THE USE OF STORYBOARD TO CAPTURE EXPERIENCES

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ABSTRACT
Today, product realization is becoming more squeezed in time and the need to capture experience from previous projects is an important factor for being successful in developing new products and services. This paper aims to investigate the use of storyboard to highlight earlier experiences from a narrative theory perspective and in relation to contemporary cognitive theories regarding how external representations facilitate collaborative work.
This paper will discuss and come up with suggestions as to why storyboard can be a supportive method through the use of narrative theories. One of the objectives of the actual research project is to assist industry in developing strategies and methods to capture "lessons learned" in previous projects and use earlier experiences to avoid repeating mistakes. This will then release working capacity to be used for creativity and innovations instead. The conclusion of the paper presents storyboard as a supportive method for capturing earlier experience from a product realization project. It also argues that it is valid to borrow the concept focalizer from narrative theory.

Keywords: Storyboard, Narrative theory, Product realization, and Retrospective.

1 INTRODUCTION
Sweden has a world-class tradition of innovation and engineering and is still a frontrunner in many engineering fields within ICT (Information and communication technologies), automation and robotics, for example. But new technology is easily accessible and having it is not, in itself, enough to successfully compete. The combination of low costs and high quality, previously a recipe for success, is no longer sufficient to guarantee a competitive market position. Present and future industrial challenges cannot be met by traditional strategies, methods and mind-sets only. There is an increasing need for new and improved concepts, methods and models, which will improve and strengthen the industry in terms of innovation and product realization capabilities.
In 2009, the Swedish Government made a decision on a national action plan for cultural and creative fields. The importance of design is emphasized in this context and should be integrated in the innovation policy. To promote a sustainable society, it is stated as necessary to develop new methodology and new thinking, often in cross-sector processes [1].
Design, design thinking, design methods and tools are resources that should be better utilized and could also be better integrated in future business strategies. [2-4]. This emphasizes the importance of design thinking and methods in realizing new innovative products and services. Visual communication is central in design and development work. For example, sketches, models, graphs and spatial design are all important tools that can facilitate and support the development work during product realization. This paper will present results from the ongoing research project Design- and Visualization Methods within Innovation and Product Realization (DeVIP). We are using storyboard as a method for the purpose of strengthening industry in its capability to innovate. Two workshops have been performed in an industrial context. We will discuss the results from the workshops and come up with suggestions as to why storyboard can be a supportive method through the use of narrative theories.

1.1 Objectives and research questions
One of the objectives of the actual research project is to assist industry in developing strategies and methods to capture "lessons learned" in previous projects and use earlier experiences to avoid repeating mistakes. This will then release working capacity to be used for creativity and innovations instead. A common way to describe a project in the industrial context is using classical *stage gate models*. The storyboard method is an alternative method for explaining the flow in the organization.

Even though the engineering-based models connect to design in different ways [5-6], the storyboard not only relates to design methods, it is in itself a design, both as a process and as a result. When carefully examining the method of storyboarding, it seems possible to increase the internal validity of the study. Internal validity demonstrates that certain conditions lead to other conditions. This requires the use of multiple pieces of evidence from multiple sources to uncover convergent lines of inquiry. It also ensures that the procedures used are well-documented and can be repeated [7]. In this paper, the purpose is to discuss storyboard as a method for capturing experience from finished product realization projects. The two main questions in this paper are: (a) Can storyboard be used as a method for capturing experiences from earlier projects in the manufacturing industry?; and, (b) If so, what does the method offer to the manufacturing industry? This paper aims to investigate both questions and analyze the results from a narrative theory perspective in relation to contemporary cognitive theories regarding how external representations (i.e., sketches) facilitate collaborative work; in this actual case, that work is a reconstruction of a product realization process.

2. BACKGROUND

Storyboard is a way of structuring a narration and its contents, pictures and words. The use of storyboarding appears in film industry, and it involves creating a visual manifestation of a verbal story, understanding the whole story by going from abstract to concrete. When using storyboard, the key is to explore the visual appearance of the scene and identify what kind of issues have to be solved before realizing the concept. The mapping of action into visual appearance is a way of simplifying and bringing clarity to concepts.

When working with case studies, as in this project, multiple sources of evidence are often used in order to gain different perspectives on the unit of analysis. Common sources of evidence are interviews, direct observation, archive material or surveys, and even the collection of physical artifacts. The choice of methods to collect data is important in case study research [7].

In an early stage of the project, a decision to use storyboard as a method was made. Since the purpose of the research project is to develop design and visualization methods to be used in the innovation and product realization processes in industry, the aim was to find a reliable method for data collection that was connected to our research field. The method should give both a visual and a verbal description of the existing situation of the innovation and product realization process in the companies studied. Storyboard fulfilled our demands. Additionally, a hypothesis was that the use of visualization as early as when describing the existing situation could provide data about how a visualization method can be used to describe innovation and product realization project in retrospective. In the two companies studied, six (indicated A-F) product realization projects were used as the base for the storyboarding workshop.

