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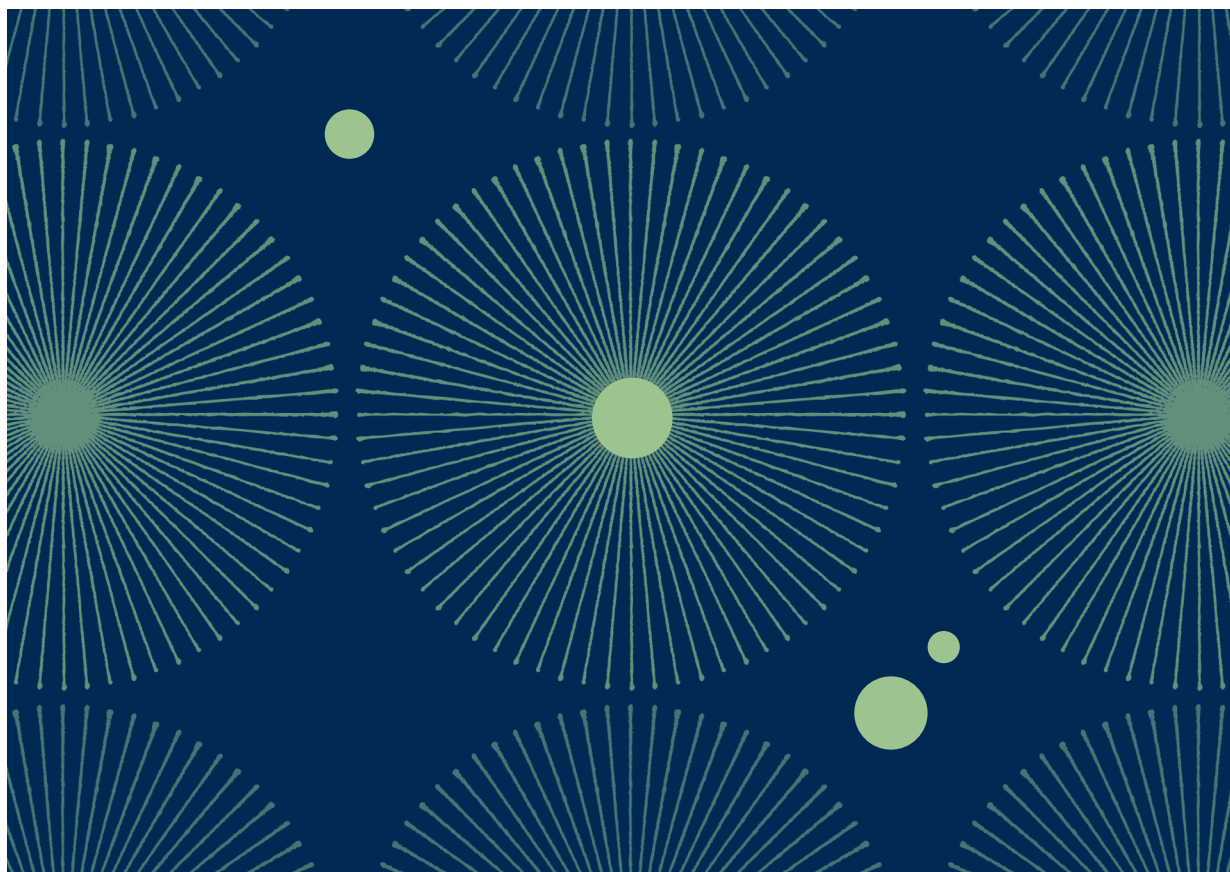
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Collaborative Video Sketching

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Abstract

This paper introduces to what we define as a *collaborative video sketching* process. This process links various sketching techniques with digital storytelling approaches and creative reflection processes in video productions. Traditionally, sketching has been used by designers across various disciplines, as an integrative part of everyday practice and has proven to have a multitude of purposes in professional design. One of the main purposes is to either investigate a problem space or explore multiple solutions to a specific design challenge. In the paper we clarify, how sketching can take many forms and through empirical examples, we present and discuss the video recording of sketching sessions, as well as development of video sketches by rethinking, redoing and editing the recorded sessions. The empirical data is based on workshop sessions with researchers and students from universities and university colleges and primary and secondary school teachers. As researchers, we have had different roles in these action research case studies where various video sketching techniques were applied. The analysis illustrates that video sketching can take many forms, and two common features are important findings: 1) They are based on a collaborative approach. 2) The sketches act as a mean to externalizing hypotheses and assumptions among the participants. Based on our analysis we present an overview of factors involved in collaborative video sketching and shows how the factors relate to steps, where the participants: shape, record, review and edit their work, leading the participants to new insights about their work.

