

Enhancing Creative Confidence through Sketchnoting, A Foundational Research Exploration

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Abstract

Sketchnoting, if seen as a methodology, exhibits potential for systematic and methodical research. It provides a framework to communicate visually through simple shapes, breaking complex forms down into combinations of dots, lines, squares, triangles, and circles. Situated at the lower end of the visualization spectrum, which ranges from napkin style sketching to photo-realistic rendering, it has low barriers to putting pen on paper. In the context of an industrial design graduate course originally introduced as a gateway to traditional visualization in design, sketchnoting exhibited greater potential to not only lower the threshold of sketching, but in addition, to foster creative, and in some cases, even boost design confidence. These anecdotal observations revealed several overarching opportunities for a larger, cross-disciplinary research, which would begin with exploring the ability to foster creative confidence through lowering the inhibition threshold to drawing for designers and non-designers alike. Proceeding to explore the potential of sketchnoting (due to its dual coding nature) becoming an entry point to employing all modes of thought processing, deductive, inductive and abductive logic as they pertain to divergent and convergent thinking. Ideally setting up this framework to be investigated as a means to improve student engagement and general learning behaviors. The long-term and underlying goal is to change how people see and solve problems and to diversify stakeholders involved in the development processes. This paper discusses the underlying concept as well as the originally observations, closing with the above-mentioned series of research opportunities.

Keywords: Creative Confidence. Sketchnoting. Idea Visualisation. Design Thinking.

The dictionary defines learning as acquiring wisdom through different methods. Generally, those methods include being taught, through experience or studying. In the case of design courses, students are expected to learn through a mixture of input and output, acquiring different skillsets as a means of facilitating expression with the primary goal of applying creativity to design. Design in practice and design thinking specifically, conjoins the two elements of wisdom: “thinking and doing” as discussed in *“The Design Way, Intentional Change in an Unpredictable World”* (Nelson & Stolterman 2012). This iterative process manifests itself at the core of the design process where synthesising information into meaningful knowledge is done through the diverging and convergent thinking processes. Here, designers are able to think broadly, and in narrow spectrums, expanding their outlook and narrowing down their focus on the most useful knowledge.

