

Using Stories to Enhance Memory

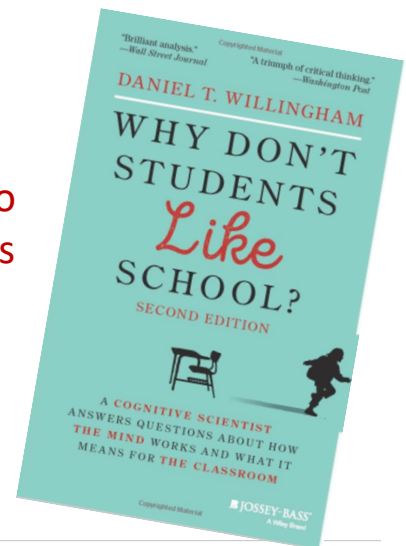


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In his chapter titled, “Why do students remember everything that’s on Television and forget everything I say?” Dr. Daniel Willingham does a remarkable job explaining how stories can be used to teach content and enhance memory.

I like this quote at the beginning of the chapter:

The human mind seems exquisitely tuned to understand and remember stories—so much so that psychologists sometimes refer to stories as ‘psychologically privileged,’ meaning that they are treated differently in memory than other types of material (p.71).



The Power of Stories

Put simply, stories are **easy to comprehend**, they are **interesting** and they are **easy to remember**. Equally important, stories serve as a mnemonic device that helps link to-be-learned material with the elements and structure of the story. Stories also engage the imaginations, emotions and personal experiences of the learner, and this causes a student to elicit prior knowledge for the purpose of comprehending and relating to the story.

We know that negative emotions like high anxiety and distress have the potential to block the learning of new material. However, we also know that positive emotions that affect excitement and attention are useful to draw a student into engaging with content so that learning can occur and thus should be considered in designing instruction that is mentally engaging. (Darling-Hammond, et. al., 2020).

Stories bring the listener into the event, engage their thinking and memory and emotions (empathy, anger, love, etc) as they mentally simulate the experience along with the storyteller. Stories often elicit higher levels of emotions, empathy, engagement and motivation than non-story-based information (PEN Principle #11).

The Science of Learning Research Centre devotes an entire PEN Principle to stories: PEN Principle #11; Find the Story Behind the Fact. With each PEN Principle SLRC staff have provided a Fact Sheet and video explaining the principle.

From the fact sheet:

“A survey of students showed overwhelming support for the use of stories during lessons. Stories not only improved engagement & enjoyment, but also lead to more insight and a broader understanding of concepts”



PEN Principle #11

Check out PEN Principle #11, along with the others, at www.slrc.org.au

In his chapter on Motivation, James Lang appeals to teachers to consider using six models “designed to provide the kind of positive, activating emotional boost your students need to push through the daily and weekly challenges of your courses—and they just may inspire some of them into the kind of deep and lifelong engagement that all teachers dream about for their students” (Lange, 2021, p.201).

One of those models encourages teachers to open their class with stories. In the event that you’re interested, the other 5 models are Open with Wonder, Invoke Purpose, Share Your Enthusiasm, Pay Attention to Every Student, and Warm Up Your Language.

Once class has started, the simplest way to tap the emotions of your students is to use the method that every great orator, comedian, emcee, and preacher knows: begin with a story. Human beings are storytelling and story-loving animals...stories have the power to induce laughter, sorrow, puzzlement, and anger...we learned from Sarah Cavanagh that when emotions are present, our cognitive capacities can heighten; so if we can open class by capturing the attention of our students and activating their emotions with a story, we are priming them to learn whatever comes next.

(Lang, 2021. p.203)

Using stories to help remember information

Taken from PEN Principle #11

“Individuals presented with information contextualized within a story recalled 60% more facts & showed better overall comprehension and transfer than individuals presented with the same information in isolated chunks”

“Students across all ages have shown improved learning and memory in fields ranging from geometry to literacy to healthcare when key concepts are embedded within stories.”

Application: when possible, try to introduce difficult and/or didactic facts by presenting the ‘background story’this will help students contextualize and personalize potentially dry material.

