

"You Can Just Google It"

Good morning folks.

Today, I'm going to talk to you about an idea that seems to be gaining traction in our new digital world. An idea that has been expressed by social commentators, policy makers and even those in the teaching profession. An idea that fills me with a combination of horror and rage, such that I can scarcely bring myself to utter the words. "It goes like this: why do we need to teach children facts when they can just Google them."

Sometimes people who express this idea go on to regurgitate other nonsense like: we should concentrate on teaching children to be creative rather than teaching them facts.

These sorts of comments fill me with horror because, even though they are nonsense, they seem to be growing in popularity and we may even get to the point when such opinions begin to have an influence on education policy. Which would be a disaster.

It may be the case you have heard this idea spouted. It may even be the case you have nodded to yourself, and thought, hmm interesting point.

Possibly, in moment of weakness caused by tiredness and nerves before a big exam you have cried out to yourself “why do I need to know this?”! And so in this assembly I will lay out the case for knowledge.

Remembering: More Than Just Storing Facts

Think about knowledge like building a house - you need a strong foundation before you put up the walls. Maths is a wonderful example of this concept. Think about times tables. These are one of the foundation bits of knowledge in Maths. We teach children to memorise their times tables to the point where they can recite them in seconds. This is not just for showing off purposes. It is because being able to easily recall fundamental multiplications will be of huge benefit in almost every bit of Maths learning you do in the future. And will be useful throughout your lives.

When we remember facts, we're not just storing information; we're connecting the dots between different pieces of knowledge. I have alluded to this before in assemblies. When you think about things you know, you are able to link them to other things you know. Like I did

with Taylor Swift and Edwin Hubble. And Hubble did with variable stars and Henrietta Leavitt's distance calculations. Being able to link knowledge together allows us to understand complex ideas and solve problems. It's a critical process especially in fields like math, science, and literature where understanding concepts is key to progress. None of this is possible if you simply outsource knowledge to Google.

Working Memory

We have different types of memory. Long term memories, as the name suggests, are memories that are stuck in our brains for the long term. I will never forget the poem Invictus. Nor the lyrics to the Tom Waits song Goin Out West. I can bring these things to mind with virtually no effort and have been able to do so for many years, and will be able to do so for many more. The capacity for long term memory is not known. But we can store a lifetimes worth of stuff.

Working memory on the other hand deals with the here and now. We can store small, new pieces of information for short periods, seconds to minutes, if we are learning something new. Working memory capacity

is very small. It can usually cope with between 5-7 pieces of data at a time. If you try to squeeze more in, earlier bits of information fall out. We use working memory when we learn new things. And of course the aim of school is to move as much stuff from your working memory into your long term memory as possible.

Back to times tables. As mentioned earlier, you will need your time tables all the time as you learn new Maths. If they are not in your long term memory, and you have to look them up, they will always take up working memory, limiting what new stuff you can learn.

Knowledge is Required For Creativity

People who suggest we should teach creativity rather than knowledge, clearly do not understand creativity. I will provide a personal example.

I enjoy playing guitar. I have played guitar for thirty years. I taught myself by listening carefully, obsessively as mentioned in a previous assembly, to my favourite bands and trying to copy them. I never learned the fundamentals of scales, and key, and how to hold a pic. I am not very good at guitar, and have not really improved in the last twenty five years.

My youngest son also plays guitar. Prior to learning guitar he did Music GCSE, achieving a grade 9 and took Bass Guitar lessons up to Grade 6. He has a fine knowledge of the fundamentals of music, music notation, scales and key, all of which he has committed to his long term memory and no longer really thinks about. He has played guitar for about one year. He was better than me within six months.

If I want to create a new piece of music or song, I have to figure out which chords or notes go together through trial and error, wasting masses of time and working memory. This makes creativity difficult and time consuming. My creativity is limited by my severe lack of domain knowledge.

My son does not encounter these difficulties and therefore all his energy can go into creativity.

Knowledge of fundamental ideas and techniques supports creativity.

Knowledge of fundamental ideas and techniques saves time and working memory, enabling greater creativity.

Informed Decision-Making and Not Getting Conned

This time in which we live is considered to be the Information Age.

Information is easily accessible, and quickly disseminated. The internet is the driving force of information, and it has been a time of huge advancement, some say exponential advancement, in information and communication technologies. As an example of the pace of change, when I was your age the World Wide Web had barely been invented.