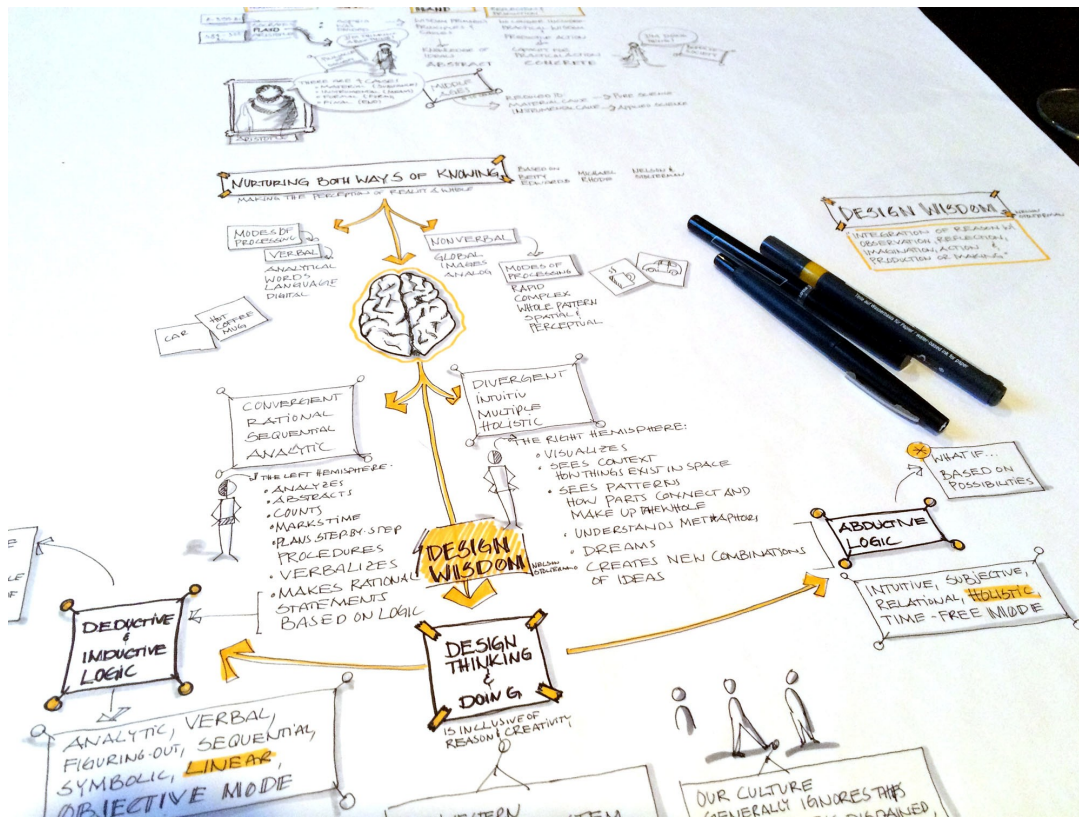


Figure 1: Visual adaptation of work by Nelson & Stolterman, Mike Rohde, and Betty Edwards

To equally apply (design) thinking and doing during the design process, designers use techniques of various forms to uncover and communicate problems, identify patterns, tell stories, develop ideas, detail concepts, implement and communicate solutions (Baskinger & Bardel, 2013). At the top of this hierarchy lies “visualization” as a major way of

facilitating synthesis and communication. This is usually done in the form of sketching. Sketching is used as a form of expression, exploration and communication of ideas between designers, and during collaboration with other people from outside of their fields. It is considered as the most efficient and straightforward way of communication that would otherwise take longer to explain using other means. It is, therefore, often regarded as a crucial skill in this profession.

Tom and David Kelley (2013) point out in their book *“Creative Confidence, Unleashing the Creative Potential Within Us”*, that a common misconception lies in believing in an individual’s innate ability of being able to draw or not. This leads to people thinking that because they cannot draw now, they will never be able to. The resulting frustration can cause low esteem and insecurity, lowering the individual’s interest in sketching and consequently affecting their creative confidence. Tom and David Kelley (ibid) discussed this as a result of the misunderstanding in the attributed relationship between sketching and creativity; they state that a lot of people perceive drawing as a litmus test for creativity.

Therefore, an opportunity space exists at the lower end of the visualisation spectrum as an alternative approach to learning sketching. This paper discusses an ad-hoc research approach based on anecdotal observations that were made through an introductory class of visualization in Industrial design. The hypothesis focuses on using low fidelity visualization methods, such as Sketchnoting as a low barrier, low expectation and low pressure method to teach new designers and non-designers alike the fundamental skill of visualization.

Literature Review \ Sketchnoting \ Visual Sensemaking

The term Sketchnoting, which was originally coined by Mike Rohde derived from his desire to take more engaging and meaningful notes. It is a form of visual note taking that engages the whole mind. Rohde (2013) defines Sketchnotes as “visual maps combining written words and images while providing structure through variations of frames, dividers, bullets, icons, and connectors such as arrows and lines.” (Figure 2)

