

The Powerful Science Behind Visual Note-Taking

How live drawing engages the brain from both an artist and audience perspective

By Ink Factory | inkfactorystudio.com

At Ink Factory, we use the terms “visual note-taking” and “graphic recording” interchangeably. There are two main ways to experience graphic recording, which, in a few words, is real-time note taking that communicates information through hand drawn images and text.

You can be the note-taker, the person taking notes and synthesizing information (for the benefit of yourself or others), or you can be an audience member, witnessing a live graphic recording.

Both can be beneficial to a person’s ability to process, retain, and recall information, but how much can we really gain from live drawing and note-taking?



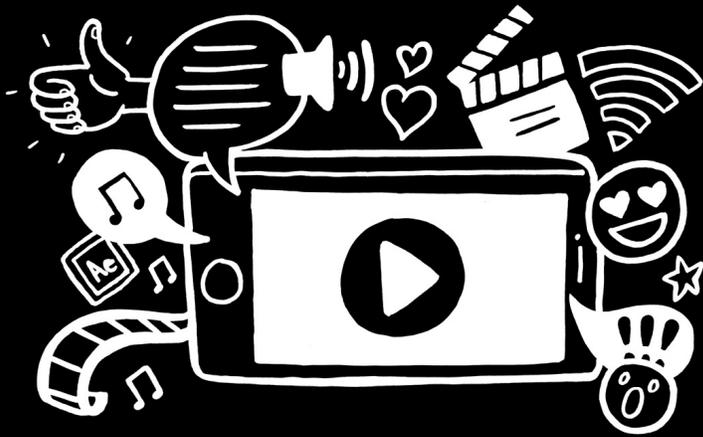
To answer that question, first we have to more concretely define visual note-taking:

- Visual notes are created in real-time, while actively listening to content, with little or no pre-planning so that the visuals accurately depict the actual conversation at hand.
- They are analog – hand to paper/tablet/poster/chalkboard, never typed out on a keyboard or copy and pasted and are more useful when created and/or presented in a large-scale format.
- Their composition is non-linear. Rather than being drawn left to right, like traditional notes, visual notes are developed and organized by making connections between content.
- They use illustration as well as handwritten text to communicate information and represent concepts. This combination of clear, legible text and simple illustrations create simple bookmarks in the brain.

The Audience

How do visual notes influence audiences?

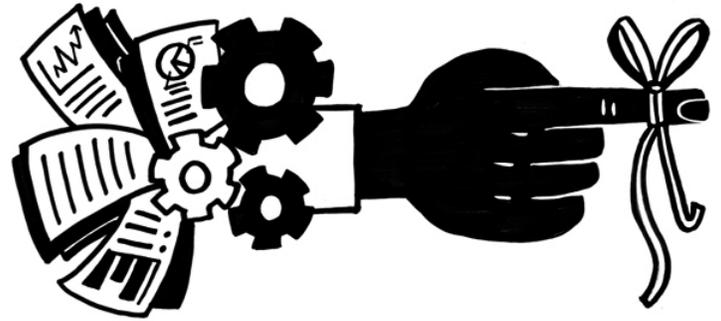
In an increasingly visual world (where PowerPoint presentations are usually considered too wordy) audiences are clamoring for ways to better digest the large amounts of information we are exposed to each day. Visuals help simplify communication by representing key concepts as visual metaphors. When created in real-time in front of an audience, the process of drawing enhances engagement, extends influence, and triggers inspiration.



Visual information “has increased 400% in literature, 9900% on the internet, and 142% in newspapers.” (Zacks, 2002). The popularity of combining visuals with information can be attributed to the fact that they’re simply more engaging: researchers have found that color visuals increase a person’s willingness to read by 80 percent. (Green, 1989). That’s probably because sixty five percent of people simply learn better visually (Yapton, 1998).

Visuals notes help people remember your content

When combined with the audio stimulus of a presentation, speech, or lecture, visuals have a powerful impact on memory retention and recall. Graduate students at the University



of Wisconsin-Madison found that “visual stimulation is more effective than audio stimuli at achieving higher memory retention and recall,” and “Specifically, it seems that the use of visual stimuli with the act of writing seems to elicit the best recall” (Udomon, et al., 2013).

