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Video as a Tool for Knowing and Telling in Practice-led Craft Research

By Camilla Groth

INTRODUCTION

As craft practices have been taken up in academia, practitioner-researchers meet the challenge of articulating experiential knowledge of their practice. This position asks the researcher to first document and make sense of the experience and knowledge residing in their body-based craft practice, as well as transforming this experience into a format that is communicable to a wider audience. Video can be used as a tool in accessing this experiential knowledge, as well as in disseminating it. Outside the academic field, video is used extensively in online tutorials and presentations of craft-related knowledge and techniques. This chapter explores aspects of researching and disseminating experiential knowledge through an example of ceramic practice. It further gives suggestions on how video can be a useful tool to revisit experiences when used as an autoethnographic re-call of the situation of practicing. Video documentation further enables a slow and more detailed analysis of the events, that are often too rich in content to be noted in the situation of practicing the craft. Video recordings show the context of the situation and the multiple overlapping events and details that words may not capture. In addition, video clips in presentations of craft research have the ability to awaken the audience's possible previous experiences of similar events and thus bring about an illusion of a multimodal experience that point to the more implicit aspects of the situation. In the advent of online journals, there are now also possibilities to publish video recorded material as part of a research article, thus allowing for the implicit aspects of the practice to reach a wider audience. This chapter thus suggests the use of video in three aspects of craft research: 1) in do-

cumentation of experiential knowledge and events, 2) in the reflection on this knowledge and as an aid in accessing it, and 3) in the communication of the more implicit aspects of experiential knowledge.

As the practice-oriented fields have been accepted into academia there is a new generation of practitioner-researchers (Nimkulrat 2012) who now have the possibility to extend their practical knowledge through organised enquiry (Niedderer and Reilly 2010). In a practice-led research setting, the practitioner is both researcher and respondent, giving an insider's view on the practice that allows for the practitioner's own voice and knowledge to be heard. Practitioners in the context of academia are also obliged to transform their experiential knowledge into written form. In attempting this, the practitioner-researcher is faced with a number of challenges. Experiential knowledge relies on sensorial information that is situated, subjective, and often implicit and thus evades the explicit formulations that are required in academia (Biggs 2004; Strati 2007; Niedderer 2007; Niedderer and Reilly 2010; Nilsson 2013).

EXPERIENTIAL KNOWLEDGE

Experiential knowledge, also referred to as a-posteriori knowledge, is the kind of empirical knowledge we gain after having experienced something, usually through our senses or in an empirical experiment. When we have experienced something many times, we have learned to anticipate what will happen next time we encounter it. We are thus able to make sound perceptual predictions of this experience—it is now stored in our long-term memory and we have *embodied* the experience.

There are two types of long-term memories. The first is conscious and declarative. This type of memory helps us to store information and facts that may be recalled when needed, such as the recipe for a blue ceramic glaze. The other is the unconscious and un-declarative, and is also called the procedural memory since it stores procedures needed for doing tasks and performing actions, such as throwing a clay bowl on a potter's wheel. This is the kind of knowledge that craft practices are dependent on. Throughout their professional lives, craftspeople accumulate and store this procedural and implicit knowledge through the multiple and repeated interactions they have with materials, tools, and situations.

While crafts rely on a large knowledge base of facts and explicit theoretical knowledge, there is a large part of craft practitioner's knowledge that falls into the implicit and tacit dimension that evades verbal articulation as it is unconscious and not available to us in word format. The concept of a "tacit dimension" (Polanyi 1966) is an attempt to describe this form of personal knowing that plays such a large part in any practice field and that we have problems in distributing in our knowledge structures, in organisations, and in education.

While this is a clear challenge for researchers within craft research, there is yet another difficulty that practitioner-researchers are confronted with, and that is the problem of capturing and storing experience. Experience, in itself, is a discontinuous stream of experiences where moments of consciousness are replaced by new ones (Varela, Thompson, and Rosch 1991, 73). An experience is also not a physical thing that we may pick up and put in a box; this fact obviously makes experiences difficult to capture and store for analysis.

While the practitioner is practicing a craft, it is also very difficult to concentrate on anything other than the practice at hand, as most crafts need the

Figure 1: Potter's throwing wheel in rotation, as an example of the fast and fleeting nature of experience.
Photograph by Camilla Groth.

practitioner's full attention. Collecting data from the act of practicing the craft, while practicing, is thus another challenge. However, these difficult circumstances should not inhibit practitioners from researching their practice, and through the new generation of practice-led researchers, new methods and ways of studying practice, through practice, are emerging. The use of video-documentation in particular is one way of capturing and documenting events and related experiential knowledge.

HOW CAN WE USE VIDEO IN THE STUDY OF CRAFT PROCESSES?