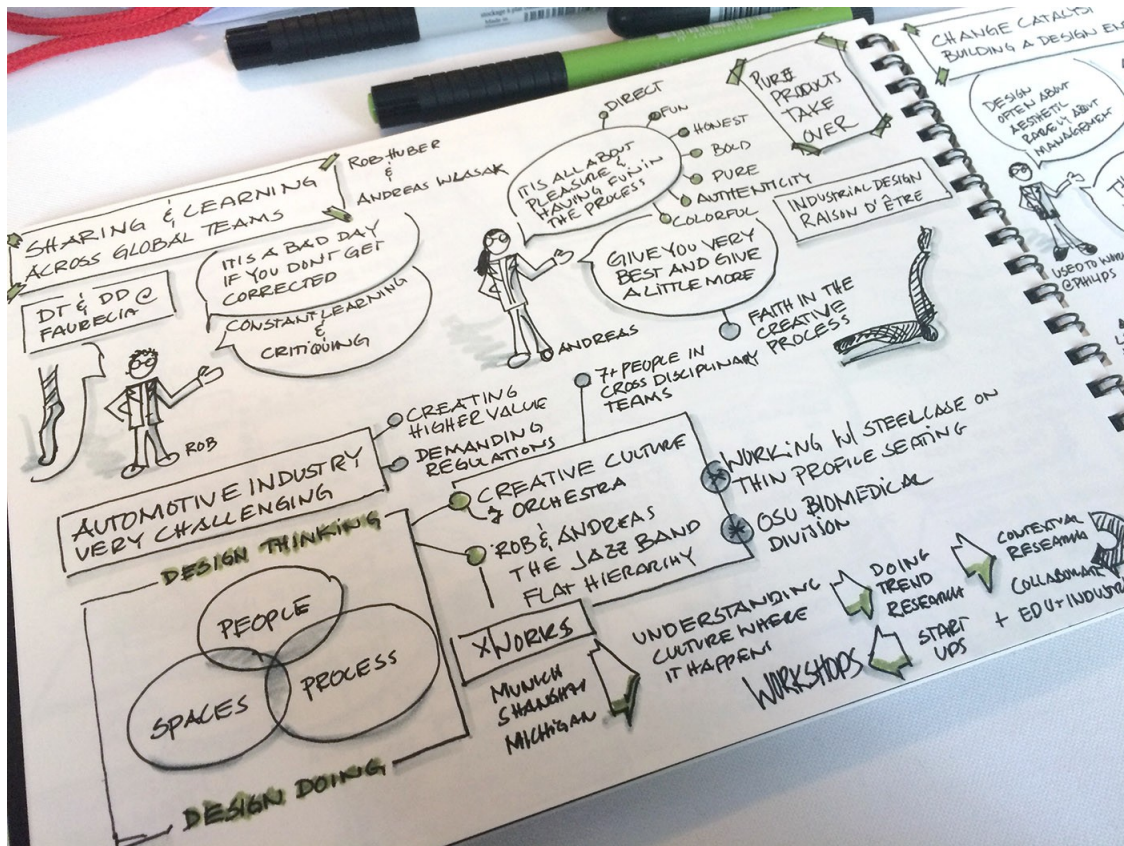


Figure 2: Sketchnote example from DMI conference Berlin 2014.

Visual listening notes are taken in real time, just like notes solely focusing on the written word. However, these visual notes can turn traditional notes into meaningful synthesized interpretations of discussions, lectures, debates, and the like (ibid). They can contain mainly words, frames, containers, and dividers and do not necessarily require actual imagery such as icon-like drawings. However, many Sketchnoters create their individual visual library of shapes, forms, icons, images, and arrows to effortlessly draw from. The continued practice of drawing the same object over and over gives the Sketchnoter confidence and command thus making it easy for them to repeat it on demand (figure 3). Every Sketchnoter has his or her own characteristic handwriting that can be seen on sites such as the sketchnotearmy.com. Due to the fast nature of live note-taking Sketchnotes can be disorderly and can contain spelling or content mistakes. Making, accepting, and turning mistakes around is an important component of this process.

