

As children, many of us would draw, or sketch, or color, to tell stories, express emotions, and even record our thoughts on things we had seen and done. However, over time, most have us have allowed our enthusiasm for drawing to wane as we have learned of other ways to capture information (e.g., note taking), to express ourselves, and even to self-censor our drawing artifacts. This session is to help us reconnect with our interest in drawing to add depth and richness to our efforts to capture, process, and integrate information for learning and critical thinking.

Although there are multiple approaches (cf. Di Vesta & Gray, 1972; Paepcke-Hjeltness, Mina, & Cyamani, 2017), taking notes is the most common method of trying to capture and retain information from a class, lecture, presentation, or business meeting. Note taking is often linked to supporting the capture, retention, understanding, learning, and recall of the information, especially for students (Di Vesta & Gray, 1972; Jansen, Lekans, & IJsselsteijn, 2017). Peper and Mayer (1986) suggest note taking can create an ‘encoding effect.’ When done well, the ‘encoding’ may generate a deeper understanding of the information being captured, especially in recognizing and identifying connections between information being presented and what they already know. Unfortunately, most students capture information in a linear fashion, often mirroring the order in which it was delivered. While useful for the initial capture of information, note taking is more limiting in supporting analysis and understanding of the material for it does not support more in-depth processing and synthesis of information.

The research on the effectiveness of note taking, and even the method of note taking, is inconclusive on the best approach, suggesting it may depend on the individual, the organization of the material being delivered, and even the individual delivering the information (Jansen, Lekans, & IJsselsteijn, 2017; Pressley, Yokoi, van Meter, Van Etten, & Freebern, 1997). Recent

research suggests that graphical/visual depictions (e.g., sketches and drawings consisting of simple images) are seldom used during note taking (Paepcke-Hjeltness, Mina, & Cyamani, 2017), yet the inclusion of visual notes can lead to improved performance on exams, especially where capturing abstract concepts would be useful (Manolo, Uesaka, Pérez-Kriz, Kato, Fukaya, 2012).

Including visual or graphic components with information content, at least informally, is already quite common in the form of doodles and emoji's, among other approaches. For example, Roam (2008) has suggested that graphic problem solving is a useful approach in *The Back of the Napkin*. Emoji's (i.e., pictograms; small, relatively simple digital icons or images that are used to express an idea or emotion (Oxford, 2019)) are popular as simple impressions or ideas that are embedded in texts, tweets, and e-mail messages to quickly convey information (Morgan, 2019). In fact, the use of 'emoji's' has become so popular and prevalent that the *Oxford Dictionaries* named 'emoji' the "Word of the Year" (WOTY) for 2015 (PBS, 2015). But these approaches may not be sufficient.

Sketchnoting is a visual technique where basic shapes, such as "combinations of dots, lines, squares, triangles, and circles" (Rhode, 2013), are used to represent complex ideas with simple figures and diagrams (Dimeo, 2016). (See Figure 1 for examples of some basic shapes.) When sketchnoting, small, simple, independent images are used to supplement, or even replace, the words and phrases of traditional notes. More complex diagrams and visual maps can also be developed. (See Figure 2 for a more complex sketchnote diagram.) The ultimate goal of the drawing, along with other graphical and visual depictions, is to integrate the symbols and images with the traditional note-taking text to facilitate the structure and organization of knowledge and

ideas, enhance learning processes, improve communication, and support creative reasoning and critical thinking (Paepcke-Hjeltness, et al., 2017).

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Insert Figures 1 and 2 about here

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Sketchnotes are intended to be produced in real time and integrated with, or in place of, traditional notes. This is a type of “dual coding” or “visual listening” (Paivio, 1990). The “full attention of the note taker” is required to be able to generate the desired image during a class session or meeting (Paepcke-Hjeltness, et al., 2017, p. 2). Advanced planning, perhaps in the form of creating a personal library of shapes, forms, icons, etc. or by referencing existing image collections, is important for the quick and accurate summary of the information (cf. *Bikablo*, by Hausmann, 2016; Paepcke-Hjeltness & Cyamani, 2017; Rhode, 2013). As with general note taking, generating “visually-driven notes in real time” requires practice and paying attention to the content (Paepcke-Hjeltness, et al. (2017, p. 2). Further, revisiting the material later provides the opportunity to create “meaningful synthesized interpretations” by adding more detail or refining the sketchnote image(s).

