

THE PRECAUTIONARY PRINCIPLE IS YOUR PAL

<http://greenschools.net/article.php?id=127>

“Precautionary is an action taken in advance to protect people and a principle is a rule. The Precautionary Principle protects everybody against danger or injury. It’s better to be safe than sorry!”

—Alexandria Gracian, Los Angeles, Age 12.²

Robina Suwol is a mother of two in Los Angeles, California. Back in March 1998 as she was dropping her sons off at Sherman Oaks Elementary school, she saw a man in a white hazardous materials suit spraying weeds on the school grounds near where her children were passing. That night, her then six year old son Nicolas, who got a good whiff of the herbicide when he accidentally walked through the spray cloud, suffered a serious asthma attack.

The Precautionary Principle can be the foundation for a green and healthy school

Despite what she and other parents witnessed, there was no way that Suwol could absolutely prove that the chemical caused the asthma attack. “There was no medical confirmation, but in the absence of the science it was pretty clear,” she explained. “And I began to wonder: if there were a better, safer way, why weren’t we doing it?”³

Suwol’s experience echoes some serious issues when it comes to dealing with potential environmental health hazards in schools and beyond. These include the dilemmas such as how one defines which activities are safe, healthy and sustainable, and which aren’t. And who decides. If we think, or if scientific studies suggest, for instance, that using a certain chemical to clean the classroom, an herbicide to kill weeds on the school grounds, or a type of treated wood to build a play structure, might be hazardous, how do we prove it? What are the alternatives? Or, for that matter, how do we measure, prioritize and address a school or a district’s impact on the larger ecosystem? And what are we teaching our children through our actions, or our inaction? Who is responsible for all this—the principal? the teachers? the superintendent? the school board? the city? the broader community? And what role should parents, and for that matter, children play in making these decisions?

San Francisco’s 5 Essential Elements of the Precautionary Principle

1. Anticipatory Action: There is a duty to take anticipatory action to prevent harm. Government, business, and community groups, as well as the general public, share this responsibility.
2. Right to Know: The community has a right to know complete and accurate information on potential human health and environmental impacts associated with the selection of products, services, operations or plans. The burden to supply this information lies with the proponent, not with the general public.
3. Alternatives Assessment: An obligation exists to examine a full range of alternatives and select the alternative with the least potential impact on human health and the environment, including the alternative of doing nothing.
4. Full Cost Accounting: When evaluating potential alternatives, there is a duty to consider all the reasonably foreseeable costs, including raw materials, manufacturing, transportation, use, cleanup, eventual disposal, and health costs even if such costs are not reflected in the initial price. Short and long-term benefits and time thresholds should be considered when making decisions.
5. Participatory Decision Process: Decisions applying the Precautionary Principle must be transparent, participatory, and informed by the best available information.

Source: City of San Francisco, Precautionary Principle Ordinance, Section 101, August 2003, <http://temp.sfgov.org/sfenvironment/aboutus/innovative/pp/sfpp.htm>

These kinds of questions of scientific veracity and public accountability are inevitably fraught with difficulty and laden with political overtones. What's more, in these dilemmas, schools are not alone, but rather part of a much broader dynamic and debate.

For instance, the issue of demonstrating conclusive scientific proof around environmental health hazards poses a major paradox for a broad range of people—whether they be policy makers trying to forestall global warming, advocates working on behalf of children's environmental health, or the victims of a particular hazard themselves. For there is often a lack of conclusive scientific "proof" about the harm a particular product or activity may cause, or even the mere existence of a certain phenomenon such as climate change. Yet, in many cases, obtaining this definitive evidence—the veritable smoking gun— may come well after the damage is done, if ever.

In the laboratory, to prove a hypothesis, the scientist must prove cause and effect, and must be able to replicate results. But in the real world, it is difficult to create the conditions to prove, beyond a scientific doubt, that, for instance, a certain chemical causes a certain ailment. "No proof of harm," however, is not the same as "no harm."

LESSONS LEARNED FROM ACTING TOO LATE

Such a paradox is enshrined in our regulatory system, and embedded in our culture. When discussing, debating, or even legislating, we Americans will find that the burden of proof often falls on those raising concerns about the introduction or use of a certain product—whether it be an untested pesticide or a genetically engineered plant—rather than on those promoting or marketing the product. In other words, in many cases critics are compelled to prove, often beyond a scientific doubt, that a certain product or practice will have a harmful effect, rather than the manufacturer having to prove that it won't. Historically, this mindset and framework has often resulted in a big mess and very expensive efforts to clean up the mess after—the fact, rather than much more cost-effective initiatives to prevent the mess from happening in the first place.

