

U-M professor feeds hunger for online education with bite-size science

December 24 2012

(Phys.org)—Today's Risk Bite brought to you by the University of Michigan School of Public Health: Does wearing a hat keep you warm when the rest of your body is exposed?

Sometimes cheeky, perhaps even quirky, and occasionally focused on a trending topic, these mini-lessons posted on YouTube take interesting facts about risk science—defined as the science of existing and emerging human health risks—and presents them in small, relatable and easily digestible video segments to help answer the question, "Just how risky is this?"

Like many scientific concepts, risk science is not always easy to understand. So, inspired by Sal Khan, Henry Reich and Vi Hart—all of whom can be found on YouTube scribbling as they explain physics and math—Risk Bites creator Andrew Maynard takes a white dry erase board and a black marker to doodle lessons on gun control, asbestos, [BPA](#) and tryptophan. Some of his more provocative topics: Ten Ways Water Can Kill, Could Eating Chocolate get you a Nobel Prize? and the recent Poop and Cell Phones.

Maynard, director of the U-M Risk Science Center and professor of [environmental health sciences](#), says he wants the series to provide credible and timely information that will help people better understand human health risks. Risk Bites takes advantage of a growing hunger for digestible, informal online education.

"Increasingly sophisticated educational material on YouTube and elsewhere is being consumed by ever-greater numbers of people," said Maynard, incoming National Science Foundation international chair of environmental health science. "The most successful content generators are people with a passion for knowledge and an ability to connect with their audience. And in this new medium they are leaving professional educators in the dust.

"I'm particularly interested in how this gap can be closed. How can someone like me who teaches for a living achieve relevance to a wider audience through using YouTube more effectively?"

We never see Maynard in the videos. Only his hand is visible, as he draws objects, stick figures and words, while he narrates each story with his distinctively British accent. The drawing appears to come naturally, but don't call him an artist.

"I'm amused when people tell me I draw well, because I really don't. But I think that this is perhaps part of the charm of the videos," he said.

Reaction to the series since its official launch in November has been positive from professionals who teach about risk, some of whom already are using the videos in their courses, Maynard says, but he hasn't yet reached his target audience of young people.

And to any critics who say you can't explain complicated science in a 60-90 second video:

"If we are going to communicate effectively, we need to be where people are, not where we think people should be," Maynard said. "With social media we need to think of education as a conversation. Risk Bites does this by creating a complex tapestry of understanding, one thread at a time."

In addition to the videos, the center has started a blog called Risk Sense that features experts who write about their research or about emerging issues. Maynard has a blog called 2020 Science, which is about developing new technologies responsibly and safely.

He also has created a Mind the Science Gap [blog](#) that challenges Master's of Public Health students to post 10 times each semester on health topics, with a goal of helping them learn to translate complex science to a broad audience.

Provided by University of Michigan

Citation: U-M professor feeds hunger for online education with bite-size science (2012, December 24) retrieved 1 May 2024 from <https://phys.org/news/2012-12-u-m-professor-hunger-online-bite-size.html>

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