Keywords: Video sketching, learning, reflection, dialogue, collaboration

Introduction - Research Questions, Method and Theory

The research interest in video sketching as an approach to learning and knowledge sharing emerged, when we began experimenting with the combination of these two areas in our teaching and research. These experiences resulted in conceptualisations and discussions on how to interpret this new form, which showed reflection potentials: Which questions could we ask and investigate,

what constituted video sketching, and how does it relate to other forms of sketching?

The method consist of both an establishment of the theoretical framework of sketching, through readings of the literature (inspired by backward snowballing - Jalal & Wohlin, 2012) and the small action research experiments from our own teaching and research (Greenwood & Levin, 2007). Both served as a way to strengthen the methodological developments of this type of sketching. The empirical material consists of a number of cases, which are, in this relatively short paper, represented on a vignette or exemplary level. Here, we rely in particular on findings from two cases. The first being a four hours workshop with approximately 75 students on a master studies programme, using video sketching in their problem-based learning (PBL) projects. The second is an example of researchers video sketching on a research theme they have worked with on a number of years. The other cases are from the design experiments and data gathering situations in our research, as well as teaching and competence development sessions with teachers and educational administrative personnel.

Sketching has been used by designers across numerous proficiencies as an integrative part of everyday practice and has proven to have a multitude of purposes in professional design (Olofsson & Sjöln, 2007). Generically speaking Goldschmidt uses the term "*backtalk of self generated sketches*" (Goldschmidt, 2003) as the designer through the materialisation of her thoughts creates an opportunity of entering a dialogical space. The dialogue can either be limited to including only the designer him or herself and the sketch work or as a means of triggering development in the idea generating process in a design group (Goldschmidt, 2003, Buxton, 2007). Schön (1992) analysed design processes where sketching helps designers investigate a problem field and discover new ways to set a problem. Schön refers to this as the dialectic of problem setting and problem solving.

The purpose of sketching expands, however, beyond problem solving. Olofsson & Sjöln (2007) argue for four different purposes: investigative, explorative, explanatory and persuasive. Investigative sketches works on the problem identification level. The purpose of explorative sketches focuses on the possible solutions of the identified problems. In explanatory sketches the aim is to communicate a clear message to others than members of the design group and communicate in a neutral straight-forward manner getting feedback from users, clients and external experts. Lastly, persuasive sketches have the function of trying to "sell" a proposed design concept to influential stakeholders and are in Olofsson & Sjöln (2007) therefore often artistically impressive examples. Consequently, there is a big difference from the numerous, rough, pencil drawn

and disposable explorative sketches to the highly detailed 3D rendered persuasive sketches. Buxton on the other hand, maintains the definition of sketches as thinking drawings generated by designers for designers in the process of ideation. Explanatory and persuasive sketches would in his vocabulary be labelled description drawings and presentation drawings (Buxton 2007). In this sense sketching is seen more as a specific mindset rather than a constrained technique. The focus is on pruning and experimenting on what might be and not on what already is.

Apart from the purpose, sketching can be categorised in numerous other ways, as e.g. medium and subject. Traditional media counts pencil, markers, pastel, airbrush, etc. but new research within the field have proposed to expand this category to include temporal media, as in Vistisen (2016) and his approach to sketching with animation. The pacing, rhythm and audience anticipation add more to the sum of the animation than the individual frames themselves. Further, animated sketching excels in providing the novices means to mentally simulate the future (Vistisen 2016) and can thus function as a powerful tool in communicating proposed concepts similar to the purpose of explanatory sketches explained above.