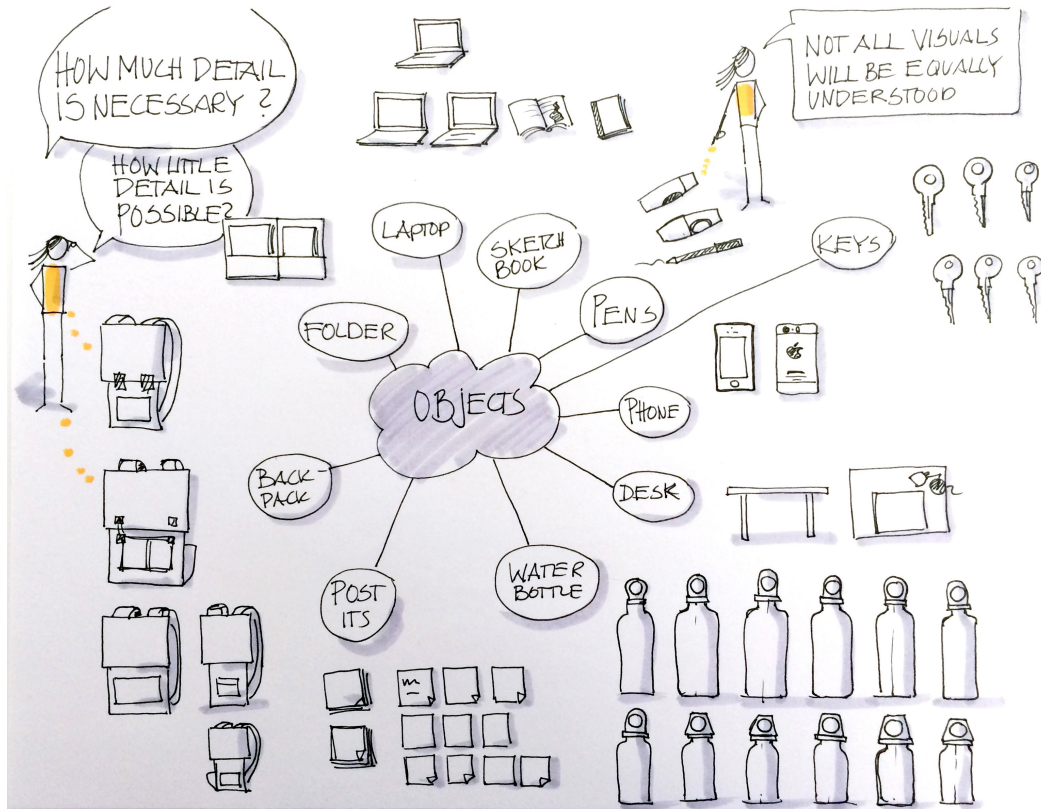


Figure 3: Explorations into universal visualizations.

In recent years Sketchnoting has developed into a large community of practice, with presence at different academic institutions and online platforms where Sketchnoters freely share their notes.

The notion of combining written words and images has been practicing by graphic recorders for many years, many of which are members of the International Forum of Visual Practitioners (IFVP), a community of graphic facilitators who seek to “help people see what they mean” (IFVP, 2015). Graphic recorders work on large-scale paper or whiteboards for everybody to see and reflect upon. Sketchnoters mainly work in sketchbooks, on small paper, or tablets. However, both Sketchnoters and graphic recorders listen, synthesize and interpret discussions ad-hoc. David Sibbet, founder of The Grove Consultants International and a pioneer in the field of visual consulting elaborates in “*Visual Meetings, How Graphics, Sticky Notes, and Idea Mapping Can Transform Group*” on how to use and develop visualization techniques to capture and facilitate meetings (Sibbet, 2010). He argues that by focusing on visual outputs people

have not just better ideas, but they also make better decisions. In addition they tend to be more prone to follow-through.

Omitting unnecessary details allows to focus on speed while capturing ones own comprehension of thoughts and concepts. This way of quickly visualizing and abstracting complexity supports pattern finding and communication alike.

The low fidelity nature of sketchnoting supports fast learning and promotes a low inhibition threshold of putting pen to paper. Resulting in a sense of achievement and openness to practice.

There are several advantages that can be derived from the low fidelity visualization of sketchnoting:

- Quickly synthesizing what was heard and seen
- Making connections and discovering patterns
- Sharing information with others visually
- Improving memorizing information
- Promoting active note taking
- Embracing to make mistakes

Research Methods

The lead author introduced traditional Sketchnoting methods on several occasions, one of which is being discussed here to make a case for a larger research study and implementation strategy for Sketchnoting.