Personal computers were rare and we were at the beginning of mobile phone technology. We knew one person with a car phone. I didn't get a mobile phone until I was 24. It certainly wasn't a smart phone. It was a Motorola C200. You could make phone calls on it and text. No music, no camera, no socials, no internet. And yet now we walk around with AI devices in our pockets and can't imagine a life without them. This advancement took just 24 years.

Information is easily accessible and quickly disseminated. Not only can information be spread at phenomenal speed it can be targeted with precision. And so can mis-information. It has always been the case that some of the powerful and the wealthy have tried to manipulate people, and tried to manipulate the electorate for their own gains. But never

has it been easier to do so. We spend so many hours per week fixated on our phones and being influenced by the content we engage with. And this use of social media isn't hidden. As you'll know there are people whose job is to be an influencer, and we totally accept this. The way companies like Cambridge Analytica in the UK, or people like Elon Musk and Donald Trump have successfully used misinformation and social media to influence, manipulate and con huge numbers of people would be a fascinating assembly all of its own. In this context I would argue personal knowledge has never been more important. The less you know, the more likely it is you will be taken in by lies and misinformation. The less you know, the easier you are to con.

Learning doesn't just benefit us academically or professionally; it enriches our personal lives too. It helps us make informed decisions, engage in meaningful conversations, and develop empathy for others. Learning encourages critical thinking. When we learn something new, we question it, we check for other sources, we examine it, and consider its implications. Or at least we should do these things. That's how information then becomes knowledge. If we only Google for answers,

we might accept information without critical examination, leading to misinformation and shallow understanding of complex issues.

Every day, we make decisions, big and small. Having a base of knowledge helps us make informed choices. Quick online searches can lead to hasty decisions based on biased, incomplete or deliberately misleading information.

Meaningful Conversations and Empathy

Being knowledgeable also allows us to have meaningful conversations and connect with others. It helps us understand different perspectives and relate to people from diverse backgrounds. By learning about history, culture, and the human experience, we cultivate empathy and compassion, which are vital in our interconnected world.

Lifelong Learning

The ability to learn and adapt is invaluable in our ever-changing world. Lifelong learning keeps us relevant in our careers and helps us grow as individuals. We can't foster this mindset by relying only on search engines. We must embrace the process of learning and expanding our knowledge.

Google: A Tool, Not a Substitute for Learning

Google and other search engines are great tools, but they have their limits. Let's look at a few:

Google offers a wealth of information, but the first search result doesn't always offer the best or most comprehensive answer.

Understanding a subject deeply requires more than just a quick read. It often involves discussions, debates, and deeper exploration, something that Google alone can't provide.

Also, search engines can unintentionally reinforce our biases.

Algorithms usually tailor search results based on our search history, giving us information that fits our existing beliefs. This can limit our understanding and keep our perspectives unchallenged. By learning from diverse sources, we can encounter new ideas and broaden our understanding.

Think about problem-solving and innovation. These require a deep understanding of concepts and the ability to apply them creatively.

Engineers and scientists, for example, rely on their knowledge and experience to innovate and solve complex problems. Google can

provide information, but it can't generate the innovative ideas that come from understanding.

Knowledge is Power

As I approach a conclusion, I cannot help but take the daft idea we can outsource knowledge to the internet to its logical conclusion. Imagine how slow life would be if you had to google every word you wanted to use to find out what it means. Or vice versa. Or had to search for every multiplication or addition sum you wanted to do.

And at this point one might say "Oh, obviously we need to know those things. It's just all the other stuff". And this of course begs the question. How much knowledge is the right amount of knowledge to get pupils to learn? And which bits of knowledge are the bits we should cover in school?

The first question is easy. We should be trying to cram in as much of the total sum of human knowledge into children's brains as we can. Including the knowledge that Learning is amazing and knowledge is power.

The second is trickier. Fundamental reading, writing and maths obviously, and then we have to cherry pick from Science, History, Geography, foreign languages and so on, doing our best to ensure young people have as broad a knowledge as possible of their world before they go and try to make their way in it.

So, while the internet and search engines are amazing resources, they can't replace the deep, meaningful learning that comes from acquiring and understanding knowledge. The process of learning not only enriches our minds but also equips us with the skills needed to navigate a complex world. It enables us to think critically, solve problems, and engage with others in meaningful ways.

We should understand learning is amazing. And it does not have to stop when you leave education. We should all commit to learning as a lifelong journey. Seeking knowledge not just for information, but for the understanding, empowerment, and growth it brings. Let us not be satisfied with just "Googling" answers, but strive to understand the world around us in all its complexity and beauty. Thank you.

