged (or compelled) to break the conventions and traditions of the past, to ignore “the rules”, artists intentionally look for new and innovative forms of self-expression. Artists simply do not like being told what to do, and while this is essential for making good art, it may complicate the notion of safety and compliance.

#### **THE ROLE OF ARTISTS IN CREATING CHANGE: A STUDY IN DIALOG**

My academic career began 20 years ago in the Studio Art department at

Dartmouth College. Dartmouth was not unlike the vast majority of other colleges and universities at the time with only a limited environmental health function. Twenty years ago, health and safety concerns were essentially the obvious and the intuitive. For example, no drain disposal of hazardous chemicals, wear eye protection with power tools and “be careful”. What we knew to be the safety program then was not especially helpful. The typical interactions came in the form of notes telling members of the Studio Art department that we were not doing things properly. I once remember being told we needed self-closing containers for our oily rags. What we were not told was where to get them or how to pay for them. To us, compliance was more closely associated with blame. When we did ask questions, almost every inquiry came back in the form a criticism.

In the early days, the sculpture studio was locked at 5:00 p.m. There was no centralized waste collection area. There were no hazardous material storage procedures or flammable storage cabinets. We had no source of help with information, training or even someone to ask questions and get answers. The studios lacked adequate personal protective equipment. There was inadequate record keeping and improper signage. Obviously, things were not where they needed to be on several fronts. Because of all of these inadequacies, the collective relationship between the Studio Art department and the safety function at the time was decidedly adversarial. There was no understanding that compliance was a shared need—one that had a mutually beneficial solution.

Ten years ago, Dartmouth College recognized the need to do things differently and made a major investment in developing a viable Environmental Health and Safety (EHS) program. The “doom and gloom” safety operation was replaced with a dedicated and helpful resource to the College community. Today, it is no longer a case of ‘us’ against ‘them’, but rather a cooperative effort between equals—people who are anxious to provide a safe and responsible work place for the stu-

dents, faculty and staff. It has become a matter of practice, as well as conscience, to ask for inspections of any new layout, rearrangement, or changes in our studios. With the help and support of EHS, we can now go to the Dean’s office (the source of most of our funding) for financial assistance when it comes to rectifying serious safety concerns in the studios. Working together, we have improved signage, waste collection, and now conduct our own routine self-inspections. The studios are now open 24 hours a day, and regulated in such a way as to provide a safe and productive environment. Gone is the day when EHS handed down demands for better compliance. A more collegial form of communication has replaced this archaic system, where the salient question is always “what can we do to help our students to understand the value and desirability of better work habits?”

Just as an artist might go to a valued colleague (and critic) to ask for advice on a particular work of art – asking for honest and direct criticism – I have learned the effectiveness of going to our EHS personnel and asking, “What’s wrong with this situation?” Admittedly, just as any critical dialogue between two artists talking about a challenging and problematic work of art can be painful to the author of the work, conversations with the experts on safety can be temporarily demoralizing. In both cases, one might have tried their absolute best to do the right thing, but come up short of an effective and workable solution. However, the same discussion that shines a light on the inadequacies of a work of art, or a new system for waste disposal, might also begin to point to the answers that will ultimately lead to a new and successful direction for further inquiry.

Our studios now feature well-designed and clean layouts. The power tools are well guarded; we have information and resources that standardize the safety and environmental message to our students. We are able to be more generous in providing various forms of personal protective equipment, and we have a much better record-keeping system. We have finished a web-based training module that will allow us to

easily track and record the progress of our students as they navigate the ins and outs of environmental health and safety rules and regulations. This web-based course of study covers aspects of environmental health and safety across the campus, serving the needs of the drama department, the studio art department, metal smithing, wood-working, and pottery studios. Our web-based training does not replace the one-on-one or small group training from the instructors. Rather, it is a way to provide information to a large number of students in an efficient and reliable way.

Beyond the physical improvements that have made our art studios better places to engage in the creative life, there have been significant psychological advances on the part of the faculty and students. We, the faculty, practice better safety habits in our own studios because we are better informed and because those habits no longer stand separate from the true creative process. Because we now practice better safety habits, we have become better role models for our students. We have created a culture of safety and awareness that is grounded in wanting to do the best that we can in each situation. What was once an onerous burden is now a shared responsibility and a commitment to heighten the creative process by providing safe and environmentally friendly studios and classrooms for our students.

#### **ADAPTING “TRADITIONAL” SAFETY TO THE STUDIO ARTS IN AN ACADEMIC SETTING**

In several aspects, an art studio is similar to a research laboratory. Both are “workshops” that likely use potentially hazardous materials and processes to create, observe, experience or reproduce something. When successful, the use of hazardous materials and processes result in some tangible product that we can see, experience, understand and share in some way.