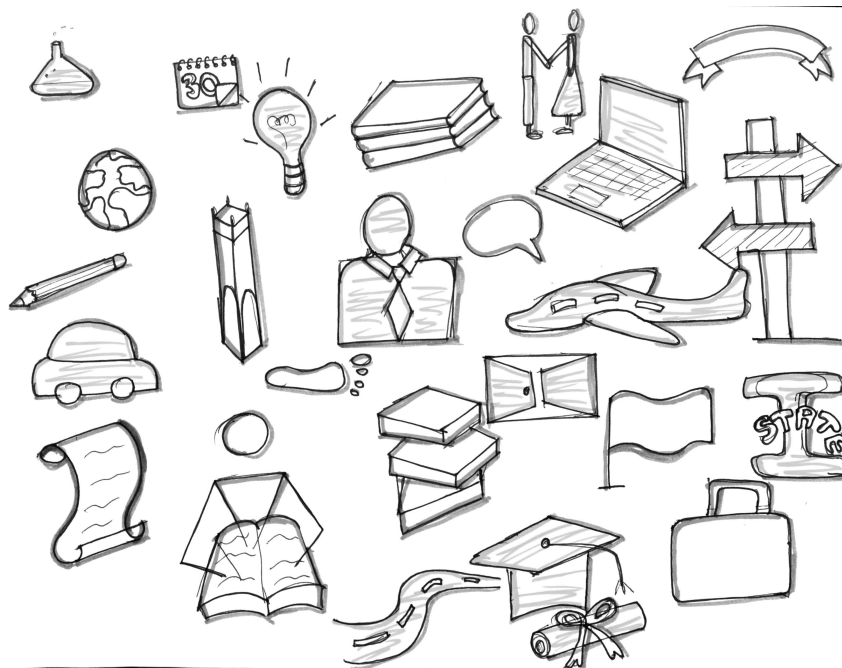
Due to the ad-hoc nature of these observations research questions were not the initial focal point. However, at this stage the observations were mainly anecdotal based on several large-scale workshops with industrial design students (sophomores to seniors) as well as an industrial design graduate course. the latter being discussed here. Students had varying skill levels regarding their visualization ability and therefore had different entry points. The focus of this exploration was on student work improvements over the course of a semester, their overall learning behaviours, and increase in quality and depth of work. Research methods were comprised of comparing and contrasting deliverables of

course assignments as well as observations of in-class performances. This included comparing the development of quality in depth of work, craft, and innovative outcomes.

Discussion of Graduate Coursework

During the beginning of a course on visualization, industrial design and architecture graduate students were exposed to Sketchnoting via hands-on lectures, where they practiced visual elements simultaneously while being introduced to them. As a starting point students were tasked to develop a visual library that pertained to their personal environment. In this exercise, they had to choose at least 30 visual elements (figure 4) and each had to be drawn at least 50 times to develop confidence in putting pen on paper and to develop fluid muscle-brain memory.

Figure 4: Visual Sketchnote library



These elements would become the backbone of a narrative story pertaining to their educational path, which they had to sketch out in the end as seen in figure 5.

During both of these exercises, it became apparent that some students immediately embraced this low fidelity type of visualizing and excelled at it. Students who were not as confident and proficient in sketching initially avoided developing a visual library and did not seem to want to practice low fidelity visualization at all.

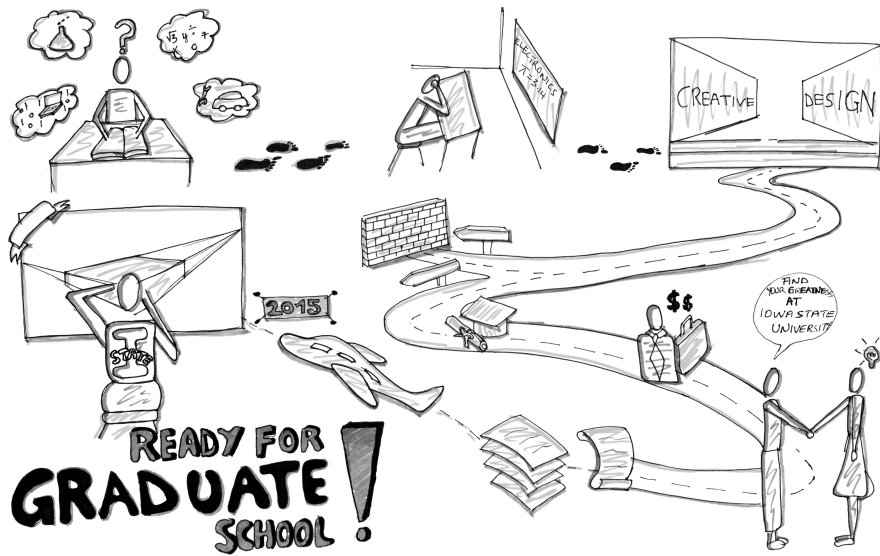


Figure 5: Sketchnoted story incorporating visual library

However, as these students continuously got accustomed to developing elements in their visual library, and started applying them to their Sketchnoting stories, a significant shift in confidence and interest was observable. Consequently, some students went further and applied Sketchnoting to a variety of process steps in other classes such as studio courses, where they started presenting their ideas in this format. They seemed to have also grown more confident in trusting their own design decisions better. The latter was an unexpected outcome.