The general nature of *practice* is time and space contingent, meaning that practices take place in events during a limited time frame and in a particular setting or context. As such, they share many notions of events where a performance takes place. The practitioner 'performs' the practice, thus the practitioner is a performer of sorts, whether there is an audience or not. To document such an event, a media that is suitable for capturing time and space-contingent

Figure 2: The video camera used for documentation of the studio-based case presented in this chapter.
Photograph by Camilla Groth.

cal aspects of practice research (Whalen, Whalen, and Henderson 2002; Pink 2007; Pink and Leder Mackley 2012), and in eliciting aspects of experiential knowledge within craft (Wood, Rust, and Horne 2009; Almevik, Jarefjäll, and Samuelsson 2013; see also Hjort Lassen in this anthology). Additionally, in creative practices, design students' communication through gestures in co-design situations (Härkki 2018) and in visual ethnographic research on children's embodied learning through making (Carlsen 2018) has benefited from the use of video documentation. In particular, practices that rely on sensory experiences and the ephemeral aspects of capturing events that happen at a fast pace have utilised video documentation in the form of mobile-ethnography (Spinney 2011) and video-ethnography (Pink 2001).

As an attempt to point at possibilities offered by audio-visual media, I will in this chapter discuss my own research process on the practice of throwing clay on a potter's wheel. The research question here is: *How can we use video in the study of craft processes?* The examples presented in this chapter are drawn from my doctoral study, and therefore only serve to highlight the points I'm making in this text, as the actual research setting and the analysis drawn is already presented in previous articles (Groth 2015; Groth, Mäkelä, and Seitamaa-Hakkarainen 2015), and in my doctoral dissertation (Groth 2017). Therefore, the full description and the analysis of these research processes are not presented here.

In parts of my research, I video-documented my own practice and speech as I attempted to verbalise all my knowledge of the event at hand. I then analysed the video sessions by protocol analysis. I found that video documentation and video analysis were useful methods for revisiting my experiences and memories of the event, as they facilitated a video stimu-

data, such as the audio-visual format, is useful.

Video documentation (Figure 2) allows for a more detailed investigation of the events and the analysis can be conducted on many levels. Additionally, it is possible to verify and visualise emerging patterns of the phenomena found in the analysis through audio-visual evidence. Thus, video documentation and video analysis may add both rigour to the research practice and credibility to the research output.

Video has become a useful tool in the research on and through practice for teacher education (Geiger, Muir, and Lamb 2016) and sociologi-

lated recall of the experiences. The video recording also enabled a slow-motion analysis of the events that were too rich in content to have been verbalised in the situation of making (see also Jarefjäll 2016).

In the next sections I will briefly present the research design and the methodology as well as describe the study I conducted. I will then show some examples of how video was found useful in documenting, reflecting on, and articulating practical knowledge, and I will discuss the process in relation to craft research. Finally, I will discuss how video may also be useful in transferring the more implicit dimensions of the practice situation to the audience of the research.

VIDEO AS A TOOL FOR REFLECTING ON PRACTICE

The methodology that I employed for my research draws on both artistic experimentation and methods used in general studies on practice in a more scientific approach. By combining these different approaches, I took the risk of diluting either one of the fields, ending up with a result that would not make sense for either the artistic or scientific audience. Nevertheless, I felt that an autoethnographic (Ellis and Bochner 2000) method that could come close to the lived experience of the craft was necessary, as was using the perhaps more rigorous methods for collecting data and analysing that have been used in, for example, design cognition studies (Cross 2001). However controversial, the intention was to reveal experiential knowledge in craft practice, thus the *artistic process* or *craft product* was not in focus in this research.

The attempt was done partly to better understand my own practice, but primarily as an attempt to theorise the practice for the purpose of advancing the practice field and related education. To

achieve this, I employed a practitioner-researcher approach by creating an event in which I performed in a craft situation and studied my actions and related experiences. These experiences and events were then reflected on through the theory of embodied cognition—that is, a theory for understanding cognition as a result of the human-environment interaction, in which the body and sensory experiences naturally play a vital role (Johnson 1987; 2007; Lakoff and Johnson 1999; Newen, Gallagher, and de Bruin 2018).

As craftspeople predominantly use their hands during interaction with materials and tools, the sense of touch plays an important part in knowledge creation. Although haptic experiences are linked to all other sensory experiences, the haptic dimension is often overruled by vision, as attention often follows audio-visual cues (Gallace 2012). Therefore, eyesight can be seen as our dominant mode of perception (see also Pallasmaa 2005; 2009). In its immediacy and clarity, sight overrules the other senses and is linked to revelation and understanding; I see = I understand. Eyesight dominates even to the point that it blinds the body. However, when closing our eyes, we become more aware of our body and our haptic sense (Ingold 2004; Macpherson 2009; Vermeersch, Nijs and Heylighen 2011; Groth, Mäkelä, and Seitamaa-Hakkarainen 2013; 2015). The haptic modality is at work in most fields of practice and expertise, although usually only perceived as a background provider of knowledge (Gallace 2012).

