

# Projector Safety in the Classroom

by Nancy Knowlton

Over the last couple of years the issue of projector safety in the classroom seems to have arisen regularly. A recent BBC article, for example, identified the light projected onto interactive whiteboards as a possible safety risk for users who face the projector light source while using the interactive whiteboard. The issue of projector safety is not new, as projectors have been used in classrooms and other public spaces for many years.

As the BBC article confirms, however, very little research has been done, and no conclusive results exist concerning damaging effects to the eyesight of users of interactive whiteboards in front-projection mode. But taking certain precautions, even in the absence of conclusive research results, intuitively makes sense.



## Manufacturer's Guidelines

SMART is very committed to safety, not just in how we ensure our products work safely with those from other manufacturers, but in all aspects of our own products. We continue to recommend that users of any projector system read and fully comply with the safety guidelines contained in the projector's user manuals.

## Guiding Students

We also instruct teachers to review the safety rules with their students and monitor both their own and students' use of projectors. One of the most basic directions is to not look directly at the light source. This is similar to the common-sense direction to not look directly at the sun.

When using an interactive whiteboard, teachers should stand to the side of the board so the projected image is visible and they do not turn directly into the projector's light path when speaking to the class. Modeling proper use will help to ensure students follow the teacher's example.

## Available Documentation

We provide safety information on our website, in our user guides, our installation guides, and in reseller information and training. When using any sophisticated system, it is essential to read the information provided and to follow the basics around safe and proper use, particularly the safety information that accompanies the projector.

## Integrated Systems

As technology evolves, we make every effort to incorporate enhanced safety features into our products. While

projectors are not our primary business, we do offer an integrated product called the SMART Board 600i interactive whiteboard system, which combines an interactive whiteboard and a short-throw projector. The short-throw projector reduces the amount of light cast onto the interactive whiteboard.

With the 600i system, the light envelope, or the area in which the user is within the light path of the projector, is reduced significantly versus traditional tabletop projector set-ups or ceiling-mounted installations. For example, the light envelope for someone 5 ft. (152 cm) tall is reduced by 88 percent, from 49 sq. ft. (4.5 sq. m.) to less than 6 sq. ft. (.5 sq. m.) versus a traditional projector set-up. For a 3 ft. (91 cm) tall student, the light envelope is eliminated altogether.

## Lumens Required

Many people today believe that the more lumens of light output from a projector, the better. The reality is that this is only true up to a point. The requirement for high light output is really a function of a number of things – the size of the displayed image, ambient light in the classroom and the interactive whiteboard used.

In many environments the demands are not onerous and a lower level of light output is sufficient. Many education systems have settled on a standard of 1,500 lumens for the projectors in their classrooms. Lumens cost money and having more is not necessarily advantageous.

## Top of Mind

Students and teachers both need safety reminders from time to time. The start of the school year and a new term are both great opportunities to reinforce the message around health and safety. Immediately correcting improper use is also important.

## Safe and Effective

With basic safety practices in place, SMART products can be counted on to create the optimal learning environment in any classroom situation, with minimal safety risks to users. Paying attention to the safe use of any product is an absolute, particularly as projector technology evolves and long-term studies on the use of interactive whiteboards with projectors are not yet available.

Nancy Knowlton is the co-founder and CEO of SMART Technologies, the world's leading supplier of interactive whiteboards. Nancy's husband and SMART co-founder, David Martin, is the inventor of the interactive whiteboard product category. Together they have built a company that is focused on delivering easy-to-use, yet feature-rich collaboration tools, including the SMART Board interactive whiteboard. Nancy can be reached at [CEO@smarttech.com](mailto:CEO@smarttech.com).