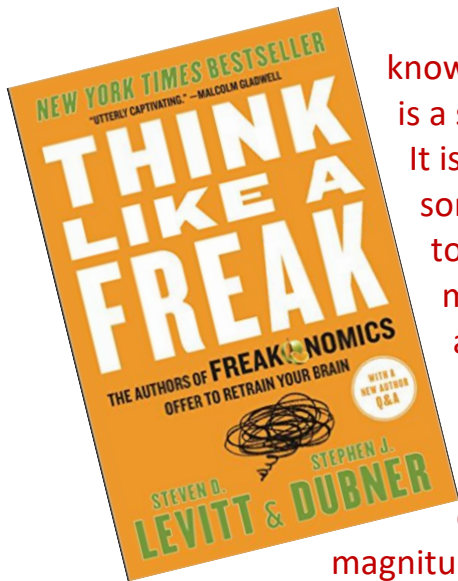
In their meta-analysis of 150 effect-sizes (from over 75 unique samples and more than 33,000 participants), Mar, Nguyen & Ta (2021) found that people have an easier time comprehending and recalling information presented in a story compared to formats such as expository text or an essay. But because texts are an important way in which we encounter new information, we cannot simply think of abandoning textbooks or expository works in favour of stories. No, and I am not suggesting that. However, in order to assist students in successfully comprehending and retaining important information to build up their base of knowledge, or to more fully engage them in the topic at hand, we can use stories to hold their attention. Using stories about events, people, problems, conflict, solutions, and so on –or the stories behind the facts involved in the curriculum (e.g. The truth behind how Newton formulated his law of gravity— below)will inevitably assist students in remembering this important knowledge.

The Black Death inadvertently set the stage for one Isaac Newton’s most famous insights. In 1665, following an outbreak of the bubonic plague in England, Cambridge University, where Newton was teaching at the time, closed its doors, forcing Newton to return home to Woolsthorpe Manor. While sitting in the garden there one day, he saw an apple fall from a tree, providing him with the inspiration to eventually formulate his law of universal gravitation. Newton later relayed the apple story to William Stukeley, who included it in a book, “Memoir of Sir Isaac Newton’s Life,” published in 1752.

<https://www.history.com/news/9-things-you-may-not-know-about-isaac-newton>

Sometimes stories can be used to correct previously held erroneous information (e.g. that an apple fell on Newton's head) or provide new details that capture the imagination and interest of the student.

From their New York Times bestselling book, *Think Like a Freak*, Levitt & Dubner (2014) explain "Why you should tell stories"(pp.181-184);



“...the most powerful form of persuasion we know....By ‘story’ we don’t mean ‘anecdote.’ An anecdote is a snapshot, a one-dimensional shard of the big picture. It is lacking in scale, perspective, and data. An anecdote is something that once happened to you, or your uncle, or to your uncle’s accountant. It is too often an outlier, the memorable exception that gets trotted out in an attempt to disprove a larger truth....Anecdotes often represent the lowest form of persuasion.

A story, meanwhile, fills out the picture. It uses data, statistical or otherwise, to portray a sense of magnitude; without data, we have no idea how a story fits into the larger scheme of things.

A good story also includes the passage of time, to show the degree of constancy or change...And a story lays out a daisy chain of events, to show the causes that lead up to a particular situation and the consequences that result from it.

Why are stories so valuable? One reason is that a story exerts a power beyond the obvious. The whole is so much greater than the sum of the part, the facts, the events, the context—that a story creates a deep resonance.

Stories also to the narcissist in all of us. As a story unspools, with its cast of characters moving through time and making decisions, we inevitably put ourselves in their shoes. Yes, I would have done that too! Or No no no, I never would have made that decision.

Perhaps the best reason to tell stories is simply that they capture our attention and are therefore good at teaching.

Because they stick with us; they move us; they persuade us to consider the constancy and frailties of the human experience in a way that mere rules cannot.

A story lodges in the mind, it sticks....the sequence of events is easy to recall and that's why it's effective in assisting students with remembering things we want them to remember.

Darling-Hammond et al (2020) gives us a bit of advice on how to help organize information for learners, and I think stories meet the criteria necessary to do this: "children are natural learners and inherently seek to learn things that matter in their immediate everyday world...To support children's learning, adults make connections between new situations and familiar ones, focus children's attention, structure experiences, and organize the information children receive" (p.109).

"The Science of Learning indicates that humans learn more effectively when they are not anxious, fearful or distracted by other pressing concerns; when the learning is connected to their prior knowledge and experience; when they are actively engaged; and when they have a reason to care about the content they are learning...."(p.109-110).

Stories can do this.

Stories are non-threatening, they are interesting, easy to remember and easy to understand. Stories have depth and breadth that have the potential of simultaneously challenging the minds of learners across the entire spectrum of intellectual ability, similar to how the parables of Jesus of Nazareth were used at the same time to teach the highly educated Scribes of the day and the uneducated peasant.

One Final Thought About Stories

Please know that I am advocating here for stories that assist students in remembering the content you want them to remember. I am advocating for stories that are relevant, well designed, applicable and for the purpose of teaching.

I'm certain, like me, you can think back to your days of your K-12 education and recall some of the stories you heard from your teachers. And there's a sobering lesson in this too....because some of the stories I remember had nothing to do with the subject matter I was there for. Teachers and students should enjoy these years, of course...and the occasional fun story that highlights the delights (or mistakes) of life can add flavour and enjoyment to our classes...but we don't want to simply tell stories for the sole purpose of entertainment.

A story has the potential to serve as a mnemonic hook for recall and application. A teacher who learns to use stories well will be rewarded with a sense of more effective teaching and students who later attest that your class material was the one they remember the most.

References

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