This was the case for many decades with the role of chlorofluorocarbons (CFCs) in the destruction of the ozone layer. For example, DuPont, which was the top manufacturer of chlorofluorocarbons (CFCs) for most of the 20th century, denied the connection between CFCs and ozone destruction for 14 years after that connection was first discovered. Only after evidence was so overwhelming that dissent evaporated did DuPont finally announce its own decision to phase-out CFCs.⁴

In the case of leaded gasoline additive, too, the industry that made it fought tooth and nail against the phase-out despite evidence of childhood lead poisoning, denying that the additive was the cause.⁵ The asbestos and tobacco industries both have a similar history of denying the connection between their products and cancer, challenging the lack of conclusive scientific evidence of cause and effect.⁶ And as a former speech writer in the auto industry recalls the policy at General Motors: "If we were accused of contributing to air pollution, we would simply say nothing had been proved."⁷

In the 1990s, the toy industry kept vinyl toys on the shelves saying there was no proof of connection between toys made of PVC plastic and harm to children's health. But parents understood that there was a strong possibility of a problem and vigorously raised the issue. Since then, Europe and Japan have both instituted bans on the use of certain chemicals in toys for young children. And after much public pressure, the companies agreed to phase out dangerous vinyl additives in the US, even though advocates could not name a single child who had been affected by the chemicals.⁸

This approach of avoiding harm even when there is no absolute scientific certainty is known as the Precautionary Principle. Nancy Myers and Carolyn Raffensperger explain:

Scientific uncertainty is a fact of life even in the most obvious environmental problems, such as the disappearance of species, and in the most potentially devastating trends, such as climate change. We seldom know for sure what will

happen until it happens, and we seldom have all the answers about causes until well after the fact, if ever. Nevertheless, scientific knowledge, as incomplete as it may be, provides important clues to all of these conditions and what to do about them. When lives and the future of the planet are at stake, we must learn to act on these clues and prevent as much harm as possible, despite our imperfect knowledge and even ignorance. That is the essence of the Precautionary Principle.²

The Precautionary Principle, which can best be paraphrased by the medical proscription, “first do no harm,” or the colloquialism, “an ounce of prevention is worth a pound of cure,” is now being used in a broad and expanding number of venues. It is enshrined in several international environmental agreements; it is used as a policy tool by a growing number of government officials and corporate executives at the international, national and local levels; and it is a guidepost for more and more people in their day-to-day decision making.

WHAT’S SCHOOL GOT TO DO WITH IT?

Schools should be no exception. When making choices involving children’s (and staff’s) environmental health, schools’ resource use, and curricula, the Precautionary Principle can serve educators and parents well.

In early 1998 a group of scientists, philosophers, lawyers and environmentalists gathered at the Wingspread Conference Center in Wisconsin to discuss and define the Precautionary Principle. There they emphasized that “the key element of the principle is that it incites us to take anticipatory action in the absence of scientific certainty.” As their final declaration asserted:

When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

In this context the proponent of an activity, rather than the public, should bear the burden of proof.

The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.¹⁰

*LA Unified School
District’s precautionary
approach avoids
children’s exposure to
pesticides*

Since that time, the Precautionary Principle has gained momentum. For instance, while many international environmental agreements have made reference to it since the early 1990s, two negotiated in 2000, the Cartagena Protocol on Biosafety and the Stockholm convention on Persistent Organic Pollutants actually incorporated it as an enforceable measure. Various corporations have also adopted it as part of their environmental policy.¹¹

Closer to home, San Francisco codified the Precautionary Principle as a city ordinance in 2003, declaring that “the delay between first knowledge of harm and appropriate action to deal with it can be measured in human lives cut short.” The city adopted the Precautionary Principle as “a guiding model for future legislation.”¹² As San Francisco’s Department of the Environment explains, “Our precautionary approach asks whether a given product or practice is safe, whether it is really necessary, and whether products or practices with less environmental impact would perform just as well.”¹³

These developments, and the Precautionary Principle itself, are relevant for schools in a multiplicity of ways. For instance, the country is experiencing increased childhood asthma rates, a growing incidence of childhood cancer, and soaring rates of childhood learning disabilities. We have also experienced a veritable explosion in the proliferation of toxic chemicals introduced into the environment—with roughly one thousand new substances introduced (often without adequate testing and review) every year.¹⁴ We know that children are much more vulnerable than adults to chemical exposure. Their small and still developing bodies take in more food, drink and air per pound of body weight, leading to the potential for greater accumulation of toxic substances. Their immature body systems are generally less able to handle toxins and are not as well suited to repair damage caused by them as fully developed adult bodies are.¹⁵ Children, for example, absorb about 50% of the lead to which they are exposed, compared to 10–15% for adults.¹⁶



Community members invoked the Precautionary Principle to challenge the siting of a school next to two waste dumps in Gwinnett County Georgia.

son was poisoned. Undeterred by the size of the district—a million students and 70,000 teachers in 800 schools—she was determined to fix a problem that not only affected her children, but kids from all over LA. Suwol joined a group of environmentalists, parents, doctors, principals, teachers, food services directors, school board members and others to form the California Safe School Coalition.

Working together, these groups convinced the LA school board to adopt the IPM policy. Rather than relying on pesticides and herbicides, as most school districts still do, LA's IPM policy now demands that schools use the least toxic methods to prevent pests; chemicals are an option of last resort. "It isn't perfect. And it's a huge school district," says coalition member Martha Arguello, of Physicians for Social Responsibility. "Yet it has managed to become a model for the nation."¹⁷

Not only is LA's approach the strongest in the US, it also broke ground by being the first school district to invoke the Precautionary Principle as a guiding framework for its action. The LAUSD's policy reads in part:

The "Precautionary Principle" is the long-term objective of the District. The principle recognizes that: a) no pesticide product is free from risk or threat to human health, and b) industrial producers should be required to prove that their pesticide products demonstrate an absence of risks...rather than requiring that the government or the public prove that human health is being harmed....

