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OVERCOMING THE FEAR OF MAKING A CRAPPY SKETCH

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ABSTRACT
This paper discusses which freehand drawing skills a designer needs in the 21st century and why not more people are using sketching as a creative tool. Are design schools teaching the adequate skills needed today? In the past 5-10 years focus has shifted from product design to experience design and the skills needed to make high end drawings might not be needed to the same extent. 3D computational tools have in many ways replaced the classical freehand renderings, yet product designers are many times taught drawing in classic ways. In this paper, different types of drawings are categorised in order to show their benefits over 3D renderings or text. By doing this, I will show that the low fidelity drawing in many ways have more advantages than the high fidelity drawings. Even though low fidelity drawings are effective, many designers are afraid to draw or show their drawings as they lack confidence and consider themselves poor at drawing. By teaching students to identify the actual function of the drawing, they will better understand the value of a simple sketch and find confidence to use it.

Keywords: Design sketching, drawing education, sketch style, freehand drawing

1 INTRODUCTION - THE CHALLENGES FACING DRAWING EDUCATION

The objective of this paper is to explore whether the design curriculum in terms of drawing needs to be revised to address changes in the design profession as well as other changes in society. Already in 2004 Naussbaum [1] stated that designers are evolving their core competences from drawing to thinking, from styling to innovating, from shaping things to visualizing new business paradigms. The change of the designers role together with the emergence of new technology calls for a rethinking of what future designers are being taught in terms of drawing. What skills are needed? How are sketches/drawings used in the design process and what is required in terms of pedagogy to best meet these demands? The design field is evolving and schools are struggling to insure that all subjects are sufficiently covered within the 3 years of the bachelor programme. The theoretical knowledge and skills offered in a range of areas are all competing for the student's attention. As new digital tools are becoming available and new subject areas emerge educators have to decide where to place the focus. Some schools have left out drawing from the curriculum entirely, assuming that this is a skill that students have been taught prior to entering design school. Some schools are considering to outsource the teaching of specific skills to platforms such as Lynda.com who currently offer over 700 skill courses within the design field. This is a potential cost save and is also a way to free up time for other subjects in the curriculum. Today free online resources are offered by self-proclaimed teachers sharing their knowledge in all possible areas and technology offers great new ways of learning such as the pedagogical books by Robertson and Bertling [2] that offer QR codes that can be scanned to access tutorials in your smart phone. How does this effect the way drawing is being taught at design schools?

2 THE ADVANTAGES OF DRAWING

That drawing has benefits over writing is nothing new in the design world. Roam- [3] the author of the book *The back of the napkin* claims that visual problem solving is ready to explode across business. It is a way of seeing solutions that people in business have unintentionally overlooked. "We can use the simplicity and immediacy of pictures to discover and clarify our own ideas, and use those same pictures to clarify our ideas for other people, helping them discover something new for themselves along the way."