So, in order to test if I could augment my haptic awareness and if this would make me more able to speak about my practice, I spent five days working blindfolded in my studio, throwing unusually large pieces of porcelain clay to further enhance the challenge of managing the task (Figure 3). I recorded one clay-throwing event daily with a video

Figure 3: Screenshot from a video recording while throwing clay blindfolded. Click the image to see the video if reading a pdf version, or scan the code or go to: https://youtu.be/bK8joRUlsjU. Photograph and video recording by Camilla Groth.

camera and I spoke out everything that I felt and knew about the situation. This method of recording "think aloud accounts" is a method developed by Ericsson and Simon ([1984] 1993) and has been used, for example, in design cognition studies to reveal the thinking of practitioners while they perform a design related task. Traditionally, the practitioners in such studies are research participants studied by researchers in research laboratories. However, by linking the method to an autoethnographic study, I brought this experiment into the studio space and made myself a practitioner-researcher.

During these five clay-throwing events, I collected multiple types of data from several sources (for a full description of the methods used, see Groth, Mäkelä, and Seitamaa-Hakkarainen 2015 or Groth 2017). As well as using a structured diary, I also filled in a contextual activity sampling questionnaire (CASS Q) before and after each throwing session.

Activity sampling methods are developed within practice research and have traditions especially in research in occupational health and wellbeing at work or in study life (see Muukkonen et al. 2008).

Here (Figure 3) is a sample of one of the video recordings that I have also used in presentations of my research. It has been cut in order to show the chronological process of throwing a clay pot from beginning to end. Consequently, it is not focused on displaying the think aloud accounts. However, it gives a 'feel' for the practice and the concentration needed in handling the process when eyesight is not in use. This recording was made on the fifth and final day of my studio experiment.

After the events, I analysed the video sessions through protocol analysis. Doing so means looking at each second of the video separately and writing down in columns the action made, as well as what I said at that moment, if there was any speech. As

Figure 4: Screenshot from the video while conducting video-supported protocol analysis, looking at each second separately and noting what was said and what actions were made. Photograph by Camilla Groth.

I had been blindfolded during the event, I did not have any visual memories from the events of throwing clay (Figure 4); however, by looking at the video I remembered the different stages in the process very vividly and the video worked as a *recall interview* with the situation (Geiger, Muir, and Lamb 2016). The memories were felt in my body and I could more easily remember how the different movements and actions had felt at the time and why those actions were inevitable at the time.

The analysis process of the audio-visual data, including the think aloud accounts, was conducted in two parts. I first conducted the protocol analysis and explored the different categories of information to be found in the data. In the first analysis process, the thinking aloud accounts gave detailed explanations on what I was thinking and doing and why it was necessary to make those ac-

tions. Often there were not many possible actions available in order to maintain the successful conditions of the process.

After making notes on what actions I made and what I said in those instances, as is customary in a protocol, I felt that there was much more that I knew about the situation than what I had written down. I therefore felt the need to adjust the protocol and make notes also on the sensory experiences that I remembered from the event and added these as a third line of reflections on the actions in the protocol. Doing this would have been impossible without the video recording, which helped me capture and store the moments but also the felt experience of the events.

The two images below (Figures 5 and 6) show some extracts of what the protocols look like: the left column gives the spoken accounts; the middle

Think aloud accounts	Actions made	Reflections on actions
03:27 Better take some more speed not to make too big dents in just one part of the clay…	03:27 Reaching for the hand stick and turning up the speed.	03:27 The slow turning of the clay is too dangerous as the smallest pressure makes an indentation in the clay, more speed is needed.
03:33 ..as the wheel turns a full turn while I move the hands. Then I'm not going to make a swirl or a bump - OUPS! There is some loose clay in the surface.	03:33 Showing with the hand how the wheel turns.	
03:52 Probably the clay has been loosening up while I was taking a five minute break (between centring and starting to throw again.) Just from the added water from the sides.	03:47 Some loose clay comes off. Washing it off into the water bucket, taking more water and continuing to smoothen the clay out on the sides.	03:47 Some loose clay comes off and the hand almost gets stuck and pulled with the force of the clay, but the bit of clay comes off into the hand instead. Washing it off but it is sitting stuck to the fingers.
04:04 Some more clay coming off. All the clay that is coming off is of course making the amount of clay smaller and the pot becomes smaller as well. But I can't anyway use the soft clay for, for throwing so if it is going to come off then it's better if it comes off before I start throwing.	04:04 More clay stuck in the hand from the base. Washing it off and continuing to smoothen the surface of the clay and to press the sides down quite hard to make the base wider.	04:04 There is a soft layer lying like a wabbly sausage around the base of the clay, water has made it wet and it is not throwable but needs to be there to protect the inside clay from getting wet as well.
04:40 So seems like I'm a bit braver now.. than before. Maybe I lost respect for what I am doing, I should maybe take it a bit more easy and concentrate more, otherwise I'm going to start making mistakes.	04:40 Taking more water, and wiping excess water off the board.	04:40 After pressing the sides down quite firmly, feeling that it is going well but quite quickly, and while still feeling good also feeling a bit of remorse.