In this paper we work with a form of temporal sketching, which we label video sketching. This approach is characterised by video recording any type of sketching session which again can contain vastly different purposes, as depicted below. The video itself is then often edited, rethought and re-recorded in an iterative manner, which means the video itself constitute a form of sketch - a video sketch. Thus, the approach focuses on different reflective practices and conversations among the participants in the different video sketching sessions.

Reflective Video Sketching in PBL and knowledge sharing settings

Approximately 75 students from the first semester at the Master of Arts (MA) in Learning and Innovative Change participated in a four hour reflective video sketching workshop in October 2016. The formal objective according to the teaching plan was to use ICT as a medium for documenting and disseminating students' knowledge and lessons learning about learning and change processes in their problem-based learning (PBL) projects. As lecturers, we also saw the potential to let the students experience how they could learn from and be reflective about their work process as it unfolds, in order to illustrate that the process is just as important as the end product.

The workshop was scheduled as a process, where the students worked in their PBL groups through 4 phases inspired on one side by the 4 types from (Olofsson & Sjöln, 2007), and on the other on iterations of sketching while recording, and editing the recordings, see table 1. As teachers, we acted as facilitators during the four hours, both in respect of getting the sketching and video recordings to run smoothly in the groups, but also on a more subject matter level, of using sketching as a means to encourage a dialogue on the issue at hand. The students recorded using mobile phones, tablets and for some the webcam in a computer. We did not ask them to use specific editing software, but did give a couple of links to freeware in case they did not know any.

1 – INVESTIGATE	2 – EXPLORE	3 – EXPLAIN	4 – PERSUADE
In groups choose a problem/opportunity from your PBL.	Sketch & Record a common idea about the theme	View and edit recording. Do it again, while sketching	Choose elements for your sketch – edit, re-record, and produce.

Table 1

We saw how the students discussed and sketched out central points in collaboration, while recording. This meant the dialogue and the sketch temporal aspects were documented. When the students viewed the recorded videos, we as facilitators noticed, how this brought about discussions on not only the content of the sketches and what was talked about, but also gave the participants insights into why certain directions were chosen. For example one utterance from participant A, lead to another reflection from participant B, and as a result the sketch and dialogue evolved as it did. A few groups had time to explore several pathways, though this is something we could explore further in the future. Another and more predominant aspect, was that the participants realised they had mentioned issues in the dialogue that was important for them and the group, but that these issues were not explicit to them prior to reviewing the recording. As facilitators our role in this process, in between phase 3 and 4, was to highlight ways of getting to the core of the issues and to reflect, by introducing steps and questions as “what would happen if you in the next round of recording and sketching enlarged one area, omit another, introduce this concept in different ways, or how can you represent what you are talking about visually etc”. As such this video sketching process in many ways introduced obstacles or obstructions by deliberate choice-making.

The phases, described above, have also been applied in smaller settings with teachers, administrators and pedagogical consultants / practitioners in particular from vocational training and college educations. In these sessions, the participants were asked to work in ad-hoc (for the occasion generated) groups, where they individually selected an area for exploration in a reflective video sketch, which they then explored in collaboration - providing feedback to each other. The videos were very first versions of ideas to work with in their own home institutions or teaching, and therefore the videos itself were not shared. Nevertheless, the participant uttered in the breaks and afterwards, that they found the video recording of the sketching gave them another dimension of *backtalk*. It seems the process supports a meta-level of communication, where one is confronted with one's own meaning as per the recording, which provides a way to be more clear or explicit about e.g. priorities' in a job or a task at hand.

A Video sketching dialogue

Another set of video data stems from dissemination of research findings. The purpose was to prepare a video on a specific research topic based on two researchers (A & B) work. It was to be published on the internet to a broader audience. A third researcher (C) was present, who also had a media background, and was to record and edit the small movie. Before the recording, the researcher A&B had a brief talk for 10 minutes, while sketching out the area they wanted to discuss. During this process, it became clear, that the sketches supported the researchers getting into the topic, to have a common dialogue around the topic. Neither of them had made the sketches before. The third person (C) began trying out the two cameras, which she had installed on camera-stands. All three then briefly engaged in the setup: how much of the table was viewed, how was the angle etc.? After recording the videos from the two cameras, they were edited and re-designed into one video. The third researcher (C) made all the editing choices.