But, incorporating visual elements with note taking is rarely emphasized. Students often find it difficult to draw appropriate connections among the information they capture, and the images that are drawn often lack spontaneity (Manolo & Uesaka, 2011). This may be due to the limited amount of instruction and encouragement learners’ receive on creating and using their own visual vocabularies (Di Vesta & Gray, 1972). Due to their nature, and the prospect of breaking or altering long-developed note-taking habits, sketchnoting, and other graphical support mechanisms, may require attention, training, and practice to achieve their full benefit. With some instruction and experience, individuals often develop and refine their own personalized

approaches to effective learning strategies (Ainsworth, Prain, & Tytler, 2011). For example, industrial design and engineering students have been receptive to and have shown positive outcomes from sketchnoting (Paepcke-Hjeltness, Hetheron, Grote, & McKilligan, 2018; Paepcke-Hjeltness & Lu, 2018).

This session has three broad objectives for introducing Sketchnoting. Participants will:

- 1) understand the background and basic theory in using sketchnoting as a visual/graphic tool to support and enhance critical thinking and learning,
- 2) have the opportunity to practice sketchnoting, learning basic skills in visual thinking and taking initial steps in developing a personal visual library that they can use (See Figure 3), and
- 3) know how they can incorporate sketchnoting in their management classrooms and other professional activities.

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Insert Figure 3 about here

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Finally, there are several challenges to incorporating sketchnoting. Sketchnoting is intended to quickly and succinctly capture the essence of the ideas, not to create complex artistic representations. Sketchnoting is not a natural or well-developed skill for most people, so it takes some thinking and planning in advance of its use to prepare the shapes, symbols, figures, images, etc. that might be desired. Unfortunately, this lack of creative confidence leads many to be hesitant to use this approach due to self-censorship and not being able to produce visual images that meet personal expectations. Perfect drawings and images are not the goal. Finally, for many people, it is often difficult to quickly capture information with images due to both limited experience and incomplete understanding of and focus on the topic. Yet, sketchnoting is a skill that can be learned and that will improve over time and with practice.

Growing evidence suggests that sketchnoting can enhance information capture and notetaking in almost any topic domain. The graphic representation can support the old adage “A picture is worth a thousand words,” where the images drawn can help support and enhance the information being portrayed in written notes. The ultimate goal is to provide individuals with an additional capability, i.e., a visual tool such as sketchnoting, to supplement and enhance critical thinking about and learning of complex material.

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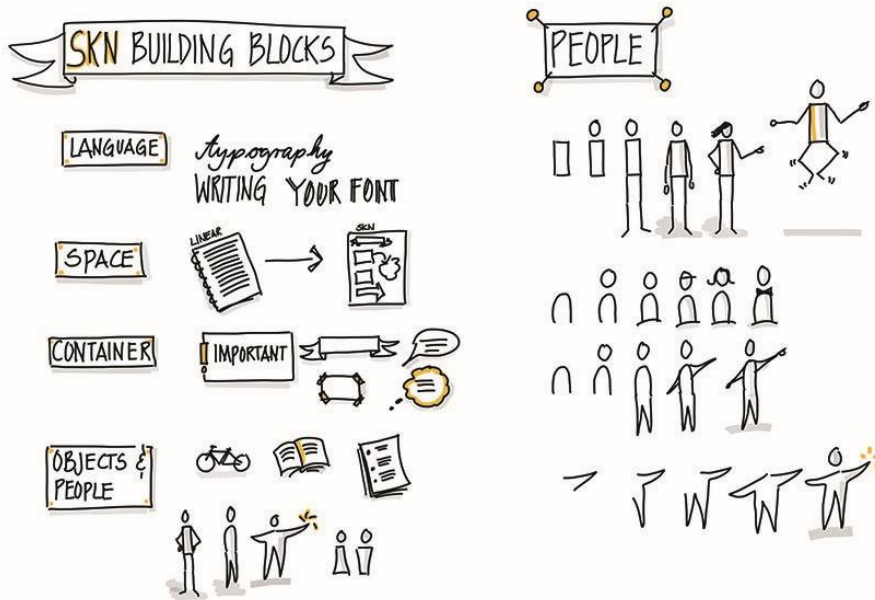