Figure 5: Text extract from the video-supported protocol analysis. The left column shows the spoken accounts; the middle column gives my own notations on what actions were made; the right column presents the reflection on the actions and the sensory experiences, which was added in hindsight. Image by Camilla Groth.

column shows my own notations on what actions were made; the right column presents the reflection on the actions and the sensory experiences, which was added in hindsight. I have marked some sequences in red and blue to make it easier for the reader to follow a certain happening or theme in the accounts. The red events are signs of problems or ways of detecting problems and the blue sections show aspects of metaphoric language use. The black parts mostly display attempts to understand the situation and to solve problems. The markings of the minutes and seconds also help in reading the notations and following the events in time.

There were often many overlapping or coinciding incidents that were too numerous to speak out, such as the condition of the surface of the clay combined with the softness of it and the movement of the shape on the wheel. Often, I was too con-centrated on handling a difficult task to be able to speak to the camera at the same time as controlling the situation at hand. The protocol analysis gave me the possibility to rewind and play the video sections back and forth multiple times to catch all information. The accounts were often concerned with feelings and the feel of the material and how this affected my decision making in the course of the event—for example, when the clay was getting too soft and I knew there would not be much time left before the clay would not keep its own weight and decisions had to be made quickly on how the process could be successfully terminated.

The accounts were also useful in displaying the language used—that is, the metaphors I used to describe the experience of the material condition. For example, in the account above, marked in blue, I have noted the conditions of the clay and the ex-

Think aloud accounts	Actions made	Reflections on actions
05:12 I don't want to loose this piece now after centring it for…I don't know how long…maybe two hours or something. It would be such a waste.	05:10 slowing down the actions and taking more water to press the clay gently down from the top down to the sides. 05:30 Taking more water and feeling the shape with fingers all spread out. Pressing down almost getting stuck and then adding more water again.	05:10 The clay is nice and centred, I am on the right track. 05:30 Taking more water and feeling the round shape with wet fingers all spread out.
05:38 Oh, I'm getting stuck… 05:43 I keep having to add a lot of water now.		05:38 The clay is behaving tricky, all wet and smooth on the surface but when pressing hard the wet clay peels of and gets stuck on the surface of the hand, making a friction between the hand and the clay surface.
06:01 There is some loose clay and… this is anyway going to be the base so I don't want to have a bad base, of course. 06:19 I better take of the loose clay before the loose clay becomes the base. 06:34 I don't want the water to take any place underneath the clay.	06:00 Some more clay gets stuck in the hand. Washing it off and continue to add water and press clay down. 06:19 Shaving the base of the excess clay. Then pressing the sides down to avoid the water from seeping in under the base. 06:35 Holding both hands around the clay and moving the hands simultaneously from above and down the sides towards the base.	06:00 The clay that is now forming the baseline is too soft to make the base as it would need to hold up the whole pot. 06:19 The bulging edge is easy to press inside the sides so that the clay underneath shoots out and stops the water from seeping in under.
06:41 It's funny, I'm kind of throwing on both sides now simultaneously. It's not something I would do normally I guess. 06:55 Or, I don't know what is normal anymore. This feels pretty normal now. 07:39 Actually moving the clay with one hand and feeling it, where it's going, with the other one, helps me to visualize the clay through my hands.	07:05 Taking more water and wiping the board clean. Throwing down in a long gentle push, one hand above and one hand from the side. 07:44 Taking more water.	06:35 The clay is under the hands and feels like a pregnant belly that should not be pressed on too hard. But it needs to be reshaped so there is no way to avoid the pressing, but it needs to be done gently. 07:05 Something needs to move now, no sitting and waiting until the clay gets too soft from all the added water.

Figure 6: Text extract from the video-supported protocol analysis. The red events are signs of problems or ways of detecting problems and the blue sections show aspects of metaphoric language use. The black parts mostly display attempts to understand the situation and to solve problems. Image by Camilla Groth.

pression that the shape and softness of the clay "feels like a pregnant belly that should not be pressed too hard." There were also many links to the fear of losing the piece, meaning that the piece would collapse or would not be successful in some other way.

The thinking aloud accounts also showed the situations in which the speech ceased because of physical strains. There would be long periods of time where my speech was interrupted. For example, I would stop speaking when I was forcefully using my muscles and where I had to hold my breath to manage a task. There were also several occasions during which I was in a state of flow and where I forgot to speak anything at all.

In this first analysis process, I noticed that the situations where a challenge or sudden constraint was present were especially important as decisions on how to proceed were made in these situations. It was clear that the aspects of knowledge needed for decision making were present in these situations, and emotions seemed important for the decision-making process as they prompted making a change in response to the fear of losing the piece.

