Well, as I see it, librarians—like teachers, authors, and other facilitators of education—can and should actively inspire learning by fostering curiosity in a similar way.

Keep 'em Coming:

FOSTERING CURIOSITY TO PROMOTE LEARNING

Glenn Murphy

"Why is my thumb upside down?" asked the child, wiggling the digits of his extended right hand as if to confirm his observation.

It was 2003, and I was working at the National Museum of Science and Industry, London—an institution that so far predates others like it that we Brits simply call it "The Science Museum." I had been working there for a little over six months, as part of the eighty-strong team of "Explainers" who roamed the museum galleries, helping kids and adults engage with the exhibits around them.

"Hmmm," I replied, "so it is. Why do you think it's upside down?"

But telling him, I knew, would have been a grave mistake.

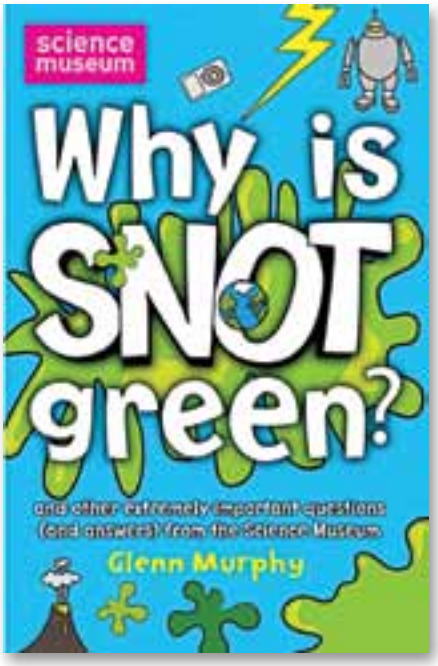
"I dunno. You work here—you tell me." Pretty sharp for an eight-year-old.

But telling him, I knew, would have been a grave mistake. Instead, I got him to look closer at the exhibit in front of him—a large, bowl-shaped mirror that reflected back a ghostly 3-D image of your outstretched hand, making it look as if you were shaking hands with yourself.

I asked him what it was made of, what shape it was, how it differed from the flat mirrors in his house. Eventually, with a bit of back-and-forth discussion, he concluded—correctly—that his thumb was upside down because the bowl-shaped mirror had flipped the reflection of his hand. In doing so, he learned a lot more about the nature of mirrors and light than I ever could have hoped to get across myself. And therein lays the power of questions.

Before becoming an author of popular science books for kids, I spent four years working with (and later, training and managing) the Science Museum Explainers. Along the way, I have learned much about the nature of facilitated learning—most of which has found its way into my writing.

In Explainer training we focused on the theory and practice of inquiry-based learning. Once the province only of Montessori and "alternative curriculum" schools, this method has gained popularity in mainstream teaching, right across Europe and the USA. The core idea is to provide a framework for learning that intentionally avoids providing the "right answers." Through carefully planned discussions, debates, experiments, and exploratory exercises, the learning



facilitator steers the student towards discovering answers. Questions lead to more questions, and learning is constructed through dialogue.

At the Science Museum, I used this method to create mini-dialogues with kids and adults in the galleries. Each time I was asked, "What's this?" or "How does this thing work?" I refrained from answering directly, and instead guided questioners towards their own interpretations through the use of "steering queries" that gently nudged them in the right direction. By resisting my urge to fully satisfy their curiosity, I not only made the experience more memorable, I empowered them to own that hard-earned knowledge, leaving open plenty of possibilities for exploring the idea further. What a disservice I'd have done by simply replying with, "It's a plasma ball. Electricity goes in here, and comes out here when you touch it."