Artists – like scientists – are interested in outcomes derived from processes – often using a diversity of materials and methods. The propensity

to create in any discipline must be respected, yet guided. In an academic environment, artists, scientists, administrators and others typically find “regulatory speak” to be negative, unimpressive and less than helpful. Artists and others perceive “reasonableness” as the extent to which they are assisted in creating a safe and compliant environment (without too much compromise of their craft, of course). Reasonableness also includes the extent to which individual needs and concerns are considered. After all, most people want to do the right thing. Artists are often socially and environmentally aware to begin with—an attribute that makes the message that much more likely to take hold.

Safety and environmental protection in the studio arts is a little bit of everything but it all starts with house-keeping. Supplies, services and advocacy sustain the initial clean up. Safety and environmental protection in any academic environment is also an iterative process. Each fall or even every term an introduction (or review) of the basics is needed for all new faculty, staff and students. Beyond the basics, a helpful, progressive approach fosters a positive attitude that allows safety and environmental protection to become part of the curriculum.

Regretfully, safety practitioners are often the bearers of bad news especially in the beginning when the needs are usually greatest. Shortcomings are unmet needs rather than failures. Maintaining a sense of humor helps sustain the dialog and promotes further cooperation. In our experience, artists are among the most creative, insightful and empathetic members of an academic community. The safety and environment message is usually more interesting if presented in a constructive way. The “packaging” of safety and environmental messages into a single, common approach that covers the range of regulatory domains will very likely be more effective than a haphazard approach. To the recipient, who regulates what is less important than knowing what gloves to wear, what information must be kept, where to turn to for help, how to store and dispose of things and what to do if something goes awry.

### **DARTMOUTH'S EXPERIENCE: DEVELOPMENT OF A WEB-BASED TRAINING MODULE**

So many safety and environmental regulations require training in one form or another and the list grows almost yearly. Traditional didactic training works well when schedules can be coordinated and there is enough time available for everyone involved. Traditional classroom training is often impractical owing to the diversity of activities and needs in an academic environment. Curriculum development takes time; there is a paucity of existing or adaptable training materials that would be credible with artists.

In our initial assumptions, training and education were significant priorities for both art faculty and safety practitioners. Since other areas of Dartmouth College (laboratories, maintenance and support functions, etc.) also have training needs and restraints, the Office of Environmental Health and Safety (EHS) began developing web-based (intranet) training programs approximately four years ago. Safety and Environment in the Arts has been one of our more ambitious undertakings owing to the range of topics to be covered. Nonetheless, we felt it was worth the investment of time and energy knowing that an introduction common to all students in the visual arts would document the basics, create a unified approach and provide a foundation on which individual faculty could then focus on safety issues unique to their disciplines.

In their first iteration, the modules we have developed have paired text, photographs and graphics into linked sections. This “mastery-based” approach allows the student to review the material at a pace they feel comfortable with and return to the module over multiple sessions if necessary. The modules are password protected and linked to the electronic name directory for the College. Arranged by topic, the various sections include—printmaking, woodworking, welding, painting, pottery, photography, etc. At the end of the module, students must complete a multiple-choice test. Random selection from a large battery of questions ensures that no two tests are the same.

Missed questions return the student to the relevant section for review. Everyone must receive 100% on the test to receive credit. After successfully completing the test, the student receives an email message confirming that they are finished and that an electronic training record now exists. Invisible to the student, a separate web portal allows EHS staff to review training records and generate various reports.

#### **Module outline**

- Introduction
- General information
- Managing hazardous materials
- Personal protective equipment
- Workshops (woodworking, pottery, photography, etc.)
- Studios (painting, printmaking, sculpture, etc.)
- Test

While Safety and Environment in the Arts provides a general introduction to safety and environmental protection that combines general awareness along with information specific to Dartmouth College, it is not a substitute for in-class instruction or the vital role that faculty and staff play. Nor is it a way to cover all topics and situations a student may encounter. Instead, the module represents one point along the way in the evolution of a dialog and constructive relationship that helps protect students, faculty, staff and the environment.

#### **References**

1. Hamilton, A. *Exploring Dangerous Trades*, 1943, 433.
2. National Safety Council. *Injury Facts 2003 Edition*. 2003, p. 184.
3. Arnold, V. M. *N. Engl. J. Med.* 1993, October 7, 329(15), 1133.
4. Levy, E. K.; Ball, S. *CAA News*, 2004, 29(4), 1–32.
5. Luke, J. T. *Am. Artist*, 2001, 65(703), 18.
6. Willard, C. *Am. Artist*, 2001, 65(710), 10–16.
7. Whitson, N. S. *Leonardo*, 2000, 33(4), 299–304.
8. Lesser, S. *Sculpture*, 1997, 16(4), 39–41.
9. Josephs, S. *Art News*, 1999, 98(11), 164–166.