I decided to conduct an even more detailed analysis, now focusing on the instances of these critical incidents where emotions were surfacing the most. The technique of selecting this data utilised the *critical incident methods* developed by Flanagan
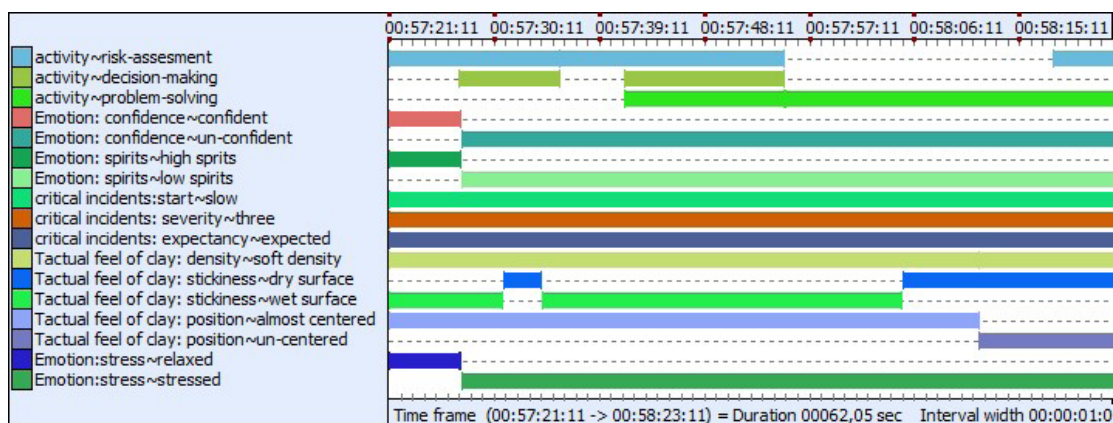
Figure 7: View from the analysis process on critical incidents using Interact. Image from Groth 2015, 14.

(1954) and which are used in the area of practice research-related occupational expertise and development of best practices. A critical incident is one that either has a positive or a negative effect on the outcome of an event, and, as such, affects or even determines the success or failure or the direction of events after the incident. In my case, the critical incidents were moments in the clay-throwing process when the clay became uncentred for different reasons, or when the properties of the clay changed, for example becoming too soft, making it difficult to proceed with the throwing.

In this second analysis, focusing on the critical incidents, I made use of a video-analysing programme called *Interact* that made it easy to tag and separate the parts of the video that included the critical incidents. I detected 23 critical incidents in the video data from the five days that consisted of 10 hours of recordings. The image (Figure 7) displays one of these critical incidents. This incident happened as a result of the clay getting too soft on the first day and the clay started slumping over itself as it could no longer carry its own weight.

While I was conducting the analysis, I noticed that some incidents were slowly emerging and others came quickly as surprises which I have rated on a scale of 1–3. They were also either severe or not so severe, also rated on a scale from 1–3. I tried to tag the conditions of the clay surface, wet or dry, and the density and position (centred or not) of the clay on the wheel. Additionally, I included my own experiences of the situation, my emotions, and what intentions I have in the process, such as risk assessment, decision making, or problem solving. The incident shown in Figure 7 was slow and expected and therefore the tagging of the incident starts when the piece is already getting beyond repair. The incident lasted for one minute and, here, the process was in the end terminated because of the problems emerging.

The programme allowed me to tag those snippets of video with different analytical categories that emerged from the data, and while doing this I could also refer to the protocol analysis from the same moment and listen to the related think aloud accounts that gave the explications on what was going on.

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DISCUSSION

As explained earlier, I collected multiple types of data from the studied events. While analysing the CASS Q responses and especially when re-reading the diary notes I had taken right after the throwing events, I remembered what it was like to perform the tasks described in those notes. But none of these sets of data evoked my embodied and experiential memories like looking at the video-recording. As I was blindfolded during the events, I had no visual memories of the event, but the video gave me access to the visual aspect in hindsight. I could not have managed to undertake an analysis of the event only relying on my memory—I don't think it would have been as credible without being able to capture it somehow. But perhaps the most important aspect is that the video gave me access to the multiple events that were going on simultaneously—the actions, the environment, the think aloud accounts—and thus the ability to look at all the aspects separately. If I had not used video documentation, I would only have had written accounts and my memory of my experience to work with.

Capturing the Experience

If, as previously mentioned, human experience is a discontinuous stream of experiences where moments of consciousness are replaced by new moments of consciousness (Varela, Thompson, and Rosch 1991, 73), then this also makes experiences difficult to capture in single generalising words. When we try to verbalise experience, which normally involves all our sense modalities, in singular descriptive words, we have to pinpoint one single aspect of these discontinuous experiences, as we cannot grasp the whole at once.

Part of the reason for this might be that an action, compared to an articulation of that action,

combines multiple types of information simultaneously. Neuroscientists Riitta Hari and Miiamaaria Kujala (2009) explain that nonverbal gestures and movements are difficult to describe since they contain dense and parallel information. Speech or written language is sequentially presented. Since humans typically carry out only one task at a time, dual tasks such as describing parallel information are straining our attentional capacity (Hari and Kujala 2009, 460). Similarly, it was impossible for me to talk at the same time as I was fully concentrating on a task that required my full attention. Not only did I need to hold my breath, but I could not 'produce' speech and focused actions simultaneously. In understanding and remembering what took place in an event, words in the form of a diary or an audio recording can help us in bringing back the experience through our evoked memories from the event. However, an audio-visual recording will give us the event as it happened, documented and stored, and available for analysis over and over again.