After all, people “remember 80 percent of what they see and do, 10 percent of what they hear, and 20 percent of what they read” (Lester, 2006). Words are abstract and difficult for the brain to retain, but visuals are concrete and more easily remembered –a concept in psychology called the Picture Superiority Effect.

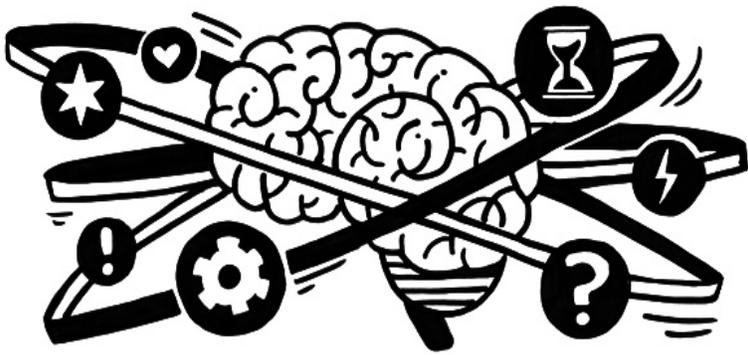
And we’re not just talking about an increase in short-term recall – visuals stick in our long-term memory, unlike text. A study found that participants who viewed only text remembered 10 percent of what they read after three days. But those who viewed text paired with visuals remembered 65 percent of the information three days later (Medina, 2008).

Visual notes help improve comprehension

Our eyes are constantly looking for concepts to latch onto – and we are much better at finding concepts in visuals than in text (Trafton, 2014). In fact, the brain processes visuals 60,000 times faster than text (Semetko & Scammell, 2012). That means when visual notes are incorporated into a conference or meeting, most of the audience will be able to understand what’s being said more quickly. Seeing content presented in a non-linear way can help audience members to more easily draw connections between information

and concepts. Often, visual note-takers will intuitively draw physical connections (like arrows, lines, and paths) between related content, guiding the eye from point to point.

“These sorts of visuals are effective in brainstorming,” says Martin Eppler, professor of media and communication management at University of St. Gallen, Switzerland. “We’ve found in our experiments that using visuals during meetings creates more ideas, creates better ideas, and increases recall” (Averett, 2014).



In a study on how people interpret instructions on medicine packaging, researchers found that “people following directions with text and illustrations do 323 percent better than people following directions without illustrations” (Levie & Lentz, 1982).

When you realize how often you rely on visuals to process information already in your daily life, picking up a marker and creating your own visual language starts to make sense.

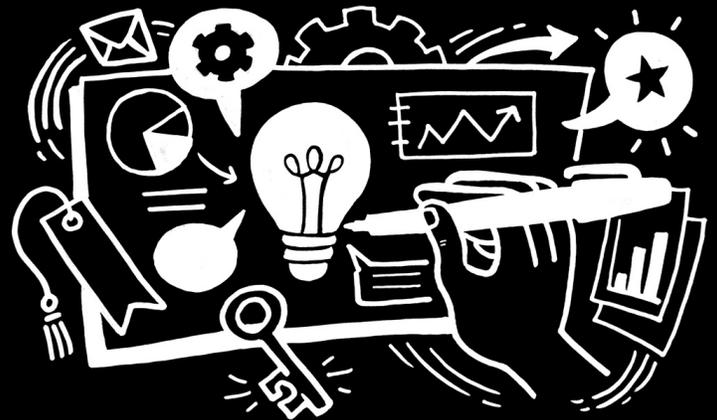
The brain processes visuals 60,000 times faster than text.

The Artist

Why should you start taking visual notes?

Visual note-taking is as accessible as traditional note taking— anyone can do it regardless of their drawing or lettering ability. Taking personal notes is intimidation free; no one else will see them, and they serve as comprehensive reference material that you can interpret with a quick glance upon revisiting.

Unlike traditional visual art forms, there is no pressure to make beautiful images. Instead, visual notes go beyond pretty pictures: it’s a tool anyone can use to improve their ability to retain information.