Prior to commencing, one of the researchers (A) was uncomfortable with the situation of being filmed during the communication on the research topic. This researcher afterwards explained that sketching supported her in creating a fix point and reduced her uneasiness with the two cameras filming her. It supported her focus on the research topic and communication of the topic. The relation between the two researchers (A&B) was based on them being colleagues through years and having several years of research experience in this specific topic. This seemed to give the researchers some freedom to reflect spontane-

ously on the topic. The room where the recording took place was an informal room with cozy atmosphere. Both researchers (A&B) were at the end of the session quite intrigued concerning the speed at which they had formulated their common knowledge through the sketches, and was pleased about the overview the sketch generated, which also aided in providing the researchers with clarity on what was important and what was not.

When analysing this retrospectively, the sketching activities performed before the actually video recording began, predominantly emanated from an exploratory sketching approach. The researchers (A&B) explored how to communicate the chosen topic in a (for them) unusual setting while sketching. The sketching activity during the video recording (where A&B sketched a common visualisation while having a dialogue - knowing they were being video recorded) interprets as an explanatory approach of sketching. However, one could also argue that this sketching activity was a combination of two approaches namely an explanatory approach and a persuasive approach. The researchers (A&B) were focused on explaining and communicating an agreed and specific research topic, but when analysing the video afterwards and from discussions with the two researchers (A&B), knowing the recorded would be edited into a public available video, changed the dynamic and a performative layer were introduced. This performative layer also stepped-in during the post-editing process, where the third person (C), edited the recording to a video sketch that was to be useful for many. In some ways, the performative layer, as a third eye, played a role in the making, in-situ, where the researchers found they were more conscious, but then also more explicit about their research findings, which let to new insights for all three researchers participating.

Collaborative video sketching - a visual overview

In our empirical material, we see that the process of video sketching typically consisted of the phases or steps as shown below, but in a manner where there is not one start or end point (figure 1).

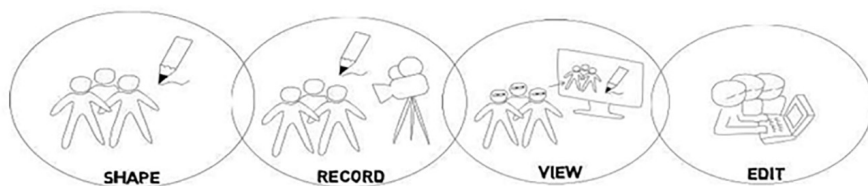


Figure 1

Shape: In this step, sketching is done, as understood from the traditional perspective, where the sketcher enters into a conversation with the material, which is typically pen and paper, but could also be clay, lego bricks etc. The sketching activities can be individual or collaborative.

Record: In this perspective, the traditional sketching activities are video recorded. These recordings can be recorded from different angles focusing e.g. on the sketcher (individual) or the oral dialogue between sketchers (collaborative) or on the material. The recordings can be done with camera stands or with mobile devices where the participants record themselves.

View: In this perspective, the recorded sketching activities are being viewed. The recordings can be viewed by the participating sketchers in the video or by external participants, which initiate a reflection on different levels - as briefly outlined in the cases above.

Edit: In this perspective the participant enter into an editing mode where the video is used as a sketching tool. By using different framings such as zooming, panning, jumping and layering the participant enters into a conversation with the material by reframing and remixing the recordings in order to explore new possibilities. The edited recordings are video sketches that can re-enter into the other steps, or can be viewed by other people than the participants (external participants).

From this perspective, we find that each step evolves a number of decisions and choices which the facilitators and participants in video sketching processes for learning and knowledge sharing can experiment with. These choices are not seen as scales or as mutually exclusive, but factors that one can be aware of: as the choice of shaping medium, the recording medium etc. (figure 2).