Along with the internet comes a never ending access to information. “When your goal is to describe a vision for the future, information is not enough. People are up to their necks in information. What they need is a way to imagine their life after the change, and compare it with their life today. That is why it’s called a “vision” and not a plan- says Marty Neumeier, author of The Designful Company [4].
Advanced software is offering possibilities for anyone to visually communicate through icons and pictures but people are less interested in seeing premade icons and pictures, they like seeing other people’s sketches [3]. It is surprising that drawing does not get more attention is grade school. In school, children spend considerable time on learning how to write but not much on how to draw. We are taught that drawing is something for artists- not a tool for innovation. People who are not used to drawing often claim that they cannot draw and that they are not visual people. Yet these people almost always end up creating some of the most insightful pictures when trying out [3]. When senior lecturer Malin Olander, who teaches the course *Innovation Technique* at Lund University, introduces the concept of drawing to a group of business students, they at first feel uncomfortable but later agree that the method of drawing is liberating and effective as a creative tool.
I interviewed three interaction designers from IDEO who all said that they use sketching as a vital tool in their everyday work. The also claimed to be poor at drawing as this subject was not addressed during their education. I asked them where they got the confidence to sketch. They referred to the company culture and how they have been heavily encouraged by their colleagues to make sketching part of their process. One of the designers referred to a small book called ”Working with pictures” [5], that he used to find confidence in drawing simple icons and figures. Wodtke recently published a more extensive book on the same topic [6].
Freehand sketching offers many benefits over other visual media. In difference to a photograph or a fully defined drawing of a person a box character does not consider unnecessary features leading to discussions around gender, size, ethnicity or other aspects that are irrelevant to the discussion at hand. Co-designing on a global level requires involvement of users and professionals of all cultures and backgrounds. We see an increased demand for the use of visual communication as a universal tool to overcome language barriers on a global market. When working with visual communication we also need to consider how images and icons are used in different cultures. Learning to use simple icons as part of the communication can take you a long way in explaining ideas, concepts and scenarios. Low fidelity sketching is quick, inexpensive and can be used by many. The view of who is a designer can be defined in different ways. “We define designers as anyone who creates a prototype in order to design, regardless of job title.”[7] Involving several people in the ideation process can be beneficial to the design process. It has been shown that in idea generation groups, sketches can stimulate creativity, especially in the immediate individual idea generation process, by providing new directions for idea generation in an individual generate-interpret cycle [8].
My colleague senior lecturer Per Liljeqvist has over the past 6 months conducted a study with a team of product developers at a production company in the industrial equipment industry with a turnover of 500 million SEK annual. Liljeqvist is hired by the company to, on a weekly basis, co-moderate a three hour long creative group session aiming at generating new product ideas for the company to potentially pursue. The team consists of five people, two with engineering background and three without higher education. In the beginning of the collaboration the team members excused themselves by stating “I am not good at drawing”. Liljeqvist introduced some easy drawing methods and encourage them to draw even though the result is not clear to others. During the time of the study I have had three one hour long interviews with Liljeqvist discussing the progression and reviewing the sketches from the sessions. We conclude that drawing has become an integrated tool in the development work of the company. Over time the group has stopped excusing themselves over poor sketches and even the most reluctant team member is now drawing in front of the rest of the group. According to the head of development, the team now spends less time in coming up with more ideas. The process gives everyone a chance to visually communicate despite skill level and is delivering.

3 SELF CONFIDENCE

Many design students seem to lack an understanding of what is expected from them in terms of drawing skills. For more than ten years I have been teaching a class in portfolio technique and many of the students I meet feel uncomfortable showing their drawings. I often find a page at the end of the portfolio with random renderings of objects as evidence of their drawing skills. When asked to show sketches from their design process, the students get uncomfortable and concerned that these sketches

are not good enough to show and rather refer to the page of polished renderings. I have reviewed hundreds of portfolios for the admission of the masters' programme in design at Lund University and surprisingly few are showing sketches related to their design process.
Having interviewed students from design schools all over the world, it becomes clear that some schools only teach the basics of perspective drawing and happily assume that the students later will understand how to apply these skills in the design process. Some students excel at drawing as they are passionate about the subject and put in the needed time and effort to learn how to drawing any object out of their imagination but others lose confidence and abandon drawing all together. When focusing on high fidelity drawing or not addressing drawing sufficiently in the education, many students fail to see how drawing can be used for a variety of purposes. Learning to use drawing as a design tool is so much more than understanding how to draw in perspective and how to render an object. Being able to draw is not about technique and style, but about confidence [9]. As children we feel confident about drawing but few grown-ups have the same mind set. Designer and illustrator Bellucci Sessa has played around with the Dunning-Kruger diagram in the image below.

