THE
JURYEXPERT
THE ART AND SCIENCE OF LITIGATION ADVOCACY
A PUBLICATION OF THE AMERICAN SOCIETY OF TRIAL CONSULTANTS

from Winter 2016
Volume 28, Issue 2

DOUBLE COMPREHENSION by adding graphics to your words

BY JASON BARNES

Incorporate graphics to strengthen the power of your presentation. It's a maxim supported by our personal learning experiences, our observations of others, and by numerous scientific examinations. But, why does it work, and how strong is the effect in the courtroom? The answer to these questions can be found within the very structure of your brain.

You Remember What You See Far More Than You Remember What You Hear

As humans, we experience our world through our eyes. Your retinas contain 70% of all sensory receptors in your body and are actually outgrowths of your brain! Your brain's visual system occupies up to 40% of your cerebral cortex. For comparison, touch takes up about 8% of the cerebral cortex and hearing accounts for only 3%.[1] [2]

We are visual creatures – but our ability to use language is a defining, though not quite exclusive, human characteristic. Even so, our linguistic abilities arise from much smaller areas of the brain found almost entirely within one hemisphere – Broca's area and Wernicke's area.[3][4]

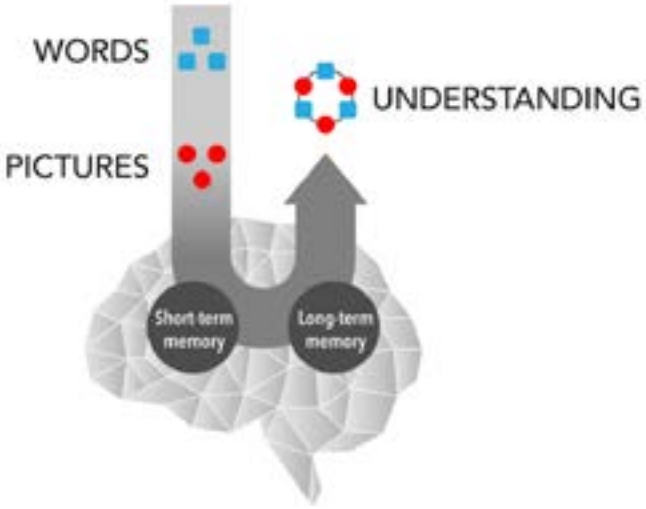
This visual dominance explains why our ability to remember visuals is far greater than our ability to remember words. Studies consistently demonstrate that people shown over 2,000 images for a few seconds each can remember having seen them or not with an accuracy exceeding 90%, even after 3 days.[5] People's ability to accurately recall what was said to them is about 50% immediately following a presentation and falls to about 25% after only 1 day.[6] Worse, research suggests that about half of what you remember is actually incorrect.[7]

Words and Pictures Can Interact in Working Memory to Form More Meaningful Connections

So, now we know that jurors can remember less than half of what they hear and almost all of what they see. But simply remembering the evidence is not enough. We need jurors who understand the evidence, who can fit that understanding into their larger world-view. And we need jurors who can work as our advocates during deliberations, using their understanding of the evidence to craft new arguments as they work with other jurors to reach a verdict.

Neuroscientists describe the visual and verbal systems of our brain using a "dual coding model" in which each channel operates independently to process information. Both channels have limited bandwidth and can be overwhelmed by too much stimulation – too many words or images coming too quickly – but they do not interfere with one another.[8] Instead, raw data from both the visual and verbal channels are buffered in working memory where information and meaning are extracted, tested against information we already know, and if deemed important enough, stored in long-term memory for later recall.

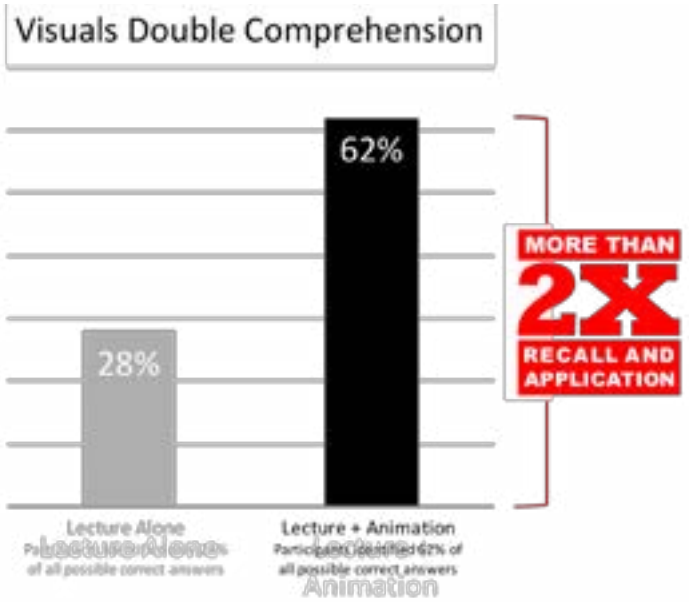
Importantly, while information is in working memory, the visual and verbal channels can interact with one another. When the information from each channel "fits together," it forms something stronger and more meaningful. Like cement mixing with sand and gravel to form concrete, the interacting information is changed into a self-reinforcing amalgam, an idea not only remembered but understood. This interlocked understanding linking the words and the picture together can then be stored in long term memory. When we think of the words, we see the images. When we think of the image, we also hear the words. The interlinking is what gives meaning to each.



Combining Visuals with Words More than Doubles Comprehension

Some remarkable research from Dr. Richard Mayer[9] at the University of California shines a light on putting pictures to our words, what he calls the "multimedia principle." Not only does his work validate what we know about dual coding with the visual and verbal channels, he has measured the improvement in learning – not just memory, but understanding of the subject matter.

Briefly, he gave one group of subjects a lecture on how a tire pump works while another group heard the same lecture synchronized with an animation of the tire pump in action. Dr. Mayer wanted to know which group understood the material better. To get at this information, he posed questions designed to test recall and application of the facts. For example, one question asked participants how to improve the pump's efficiency and another question asked them to troubleshoot a malfunctioning pump. These ideas were not covered in the presentation. To answer, subjects would have to demonstrate an understanding of how and why the pump works. The results were dramatic.



Subjects were scored based on whether their answers to the problem solving scenarios were considered plausible or acceptable by researchers conducting the study. They were given four questions, with 2.5 minutes to come up with as many solutions for each question, subsequently. Each correct (acceptable) answer was worth one point; questions 1,2 and 3 had a maximum of four attainable points, question 4 with a maximum of two.

The lesson for trial advocates is clear. If we want jurors to not only remember our evidence and our arguments, but to also understand them, we must use visuals to strengthen our words. If you are explaining a business deal, draw a flow-chart. If you are explaining technology, narrate an animation. If you are telling a story, use a timeline, photos of the characters, maps, etc. to illustrate each scene.

We must be careful to remember that the jury is always looking; their visual system is a 24-hour news channel that can't be turned off. We should, as much as possible, control what they see. There is a time for demonstratives and visual evidence, certainly. But, there is also a time for having them look at the squirm of a witness, the grim expression of the defendant, the eyes of the attorney delivering a passionate closing argument. We may even want to visually distract when things are not going so well. Everything they see is visual evidence – make certain it works to your benefit.

Jason Barnes has been a Trial Consultant, designing demonstrative evidence and presentations, since 1990. With over 25 years of experience, he has prepared presentations and provided on-site support for hundreds of cases. He writes regularly for The Jury Expert where he is also the Associate Editor.

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