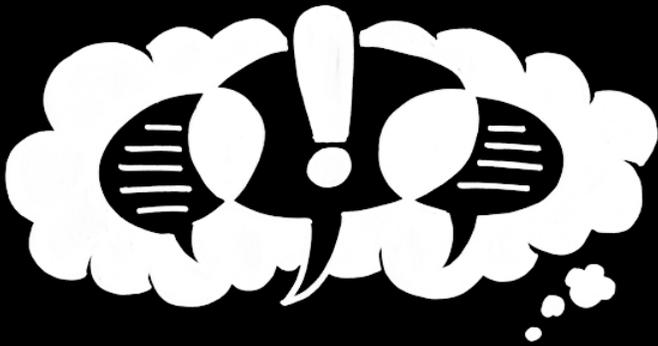


When you start utilizing visual notes, you go beyond merely regurgitating information, and instead process and re-frame information in your own language, which leads to better information retention.

In a study completed by Princeton and UCLA, professors discovered that students who took handwritten notes did significantly better on a factual recall and conceptual learning test than students who took notes by transcribing the lectures on their laptops (Herbert, 2014).

Research suggests that even the simple act of doodling can help assuage boredom, keeping the brain from entering a daydreaming or "idling mode," which helps individuals stay focused during an otherwise stimulating activity (Schott, 2011).

Previously maligned as a sign that students aren't paying attention in class, a study found that a group who doodled during a monitoring task recalled 29 percent more information than the non-doodlers (Andrade, 2009).



When you consider the fact that letters themselves are a visual means of communication, and that early language originated from pictures, combining words with illustrations seems innate to the way we think and communicate to others (Childers et al., 2013).

For examples of real-time visual note-taking, or to experience the power of visual note taking at your next event, visit our website at inkfactorystudio.com.

**ink
factory**

inkfactorystudio.com
hello@inkfactorystudio.com
+1 312 972 0305

Sources

Andrade, J. (2010). What does doodling do? *Applied Cognitive Psychology Appl. Cognit. Psychol.*, 24(1), 100-106. doi:10.1002/acp.1561

Averett, N. (2014, February). *Science of the Creative Mind. Inc. Mag.*, 86-87.

Childers, P. B., Hobson, E., & Mullin, J. A. (1998). *ARTiculating: Teaching writing in a visual world.* Portsmouth, NH: Boynton/Cook.

Green, R. (1989). *The Persuasive Properties of Color. Marketing Communications.* Retrieved August 31, 2016, from <http://www.office.xerox.com/latest/COLFS-02UA.PDF>

Ink on Paper: Some Notes on Note Taking. (2014, January 28). Retrieved August 30, 2016, from <http://www.psychologicalscience.org/index.php/news/were-only-human/ink-on-paper-some-notes-on-note-taking.html>

Konnikova, M. (2014, June 2). *What's Lost as Handwriting Fades.* *The New York Times.*

Lester, P. M., Ph.D. (2006). *Syntactic Theory of Visual Communication.* Retrieved August 30, 2016, from <https://blog.kareldonk.com/wp-content/uploads/2015/03/SyntacticTheoryofVisualCommunication.pdf>

Levie, W.H. & Lentz, R. *ECTJ* (1982) 30: 195. doi:10.1007/BF02765184

Manktelow J. Yapton, (1998) England: Mind Tools, Ltd.

Medina, J. (2014). *Brain rules: 12 principles for surviving and thriving at work, home and school.* Seattle, WA: Pear Press.

Mousavi, Seyed Yaghoub, Renae Low, and John Sweller. "Reducing Cognitive Load by Mixing Auditory and Visual Presentation Modes." *Journal of Educational Psychology* 87.2 (1995): 319-34. Web.

Scammell, Margaret, and Holli Semetko. *SAGE Handbook of Political Communication.* London: SAGE Publications, 2012. Print.

Schott, G. (2011). Doodling and the default network of the brain. *The Lancet*, 378(9797), 1133-1134. doi:10.1016/s0140-6736(11)61496-7

Udomon, I., Xiong, C., Berns, R., Best, K., & Vike, N. (2013). Visual, Audio and Kinesthetic Effects on Memory Retention and Recall. *Journal of Advanced Student Science.* Retrieved August 31, 2016.

Zacks, J., Tversky, B., & Schiano, D. (2002). *Graphs in Print. Diagrammatic Representation and Reasoning,* 187-206. Retrieved August 31, 2016, from Springer Link.