Based on these anecdotal observations as well as work derived from Adaptive Path (a service design studio) and the HCI community (Petersen, 2012; Marquardt, N., Greenberg, S. 2012) the following preliminary hypothesis was formed: Sketchnoting could become a relevant tool in fostering synthesis for problem finding and solution development as well as helping to bridge the gap between divergent and convergent thinking. It could also be used as a problem framing and idea generation method. The following are some notable opportunities that could be drawn from employing this type of visual sense making.

- Lowering the inhibition threshold toward drawing
- Fostering idea generation through increased creativity confidence
- Bridging the gap between divergent and convergent thinking
- Improving in-class engagement and learning behaviours

Conclusions // Avenue Towards Greater Research

Through these anecdotal observations the team discovered the following aspects as worthwhile research avenues to be explored systematically and applying rigorous methodologies.

Fostering Sketch Confidence

Sketchnoting, seems to lower the inhibition threshold of putting pen on paper. It provides an almost immediate feeling of success of being able to communicate on paper. For design students in particular, but also for non-designers this could help to break the vicious cycle of avoiding practicing to sketch due to the positive feedback-loop.

Developing Creative Confidence

According to Kelley and Kelley (2013) not being able to sketch directly affects the perception of one owns creative confidence. Acquiring visualization skills to communicate ideas freely and easily without fear of imperfection and mistakes could be the first step to trusting ones own creative ability. Once sketch confidence would be established, the creative flow could happen seamlessly, encouraging collaboration and triggering unexpected and possibly disruptive ideas.

Growing Design Confidence

By promoting all modes of thought processing through it's dual coding approach, Sketchnoting could support to not only put more and diverse ideas on paper quicker, it could also support visual synthesis of complex information. Both could greatly aid in the design process and influence overall design confidence.

Positively Affecting Learning Behaviours

Exploring Sketchnoting through the practice of lecture note-taking and visual analysis of reading materials it could have potentially significant influence on student class engagement and learning behaviours.

In conclusion, these anecdotal observations revealed opportunities to investigate the potential of Sketchnoting through larger scale research studies exploring low fidelity visual communication skills for design novices and non-designers alike.

The research team is currently investigating and setting up opportunities to work with Electrical Engineering students, Industrial Design students, as well as with faculty, staff, and graduate students across the university.

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Author Biography

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Verena Paepcke-Hjeltness has worked both in Germany and the U.S. as an industrial designer with a focus on aviation and transportation design. She graduated from the University of Applied Sciences in Potsdam Germany with a degree in industrial and environmental design and earned her M.F.A. in industrial design at The Ohio State University. Currently, Paepcke-Hjeltness is an Assistant Professor of Industrial Design at Iowa State University and jury member of the IDSA [International Design Excellence Awards \(IDEA\)®](#). She was previously appointed Assistant Professor and Associate Program Director at Drexel University. She taught for many years at the Savannah College of Art and Design where she founded and originally lead the M.A. and Undergraduate Minor in Design for Sustainability and later coordinated the eLearning Program in Design Management. Throughout the years she has taught several industry-sponsored courses with companies such as Gulfstream, Freescale, Newell Rubbermaid/Goody, and Dell, as well as community based design projects with the City of Tybee Island and the Rochester Library in Illinois.

Her research focuses on the diffusion of design thinking and doing practices in design and non-design oriented disciplines, with a focus on exploring low fidelity visualization techniques as a gateway to creative confidence and design-ability.

Aziza Cyamani

Aziza Cyamani is a third-year Master's student in the Department of Industrial Design at Iowa State University. Her experiences span from working as a designer in Rwanda, where she earned her Bachelor's degree in Media design at the Kigali Institute of Science and Technology, to pursuing a career in teaching design courses. She worked as a Teaching assistant in the department of Creative Design at the University of Rwanda for two years, founded a start-up company that provided graphic design services and worked as an Industrial design intern at Mass Design Group with a focus on furniture design. Her research interest is in understanding ways of incorporating sustainability in industrial design curriculums on which she is writing her Master's thesis that focuses on developing countries. She currently works as a Teaching/Research Assistant in the department of Industrial design at Iowa State University.