Mäkelä and Nimkulrat (2018) argue for the careful documentation of creative practice in practice-led research as they say that it aids reflection to be explicitly articulated in a form available at a later point for the practitioner-researcher to revisit and analyse. As a result, the practitioner may gain and develop understandings that can be shared within and beyond the practice field.

Reflecting-in-action and Reflecting-on-action

Donald Schön, in his book *The Reflective Practitioner* (1983), encourages practitioners to reflect in action and on action. By this idea, he gives away the understanding that knowledge related to practice resides in the moments of practicing (see also Molander 1993; Noë 2004). Practice situations can be very rich in events and, while concentrating on the practice in itself, it may be challenging to si-

multaneously take a distant view on the practice and analyse it (Borgdorff 2006). I personally felt that while acting in my practice I was just the practitioner trying to handle the challenge at hand and I could not take on the role of the analytical researcher in that moment. In this situation I could also not have distorted or manipulated the data in any way, as I had to be honest to my practice to be able to handle the events successfully. However, to be able to handle the complicated situation at hand, a natural reflection-in-action takes place, one that is intuitive and based on the ability to react to small hints and feelings of either opportunity or risk.

Only later, while looking at the data in hindsight, I took on the role of being a researcher. The transcribing process deepened the explicit understanding of the situation including experiences—such as orientation, temperature, sounds, wetness, stickiness of the clay surface, and muscle pressure—that would not be known to any other researcher than me. Thus, I was helped in noticing and writing down the different nuances of the events in hindsight. In this way, the video-documented data helped me to *see more* than I could possibly have done without it.

As autoethnographic and practice-led research have met some criticism of not being objective or rigorous enough (Pedgley 2007), I invited a colleague from the field of product design to co-analyse the video data with me to make the method more translucent and to add some objectivity to the analysis. We looked at the video data together and prepared ourselves to take notes—me on what she commented on that would be useful for my study and she on what aspects she found interesting or particular about the event. The exercise turned out to be frustrating for both of us, as from the very beginning the activities shown on the video seemed

unintelligible to my colleague. The rest of the session was spent going through basic instructions for how to throw clay in general and after a while we both decided to give up the attempt of analysing the data together.

While my colleague could not help me in giving an objective input for my analysis, my own in-depth and systematic video analysis process helped me to understand many issues in my practice that were not known to me before as a practitioner. Having said that, the video analysis displays a breakdown of the events that is disconnected and not experienced as such in the natural conditions of the events. They might even be considered too manipulated or too separated from reality to be meaningful for the practice. The challenge is, of course, to put these pieces together again with the help of a theoretical frame to make them speak in terms that give us a new perspective on our practice. Embodied cognition theory was found to be useful in explaining how feelings and emotions work in different ways in relation to actions where we try to achieve or avoid some particular outcome of events (this discussion is published in Groth 2015).

Video Analysis Helps to Articulate Craft Knowledge

As described above, the video as a form of documentation allows for reflection on action in slow motion. It thus gives the practitioner a chance to 'see more' and to contemplate with the benefit of hindsight, especially in cases where talking during action is not possible because of physical hindrances and time constraints. But does it help in revealing the *tacit* aspects of the knowledge?

Through the concept of tacit knowledge (Polanyi 1966), it is generally accepted that experiential knowledge is impossible to express verbally. Howe-

ver, there are reasons to believe that the explicable part of craft-related knowledge may be larger than what has previously been assumed, when research on crafts has predominantly been conducted by non-practitioners. This is not to say that the concept of tacit knowledge should be redefined, but it may need to be revisited through the emergence of practitioner-researchers and the possibility of audio-visual documentation and analysis.

While we may not verbalise this knowledge, it can be seen through the enactments of the body and we can see how someone skilfully performs an action or procedure. Polanyi (1966, 5) himself suggests that if we want to communicate tacit knowledge, we have to "point" at it and rely on the receiver's "intelligent co-operation" in catching the meaning of the demonstration. My point here is that the knowledge that resides in a craft practice might become more available for analysis through the use of audio-visual documentation. Secondly, the dream of reaching for an articulation of the truly tacit dimension might not even be interesting, as I will argue below.

Design researcher Claudia Mareis (2012) criticises what she refers to as the "romanticized" discussion on the tacit aspect of practitioners' knowledge, in which it is insinuated that the craftsman possesses authority through the knowledge he alone has access to and therefore chooses silence (ibid., 70). Mareis further says that we should not take the un-spokenness of design research as an apriorism but should consider the social dimension of tacit knowledge and treat the subject without romanticising it (ibid., 71).

I agree with Mareis that there is a romantic view of the craftsperson's knowledge as tacit and that it is a subject that is treated as something that, in a way, should not even be debated. While I agree that the very meaning of 'tacit' knowledge is to point at the

undeclarable part of knowledge that we all possess, the border of declarable and undeclarable is difficult to pinpoint. I still think that the declarable part is larger than what is assumed by the discussion within the field of craft research (see also Ingold 2018). Additionally, audio-visual means which enable in-depth video analysis of events are much more developed today, including the low cost of digital reproductions and video analysis programmes.

