When Google already knows the answer you have to change the question

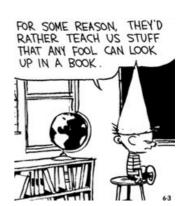By Peter Horszowski , issued by Pert Industrials   12 May 2017

There is a famous image of a disgruntled Calvin from *Calvin and Hobbes*. In the naughty corner he complains: "For some reason they would rather teach us stuff that any fool can look up in a book." That is from the 90's. B.G. (Before Google.) This problem is now more pressing, *literally*. In Calvin's day, you'd still have to find the right book and look through it. Today you can press a button in the palm of your hand. Or simply say: "Ok Google".

So how do you get kids motivated to learn stuff A.G. (After Google)? Well, I have a few ideas based on my recent experience with tech in classrooms:

1. Use the tech as the tool and Google as the Guide

In my workshops I use wireless sensors with phones and tablets. (It is nice when the kids use their phones to take measurements openly, rather than text friends surreptitiously). Then they ask Google questions related to their results. For example, using the sensors, you can show how much heavier than air is the carbon dioxide gas produced in an Eno and vinegar reaction. So how can this heavy gas go up into our atmosphere and cause global warming? Ask Google.

2. Do the cool stuff where concept trumps content

You can use a sensor to measure the pressure in a test-tube as steel wool reacts with air. It is a nifty way to measure the percent of oxygen in air, and the kids are usually impressed by the ingenuity of this experiment. Think about it: how do you measure the percent of oxygen in the air with just a pressure sensor and some household materials? There is a certain kind of clever that is neither boring nor nerdy but is genuinely cool. And you really need to do that live, to make a difference. My generation (I am 45) is still impressed by slick video and trendy animation but today's kids are immersed in that stuff. You need to employ your tech a little more creatively if you want to make an impact.

3. Mix old school and new school (and let the kids do the new school part)

I don't use sensors in all my labs. One great old school lab is where you adjust bumpers on a track as you change the mass of plunger trolleys. The trick is to adjust the bumper distance in proportion to the mass. It works great with the PASCO tracks - adjustable bumpers, low friction, shameless plug for product! But the lab really comes alive if you let the kids video the various combinations and then turn in their results as a video project, with music and vibe and even YouTube jump cuts. These phones are really extraordinary devices, which is why they can be so distracting. And also why they can be so productive.

Calvin was obviously expecting something more from education than book facts, right? Well, I understand that. Think how the world has changed since then. The first commercial text message was sent in 1992. Now the number of text messages sent and received each day exceeds the total population of the planet. How many jobs did not even exist in Calvin's day? Web developer, social media analyst, information security consultant, climate change specialist, YouTuber. And it isn't slowing down, is it? As they say at *Shift-Happens*: we are educating students to do jobs which don't exist, solve problems we don't have, using technology that has not been invented. Calvin is quite right to expect more. Education simply has to go

beyond mere facts. It has to be subtle, creative, dynamic and innovative. In truth, education needs that special, indefinable quality that only a human can provide. If you don't believe me, ask Google.

ABOUT PETER HORSZOWSKI

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