

Steve Curwood, NPR Living on Earth interview December 3<sup>rd</sup>, 1999

## Enlightening Students and Shoppers

CURWOOD: It's Living on Earth. I'm Steve Curwood. There's new research to suggest that exposure to natural light may have some powerful effects. A study measured 21,000 grade school children in three different classrooms: one in Seattle, one in California, and one in Colorado, and found students exposed to more natural light performed better and learned faster than children in rooms with more artificial light. Lisa Heschong is a partner of the Heschong Mahone Group, which produced the study.

HESCHONG: Those students were learning 20 to 25 percent faster, or mastering the curriculum that much faster, when they were in classrooms with the maximum amount of daylighting compared to the students in the classrooms with the least amount of daylighting.

CURWOOD: How exactly do you think the presence of daylight improves learning rates? Improves test scores?

HESCHONG: Well, we don't really know. This kind of a study cannot show us what a causal relationship is. It merely shows an association. The more daylight, the better students are doing. But it doesn't tell us why. So, we have to go to other studies or other theories to try and sort that out.

CURWOOD: Okay, what are some of those other theories?

HESCHONG: The other theories fall into three basic categories. One category is that there is something about daylight that improves visibility. It makes it easier to see. It makes the environment more visually comfortable, so that you can have sustained performance and better performance. The second category would be that somehow daylight improves mood, that it may make you more alert. It may make you calmer. It may make you more focused. It may improve your memory. It may improve the mood of the teacher. The third category would be that daylight improves long-term health. That there's something about daylight that improves the immune system, improves our circadian rhythms, and that overall improves functioning.

CURWOOD: Now, perhaps, since daylight is something that people enjoy, maybe just the stronger or the more senior teachers would have those classrooms. Perhaps it wasn't the light at all.

HESCHONG: Well, that is an issue that we are concerned about. We have interviewed teachers, principals, and administrators, and they have all assured us that that is not the case. But in order to

prove that statistically, we're going to have to go back and do a second-level study. We don't discount the importance of the teacher or the curriculum. Everybody knows that those are primary. But if you have an opportunity to build a new school or retrofit an old school, what this study is saying is that you would do well to enhance the amount of daylight in the classroom whenever possible. And that that also will improve student performance.

CURWOOD: Now, you've done some similar work with people in the retail business. Tell me what you did for a study and what the results were, briefly.

HESCHONG: Yes. We did a study with a retail business because we wanted to look at more than one building type. In this case, we were given data from a large chain retailer who shared their gross sales with us over an extended period of time. We were very surprised at the magnitude of the results. Controlling for all the other variables that we had available to us, the size of the store, the hours of operation, the location, we found that the stores with skylighting were selling 40 percent more than a comparable store without skylighting.

CURWOOD: (Whistles) Forty percent more sales if you have a skylight in your store than if you don't? Same company, same product --

HESCHONG: All other things being equal. Same company, same management, same advertising. It may be that daylighting is an environmental muzak. That it makes people feel happier to be in the store, and sets them at ease so that they do more shopping.

CURWOOD: Wait a second. Muzak? I mean, muzak is -- is fake, it's canned, it's sort of numbed down. Daylight is, you know, the original from Mother Nature.

HESCHONG: Well, exactly. And it might be that if we had three string quartets in retail stores, that it would do even better. That somehow making the environment more pleasant for shoppers makes a major impact on sales.

CURWOOD: Ms. Heschong, all this seems to make sense, that people would prefer natural light to artificial light. Why do you think so many buildings haven't incorporated more natural light in their designs?

HESCHONG: Well, you know, nobody is selling daylight. Nobody is making a profit from providing more daylight into schools. I don't think any of us would buy a house without any windows, but we seem to have been talked into buying workplaces and schools with few windows. In the past, there

have been standards for the provision of a minimum amount of daylight in schools. We started to abandon those standards in the '60s, when artificial lighting became so prevalent. And so, we look on this particular challenge of trying to bring more daylighting back into buildings as a fairly recent challenge. It's only a 30- or 40-year-old problem.

CURWOOD: Lisa Heschong is a partner of the Heschong Mahone Group in Fair Oaks, California.

Thanks for joining us.

HESCHONG: Well, thank you so much for your interest.

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