In embracing the Precautionary Principle, the District will use only those pest management methods or products demonstrated to be the safest and lowest risk to children.¹⁸

The policy also stipulates that parents be notified prior to a pesticide application at any LA school. As a result, says Robina Suwol, "Every parent in the Los Angeles Unified School District has gained the right to know if their children are being exposed to pesticides."

Even though it recognizes that "full implementation of the Precautionary Principle is not possible at this time and may not be for decades," the LA school board took a pragmatic yet visionary step. It at once addressed an acute problem in the school district—childhood exposure to potentially hazardous chemicals—while also opening the door in LA and elsewhere for the Precautionary Principle to be applied more broadly in a school context.

There is no conclusive scientific "proof" that the significant increase in a plethora of childhood diseases is directly attributable to any single chemical—let alone the complex mix of compounds which all of us confront on a daily basis. However, when it comes to chemical exposure, applying the Precautionary Principle in schools—the place where children spend most of their waking hours—is a rational response to attempt to prevent such disease. The Precautionary Principle in this context could mean removing some of the most hazardous chemicals from the school environment. For instance, a precautionary approach would avoid children's exposure to pesticides and herbicides—which are regularly used to prevent or control insect, rodent and weed problems in schools—through the implementation of cost-effective alternatives.

This is precisely what Robina Suwol asked for and got when she helped convince the Los Angeles Unified School District, the second largest district in the nation, to adopt an Integrated Pest Management (IPM) policy in March 1999—one year to the day after her

For instance, inspired by the LA example, in 2004 the Georgia-based environmental justice organization Eco-Action worked with parents and community members in Gwinnett County to challenge the siting of a new school—Sycamore Elementary—between a solid waste landfill (750 feet away) and a hazardous waste dump (2000 feet away). As part of their argument to the school board there, they invoked the Precautionary Principle—asserting that toxic air and groundwater pollution from the dumps could affect children’s health at the schools. “We teach our children to obey traffic signals,” says Yomi Noibi of Eco-Action, “As adults we should do the same. When you have a warning sign—a yellow signal—you yield and stop.”¹⁹

While the LAUSD’s and Eco-Action’s use of the Precautionary Principle are still somewhat isolated incidents in terms of schools, there are myriad opportunities to employ this important tool to help make our educational institutions healthier and more sustainable places.

The Precautionary Principle can serve to address or pre-empt the potential negative consequences of chemical use in schools, and to avoid or rectify poor choices of certain building materials, designs or siting decisions. But it can also do much more. If schools were to apply it broadly and positively, the Precautionary Principle could become the foundation of a more proactive, holistic effort to create sustainable and healthy schools.

There are many opportunities to employ the Precautionary Principle in our educational institutions

Indeed, by adopting the Precautionary Principle—and applying it proactively—school leaders could not only combat unhealthy conditions and practices, but also could advance school “performance” in ways that were safe, ecologically sound and educationally productive. For instance, a precautionary approach to resource use would attempt to lighten a school’s, a district’s or an entire state’s impact on natural resources. In this respect it could focus on making schools’ consumption of energy, paper, water and building materials more sustainable. Such an application of the Precautionary Principle could also leverage schools’, districts’ and entire state education systems’ purchasing power to play a leading role in shaping markets to help address local and global issues such as deforestation, air pollution and global warming.

We could also teach a precautionary approach to our students, through words, our schools’ actions, and through hands-on learning on the school grounds and in the community. As Tom Lent, Policy Coordinator for the national non-profit group, the Healthy Building Network, remarks, “Having a school model the behavior we need in the rest of the world provides a very powerful message at an important juncture in kids’ development of critical thinking.”²⁰

In many respects the Precautionary Principle can serve as the cornerstone for building a green and healthy school. For it is not only a policy tool, but it is also a way of thinking—a culture—a way of doing things—a compass for decision making and a philosophical approach to be learned and taught.

By taking all of this on, by striving to build green schools based on the foundation of the Precautionary Principle, we can not only contribute to solving problems in the here and now, in our schools, in our communities and in the world. But by teaching our kids, through actions at our schools, to be good stewards of the Earth and actively engaged members of their communities—by teaching them to reflect on the relationship between society and nature and to respect the integrity of local, regional and global ecosystems—we can also help transform the basis and nature of decision making in the next generation.

SPECIFIC STEPS FORWARD

1. Parents, Students and School Staff Should:

- Adopt the Precautionary Principle as a foundation for teaching and decision making regarding environmental and health issues within a school.
- Pressure school districts, along with local, state and federal governments to do the same.

2. School Districts, State Education Departments, Local, State and Federal Governments Should:

Follow the lead of Los Angeles, San Francisco and others to adopt the Precautionary Principle as a policy framework for addressing environmental and children’s health issues in educational settings (see [sample School Board Resolution](#)).