In my experience of articulating my knowledge in relation to my doings and sayings during practice, I would point out that the statements that can be made during practice are quite mundane and don't at first sight look very interesting or useful. When there is enough of this data, and by analysing what goes on in detail, the notions of what goes on *between* the statements start to emerge, and this is where the more interesting phenomena start to appear. While the utterances do not work as instructions for another person, they give clues of what issues come and go in the flow of actions and what the practitioner is paying attention to.

The reflections that make a difference lie in the decisions that the more experienced practitioner has internalised and that have been embodied through the many previous encounters with the same or similar situations. I found that this knowledge first emerges as a vague feeling of something not being quite right which is followed up by searching for possibilities to avoid the emerging critical incident, or the feeling of opportunities lying ahead. I think that this prediction is the tacit knowledge of the craftsperson; it is the gut feeling by which the craftsperson navigates the situations intuitively by paying attention and reflecting in action.

Dreyfus and Dreyfus (1986) describe expertise as an ability to foresee events and to react to these at an early stage. If the tacit part of experiential knowledge is a *feeling* that guides evaluations and

the informed decision making, it should be found in the emerging bodily experiences, feelings, and emotions of the practitioner, but may not exist in word format. If we play with the idea that we *would* be able to articulate the feeling-based intuition or gut feeling of what should be done next, then maybe we would be disappointed in how banal it would sound. Perhaps tacit knowledge would sound like exclamations such as: "Oh no, I knew it!" or "That's the way!" or "There is something wrong here…". Instead of looking for *instructions* of a tacit dimension, we could instead appreciate the explicit dimension that we *can* articulate and aim to extend and explain the meanings of these. This could very well be useful for our students and apprentices as they would need to know what kinds of situation they should pay extra attention to.

In any case, the silent craftsperson is only a romantic memory in the era of the internet and audio-visual technology. Outside of the sophisticated academic discussions on tacit knowledge, there is a growing discourse in the practice field where practitioners *do* articulate their practical skills fairly adequately. If practitioners on YouTube can articulate their craft-related knowledge and distribute it worldwide, then practitioner-researchers can too. Through the internet, practitioners of all dimensions are able to aid their verbal accounts with video footage from their studios, workshops, or presentations and they are in this way also able to show the context and multitude of actions in a way that supports the experiential nature of the activity.

Disseminating Experiential Knowledge Through Imagination and Empathy

In the presentations and lectures that I have held based on my doctoral study, I have usually brought one or two videos of my study into the talk. In feedback from the audience or the students, the video is usually mentioned as the most memorable and effective part of what I presented. This has been the case especially when the audience has had a link or personal experience in the field of ceramics, or if the person in question has tried throwing clay on the potter's wheel themselves. I have heard comments such as: "I felt like I was sitting there on that chair myself, having to control that large chunk of clay." People have commented that they felt anxious and scared that the clay would collapse and that they sometimes held their breath during the video clip.

I cannot control how people engage with the video or what they read into it, other than what I guide them to in the presentations. I'm also aware that each member of the audience reads different things into what I show them, based on their previous personal experiences. However, by showing them the context and the practice in action, I invite them to imagine the experience of the practice with me.

Even when only reading a text, the reader may *imagine* what circumstances are described in those situations. Practice researcher and organisational theorist, Antonio Strati writes about the "reader's imaginary participant observation" (Strati 2003, 69). He argues that the reader, through his imagination, may become a participant researcher, drawing on his own sensory-based experiential knowledge in the interpretation of the read text. Strati writes: "By virtue of participant observation conducted through the imagination, the readers see, hear, perceive and are aware of the research process in which they are imaginatively taking part through sensorial faculties rather than intellectual abilities" (ibid., 59).

This is a fundamental aspect in communicating with anyone since we take for granted that we share a common understanding of what we are talking about with the other person. If we have rea-

son to suspect that they have no experience at all of the subject, we need to find ways to visualise the content more carefully so that they can imagine it instead (see also Sennett 2008, 179–94). We might use gestures, metaphors, or other means to describe a situation, and neuroscientists and linguists Gallese and Lakoff (2005) even present neuroscientific arguments for *multimodal language*, arguing that "[t]he same neural substrate used in imagining is used in understanding" (ibid., 456). The video of me throwing clay on a potter's wheel aids the audience in imagining "what it was like," even though they were not there.

In performance art, the use of video is recognised as a tool for nonverbal communication of the 'feel' of a situation. In her video lecture on her methodology, phenomenologist and dancer Susan Kozel (2013, 00:08:43–00:09:10) says "I needed a methodology that operated through resonances rather than through truths. This is to say my experience is not going to be held up as a truth to be mapped onto other people, across time and cultures, but it is to say that one person's embodied experience, when it is reflected upon, may actually open up meaning or resonances for other people." Kozel acknowledges the problem of turning a lived experience into academic writing but says that the lived experience does not necessarily have to be in word format—it may be a drawing or even a piece of sound. Kozel draws on the concept of affect that goes beyond feelings and involves impressions, intuition, memories, and imagination: "In theatre and performance we work on an affective level all the time. Affect is what is conveyed in between words or gestures, it is the unspoken" (Kozel 2013, 00:22:07–00:22:19). She goes on to say that video recordings may be used for *visual sketches*, as the camera has the potential to let you catch the affect or

more liminal qualities of a situation (Kozel 2013).