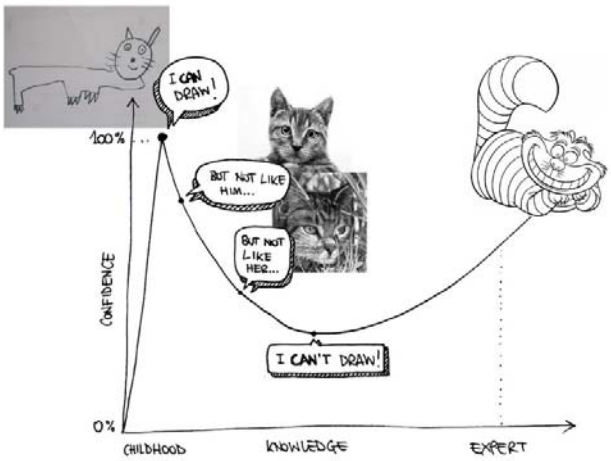

Figure 1. Illustration by Stefano Bellucci Sessa

The use of high fidelity drawing seems to becoming less important with the availability of 3D modelling software and many designers will never use freehand drawings to describe shape in a detailed way. By teaching students how to make a "perfect drawing", students become less confident in showing up with a "crappy" sketch as they fail to see the benefits that low fidelity drawings have to offer. Introducing advanced drawing techniques will also make some students feel so inadequate at drawing that they simply stop drawing because a lack of confidence.
"Curiously, people in our culture often associate the ability to draw with being creative. Many students find themselves in the pleasant situation of having learned to do something they were convinced they never could do. This often makes them question other behaviours which they assumed they had no talent for or otherwise assumed were unavailable to them. This is an empowering insight which can release a range of creative response." [10]
It seems that the opposite could be true as well. That when introduced to drawing techniques that one fails to master, you start questioning your right to draw at all. According to Kelly [11] many people suffer from a fear of judgment which leads them to refrain from participating in creative processes assuming that they are not the creative type.
There is an opportunity to consider other approaches of teaching drawing. In difference to teaching drawing as a means of describing shape and illustrating a design proposal, drawing can be taught as a tool for creating ideas and solving problems. It is important to give students the confidence in drawing fast and loose, together with an understanding of how to use the sketch.
There is a risk that the sketch becomes more important than the design itself, which is never the point of a design sketch. A sketch, just like a prototype is an artefact for discussion, rather than a final product.

4 UNDERSTANDING THE IMPORTANCE OF AMBIGUITY

Many of my fellow colleagues at design schools are struggling to get the design students to produce sketches as they seem to prefer writing or 3D modelling instead. A freehand sketch offers many benefits over writing and 3D modelling. It seems that the students do not fully understand these benefits.

“Superfluous detail is almost always distracting, at the best, no matter how attractive or well rendered. Going beyond “good enough” is a negative, not a positive.” [12]

By showing students *https://quickdraw.withgoogle.com/data* they quickly become aware how few lines it takes for artificial intelligence to guess what a person has drawn. It seems that the more details you add to the drawing, the longer it takes for the computer to figure out what it is. A concept sketch can be defined theoretically as “a collection of visual cues sufficient to suggest a design to an informed observer” [13] I would argue that even the uninformed observer today requires relatively little to understand a simple sketch. We are becoming more and more trained to read icons and visual cues as part of our everyday life. To be able to convey an idea of a layout, position, scale or person not that much is needed. We are used to working with icons and the human brain quickly accepts a bunch of sticks and a circle as a person. If given a context even less information is needed for us to be able to interpret a sketch. What in one situation could appear to be a bowl of eggs could in another scenario be interpreted as a bowl of wafers if it was held in the hands of a priest.

“If you want to get the most out of a sketch, you need to leave big enough holes. Ambiguity creates the holes. It is what enables a sketch to be interpreted in different ways, even by the person who created it.” [12]

Doodle, scribble or sketch, call it what you want. Brown describes doodling as ‘markings to help a person think. This universal act is known to have many different functions such as “activate the “mind’s eye” or the portions of the visual cortex that allow us to see mental imagery and manipulate concepts” [14] Low fidelity sketches offers a range of advantages. Not only do they offer ambiguity but they are also quick to make. The level of ambiguity is beneficial at the early stages of the design process when it can allow for a sketch to be freely interpreted by several parties potentially resulting in a further development of the idea.

5 THE IMPORTANCE OF DEFINING THE FUNCTION OF A DRAWING

Categorizing drawings can be done in a variety of ways. It can be done by categorizing based on profession, medium or purpose. In the product design field, sketches are commonly divided in to categories such as Scribble, Doddle, Early sketches, Concept sketches, Memory Drawing, Presentation Drawing/ Rendering, Technical Drawing and Description Drawing. Most of the time the name of the category is referring also to the purpose of the specific style of drawing [12].