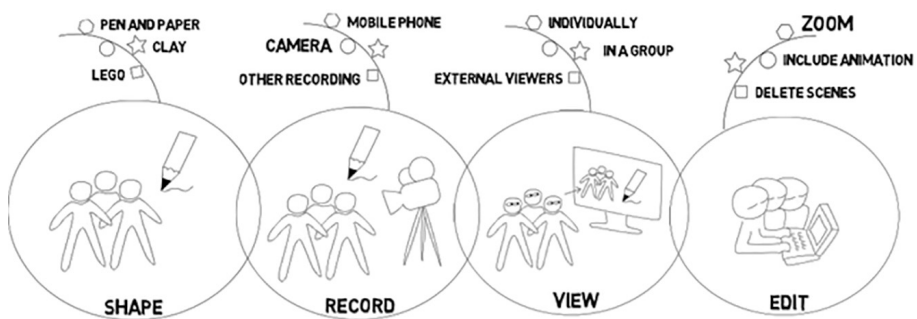


Figure 2

Schön focuses on reflective practices among practitioners and he notes that it is vital to combine the ability to operate in uncertain and unique contexts in

the field of design. According to Schön, a design situation is unique due to the fact that there is not only one way to solve the problems that may occur. This places a demand on the designer to reflect in terms of *reflection-in-action* and *reflection over action*. Schön further points out that through the designer's conscious use of reflection during the sketching process, the designer engages in reflective conversation with the situation: "*Reflective conversation with the situation may occur in the mode of discovery, or in the mode of design, or in the hybrid forms that combine the two*" (Schön, 1992, p. 126). Our data suggests that there is yet another layer of dialogue introduced with video sketching, than the presented *back-talk* characteristics (Goldschmidt, 2003; Schön, 1992). This is the dimension of collaborative dialogue in retrospective viewing. As such there is both a reflective element in a Schön interpretation, that is as the sketch is made, and in the reviewing and re-design of the video sketch. But there is also a reflective element through dialogue with peers. In our empirical data, the dialogue with peers took place at different levels, which we denote as related to if the reflective dialogue was intended to result in a video sketch for internal or external use.

We see that the different purposes can be used explicitly by video sketch facilitators and participants to move around in these modes, and to maintain a more investigate or more persuasive approach depending on the objectives (figure 3). This results in an overall suggestion for a video sketching framework as follows:

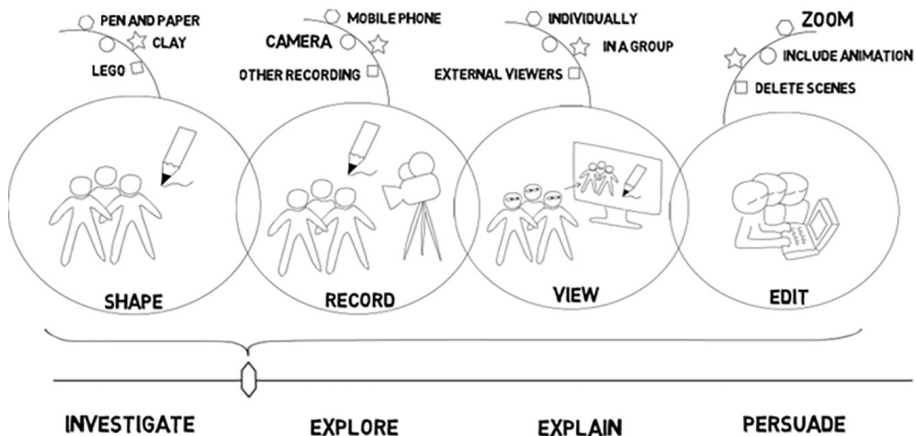


Figure 3

Conclusion and future steps

In this paper, we formulated four different steps of collaborative video sketching: shape, record, view and edit combined with different modes and factors in order to endeavour the learning potentials of the collaborative video sketching process. We have analysed collaborative video sketching processes and found they can facilitate a thought process that aid in the externalisation of ideas and reflection through dialogues with peers and interaction with the material. In this relatively short paper we have not unfolded every aspect, but only briefly shown there can be for example ethical issues (as getting people to be comfortable with recording themselves or their voices and sharing this with others). We also have found that when working with video sketching there is not only one way, but multiple ways to facilitate the process. However, when is one choice of approach more appropriate than others? In the future, we need further analysis of aspects like these.

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