As researchers we can try to engage our readers or audiences in our research, by drawing on their experiential knowing of materials and processes. While we cannot know what these are, we can introduce these to our audiences and encourage them to imagine our experiences as theirs (see also Pink and Leder Mackley 2012). As audio-visual media is encouraging emphatic behaviour, we could utilise this and draw on the audience's pseudo-haptic experiences, in which the visual representation is felt haptically due to the sensory expectation of such an input (Pusch and Lécuyer 2011). Pseudo-haptic experiences are connected to our brains' mirroring systems (Rizzolatti and Craighero 2004) and these in turn are thought to play an important part in empathising with the actor when observing an action (Gallese 2001). When looking at an action, our brains' mirroring system "fires" in the same way as if we were doing the action ourselves; our bodies mirror the action (Hari and Kujala 2009, 12).

Although experiential knowledge may be reflected on and even communicated through audio-visual means, that experiential knowledge described is best understood by a viewer who embodies that particular experience to some degree. Research on mirroring systems has found that neurons fire qualitatively more in situations where an action is familiar (Calvo-Merino et al. 2005). However, an audience who do not possess such experiences, or who are not keenly devoted to the practice described, might not find even the most in-depth analysis of a particular practice meaningful unless the results and contribution are lifted to a transferable level.

It is also clear that the audio-visual format is still a distant form of visualising the practice that does not convey *new* experiences such as touch, smell, or taste for someone who has not expe-

rienced these before in relation to the materials shown. Small details, such as small layers of paint flakes or particular shades of colour, such as the different colours of a hot flame, may be difficult to capture accurately. Having said that, I think that audio-visual documentation, video-aided analysis, and the use of audio-visual means in the distribution of practice-related research is likely to be of some use regardless of practice domain.

Spinney (2011) and Pink and Leder Mackley (2012) both promote the inclusion of videos in the communication of research (see also visual ethnography by Pink, 2001). This discussion links to the general discussion in the Arts that strongly promotes the inclusion of artefacts as part of research disseminations. The discussion on the contribution to knowledge carried by the artefact is lengthy (Biggs 2002; 2004; Mäkelä 2007; Niedderer 2009; 2013; Biggs and Buchler 2011), and the concentrated conclusion so far is that the artefact does not speak by itself but needs to be contextualised by the artist through some format. The possibilities of audio-visual media bring new dimensions to this discussion in relation to text-based publishing as online journals facilitate the inclusion of video links.

Furthermore, in the research on practices in general, experiential components are present and it is recognised that these are difficult to transfer into text (Niedderer 2007). In craft research especially, the outcome is not always a product or an exhibition but rather the progress or a moment in the flow of practice. Here, video clips could serve as a medium for showing the experiential part of the activity. Thus, it would also be necessary to include the experiential aspects of the practice in the dissemination of results in the field of practice research in general. However, few craft researchers use the full potential of audio-visual material in the dissemination of their research results.

The task is not as daunting as it has been since it has recently become possible to present practice-led or artistic research in online journals that allows for multiple types of media, for example text-based articles that contain links to videos of the artistic or practice-led work that the article is describing. The format enables experiential knowledge to be communicated and experienced in a completely different dimension than the merely text-based article. As such, it is also useful in research that explores activities and practices which naturally include experiential and tacit knowledge.

CONCLUSION

In this chapter I have shared some aspects of the role that video may play in knowledge making and knowledge dissemination in the field of craft and practice-related research. While not being able to authentically express experiential knowledge of a practice verbally, research on craft practice is helped by utilising data collection and analysis that includes the experiential component of the practice. Audio-visual media has a wide potential here due to its usefulness in capturing and documenting events that are time and space contingent.

In research practice *video helps to document and visualise the context, and multiple actions and overlapping events of a specific situation.* Thus, video documentation helps the practitioner-researcher in capturing the otherwise fleeting experience. *Video helps to investigate experiential knowledge through evoked bodily memory and slow-motion analysis after the event.* Thus, the use of video analysis offers ways of reflecting in action, as well as reflecting on action in hindsight. *Video has the potential to engage the viewer's empathy and previous bodily experiences, thus also disseminating experiential aspects of the practice.*

Insights from practitioner-researchers and the use of audio-visual media in journal articles adds to, and renews, the complex discussion on tacit knowledge. In conclusion, audio-visual means may be used along the whole research process, from data collection and documentation to analysis and reflection, as well as in the dissemination of both explicit and more implicit dimensions of the practice. The methods described here are likely to be useful across several practice-related domains and especially in practitioner-researcher settings.

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