Ferguson divides drawings in to three main categories; thinking sketches- used to focus and guide non-verbal thinking, prescriptive sketches- made to direct a drafter in making a finished drawing and talking sketch- used as a communication tool between members of the development team to get consensus[15]. Pipes also describes three main functions of drawing. The functions described are addressing the designer’s creative process as well as how the drawings are used as a means of communication with other people to both describe and sell the design itself. [13]

It is complicated for students to understand which style and level of refinement is needed in each category and how these categories are used in the design process. It can also be confusing that a single sketch is likely to have different functions in various activities and it may be more informative to develop a categorization that addresses the designer’s different kinds of interaction with the working medium, rather than providing a categorization of types of sketches [12]. The same drawing can serve as well as a communication tool to others and as a memory tool for oneself. A certain style can work well to draw attention to the viewer but poorly when it comes to quickly generating many ideas. Understanding the intended purpose of the sketch helps to evaluate if that sketch is doing a good job or not. By focusing on the purpose of the prototype-that is, on what it prototypes-we can make better decisions about the kinds of prototype to build.” [7]

In table 1. Purpose of drawings, I have compared the benefits that freehand drawing have over computer generated drawing/model making and written communication. It becomes clear that low fidelity drawings offer great advantages in the idea generation phase and that the only obvious advantage of a high fidelity freehand drawing is that it does not require expensive computer equipment.

Table 1. Purpose of drawings

	PURPOSE		
Type	**Idea generation**	**Communicating with Other (client/partner/user)**	**Designing with others**
Low fidelity sketch Sketch/ Scribble/ Doddle Concept sketch Memory Drawing	• Quick to produce - less expensive, quickly available • Can be produced with pen and paper • Timely- can be delivered anywhere • Disposable • Getting the idea out of the head- clear your mind • Externalizing and analyzing thoughts • Distinct gesture- gives a sense of openness and freedom • Minimal detail allows for less defined ideas to be explored • Helps to generate multiple ideas • Allows for ideas/concepts to be evaluated • Allows for recording thinking process • Evidence of development process (patent, intellectual property right)	• Clear vocabulary- The style, or form, signals that it is a sketch • Suggests appropriate degree of refinement - offers an understanding of where in the process the idea is • Suggestions can mistakenly be perceived as another idea- generating new ideas • Minimal detail- invites for discussion • Allows for suggestions , input and consensus • Exposes potential future problems at an early stage • Does not require language skills/reading skills	• Allows for co-creation- adding to an existing drawing • Helps to generate multiple ideas
High fidelity drawing Presentation Drawing/Rendering Technical Drawing Description Drawing		• Allows for consensus, commitment, approval, verification, clarification • Does not require expensive equipment • Details allow for detail evaluation of technical solutions and aesthetics	

6 CHANGING THE WAY DRAWING IS BEING TAUGHT

Over the past years I have changed the focus on the drawing curriculum to insure that students better understand how drawings are used in the design process. I have also actively focused on pedagogical methods that will aim to increase student's confidence in pulling of quick and effective sketches with an intentional level of ambiguity. Students are, on occasion, asked to select a home task of their own choice and when presenting their work they should be clear in what the aim of the drawing is, so that the person giving the critique can evaluate if the aim is met or not. By training sketching both fast and slow, students have developed a sense of how to generalise. Invited guests such as designer Kajsa Westman, alumni and employee at design Agency TOPP, not only teaches students how to visually communicate in simple yet effective ways, but she also shares how this approach has been used in real life projects. These methods have changed student's perception in regards of what is important when it comes to drawings. Students are expressing an increased feeling of confidence and their peers can point out how that confidence shows in their improved drawing style that is more dynamic.

7 CONCLUSIONS

Students could benefit from better understanding different purposes of drawings and sketches in order to evaluate the level of fidelity needed to execute them. This will in turn helps to better understand that drawing can effectively be used with relatively limited skills. As shown in figure 1, the low fidelity drawings offer many advantages and this should be addressed in the education. There is a clear opportunity to change the way drawing is taught which should encourages designers to draw rather than intimidating them and making them feeling inadequate. Different kind of creative work requires different drawing skills and the education should cover a range of techniques that could be used in different situations. Most importantly educators needs to consider how their pedagogy effect students confidence in their ability to draw and if nothing else drawing needs to be a part of any design curriculum to battle people's fear of sketching.

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