Figure 1 – Examples of Basic Components of a Sketchnote Diagram

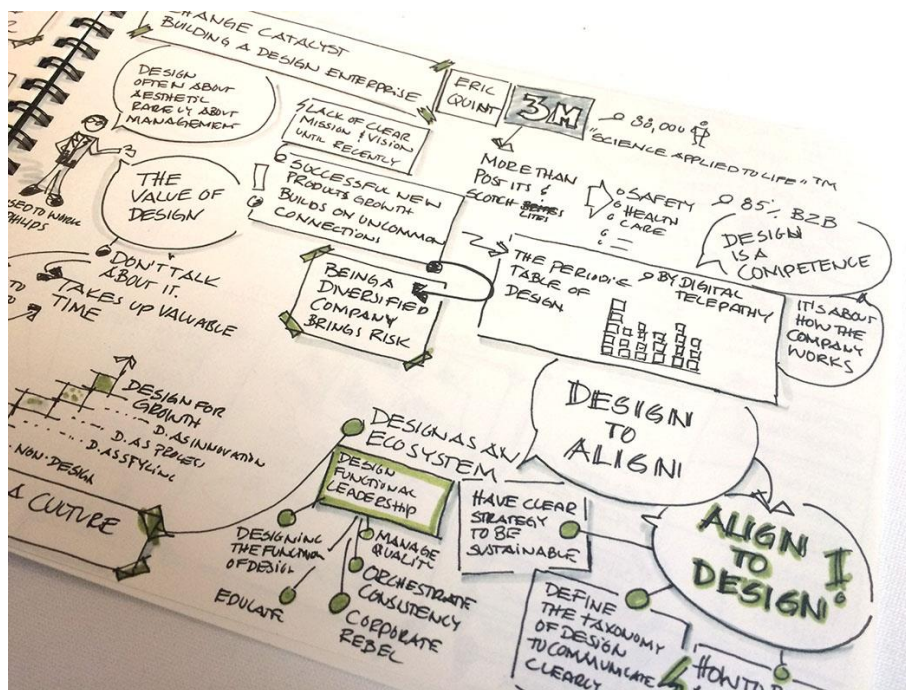


Figure 2 – An Example of a Complex Sketchnote Diagram

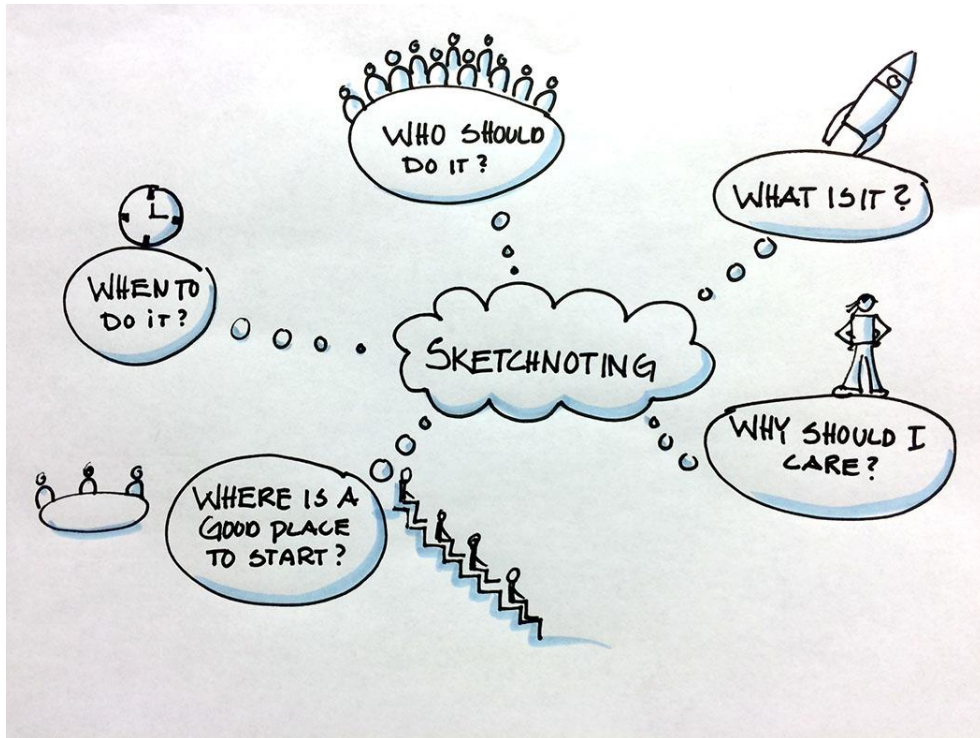


Figure 3 – Sketchnoting – Who? What? When? Where? Why?



## SESSION TIMELINE

A sample timeline for the session is provided below. The session will open with a brief set of introductions of the session leaders, followed by an overview of the approach of Sketchnoting, i.e., what it is, how it works, how it's been used, and why it can be a useful tool for students, and faculty. The majority of the session will be spent on basic skill development and practice. The session will conclude with a discussion of the participants' in-session learning and how to apply this technique in a classroom environment.

Specific Time	Cumulative Time	Topic / Focus
5 Min.	5 Min.	Introductions
10 Min.	15 Min.	How Sketchnoting works & research
10 Min.	25 Min.	How to get started
20 Min.	45 Min.	Individual skill development
25 Min.	70 Min.	Developing a (personal) visual library or vocabulary Exploration of how to incorporate in courses/lectures
15 Min.	85 Min.	How to move forward from here – Issues & Challenges
5 Min.	90 Min..	Wrap-Up & Session Closure