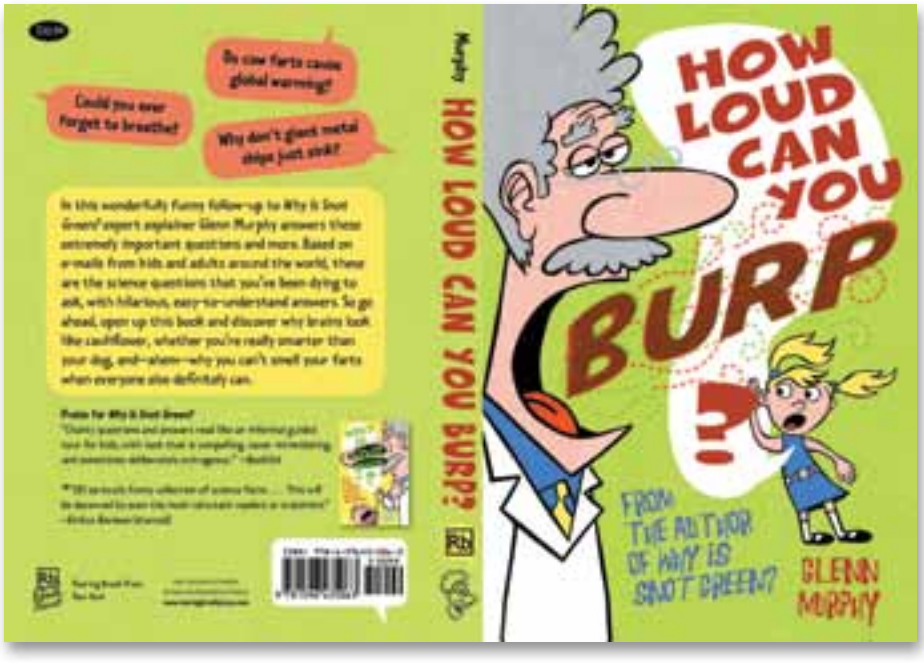
Seeing the success of this method in person, I set about attempting the same approach in my first popular-science book *Why Is Snot Green? Snot* presents a miscellany of scientific ideas—everything from the Big Bang and black holes to the human body, animal evolution, and artificial intelligence. The idea for the book came from a BBC/Science Museum radio show I once worked on, in which kids would e-mail their science questions—in the hundreds—for us to answer. Questions like, "What is space made of?" "Do spiders have ears?" "What's the point in flightless birds?!"

But rather than just list the answers as "fun factoids," I decided to present them the way I would have approached them at the Science Museum—as a casual conversation or dialogue. The result is a fun, readable science book that kids and teachers immediately respond to. The book became a UK children's bestseller, and was nominated for several awards. The sequel *How Loud Can You Burp?* took the same approach with a new set of themes and fared equally well. Suddenly, I had more new questions fired at my website <www.glennmurphybooks.com> than I could ever hope to attend to, from kids and teachers as far afield as China, India, and Australia.

One teacher commented that he was "delighted at his students' renewed interest in science," but had one problem: "As far as my students are concerned, the awkward questions have only just begun." Clearly, I was onto something here. Even in a print format, questions had led to more questions, just as they had back in my Explainer days. And I couldn't have been happier to hear it.

"Fine," I hear you say. "But how is this relevant to me, and to my work?"

Well, as I see it, librarians—like teachers, authors, and other facilitators of education—can and should actively inspire learning by fostering curiosity in a similar way. In the first instance, they can, of course, acquire books that encourage inquiry and exploration. Moreover, they can direct students to these kinds of resources, rather than toward websites or reference books where the cold, bare "answers" may be found. But beyond this, librarians can steer inquiries, providing advice, discussion, and dialogue that will encourage the student to "read around" a subject and to explore it more deeply.



Because librarians are, without doubt, powerful learning facilitators, too. Like the Explainers, good librarians not only assist, but actively inspire learning in schools—turning a supporting role into a higher educational calling.

I realize that, for many, my discovery doesn't represent anything particularly new or groundbreaking. But it is my hope that, for others, I can light a path toward a multifaceted role for the school librarian—as not only an expert curator and provider of learning resources, but also an expert facilitator of learning itself.

Before becoming an author of popular science books for kids, **Glenn Murphy** *spent four years working with, and later training and managing, the Science Museum Explainers. Along the way, he learned much about the nature of facilitated learning—most of which has found its way into his writing. In this article and in his books* Why Is Snot Green? *(Macmillan Children's Publishing Group 2007) and* How Loud Can You Burp *(Flash Point/Roaring Brook–Macmillan 2009), he shares some of those experiences and ideas.*

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