3 THEORETICAL FRAME

A storyboard is a narrative. In narrative theory, a narration can be defined as the way a story is told. A narration belongs to a discourse in which the narrator plays a crucial role since she or he effects the story and, resultantly, the episode that is told. The act of storyboarding is linked to narrative theory. Narrative theory is used in Literature Studies to interpret dramatic structures by differentiating the story and the narrative discourse. The focus for narrative theory is the narrator (the storyteller), the essence of a narration. The point of view of the subject is called a *focalizer* in narrative theory. The Dutch scholar Mieke Bal has used the concept *focalizer* in a visual communication context [8]. In order to make the concept operational for storyboard, the following points of comparison are important:

- In a narrative discourse, focalization is the direct content of the linguistics. In visual art, it is the direct content of visual signifiers like lines, dots, light and dark, and composition [8]. In storyboards, it is the direct content and comments to visual signifiers like arrows, lines and different kinds of marks.
- In narrative, there is an external focalizer, in principle identifiable with the narrator, from which it is distinguished in function, not in identity. This external focalizer can embed an internal focalizer. This embedding is crucial for the analysis of the narrative. For visual art, it is not easy to point out the external and the internal focalizers. The external focalizer (the artist) often creates an internal one, the one the spectator identifies her or himself with [8]. In a storyboard, the focalizer is identifiable with the narrator(s) in relation to the verbal narration. However, through

the sketches they create an internal focalizer that could be a third person's position.

- In narrative, the fabula is considered to be mediated by the focalizer. In visual art, the use of the concept implies the claim that the event represented has the status of the focalized object produced by focalizer [8]. In a storyboard, the narrator mediates what is crucial for an episode. In the actual workshops discussed in this paper, the individual participants and the group as such mediated the story about the product realization.
- As a consequence of this last point, the same object or event can be interpreted differently according to different focalizers. The ways in which these different interpretations are suggested to the reader are medium-bound. But the principle of meaning-production is the same for verbal and visual art [8]. In storyboard, it is possible for a focalizer to tell different stories in the text and the pictures. This could be explained by the fact that words and pictures belong to different symbol systems. It could also be explained by the fact that, for example, arrows, marks and lines for emphasizing detail works as internal focalizers.

For the interpretation of the storyboards from the workshop, narrative theory is used from two aspects. First, differentiate the story and the narration about the product realization. Second, the concept focalizer is used in order to interpret the different levels in the narration. A focalizer is an agent of a story; in the actual workshops, the discussion is initiated by asking the groups to tell about several aspects of the actual product realization. In doing so, the facilitators in the workshops are external focalizers in relation to the choice of aspects and the focus of the narration. The individual participants contributed to the narration, some with verbal comments and others by sketches or verbal notations on the storyboard. The visual signifiers, such as cross-marks, lines, arrows and other notations, must be interpreted as internal focalizers that guide the spectators through the narrations. To facilitate the interpretation and analysis of the focalizers' different positions, the participants were asked to use various colors while giving the different narrations.

In the film industry, the manner of explaining verbal stories with frame-by-frame sketches like storyboards is a way of explaining the stories' narrative for the entire production team involved in making a film. It also supports the organization of the team within complicated actions and provides an understanding of the whole set before the actual filming takes place [9]. Here, the storyboard is used as a way of describing a future scenario. The value it creates is that it highlights problems and helps with planning. It also provides an understanding of the problem at hand and visual information to different competence areas, such as camera and lighting teams. The storyboard quickly evaluates different ideas at low cost and is used for creating an understanding of what the consumer of the film will experience. In other words, it puts the consumer in focus.

Storyboards create value for filmmaking, and it is a method for telling a story in the film medium. However, we use the method for the reconstruction of a product realization process. Our interest is if these values of storyboarding can be translated for retrospectively describing projects, with a focus on reflecting and learning from experiences. One of the initiatives for this research springs from the need for industry to have strategies and methods to capture "lessons learned" in previous projects. When using storyboard in a retrospective way, the opportunity lies in describing previous projects with experience as focus.

According to Ware, our brain acquires information from the visual environment one to three times per second [10]. This external information becomes the content of our visual working memory. To be able to facilitate memory successfully, external cognitive tools must be developed to compensate for limitations in human memory and information processing at the same time as they take advantage of them [11]. A cognitive tool can be a sketch, a map, a chart or a poster of some kind. As Tversky shows, visual representations relieve the pressure on memory since they externalize memory and reduce processing load by allowing the understanding to be based on external rather than internal representations [12-15]. When working memory is released, new information can be processed and creativity stimulated. On the other hand, representations, pictures, figures and text effect the memory. As such, a story can easily change direction since the representations generate new ideas [16].

3 METHOD

The research was conducted within two multinational companies (Company 1 and Company 2) in the manufacturing and transportation industry respectively. Participants represented the areas of product design, product management/integration and R&D, and consisted of a majority of male engineers, both with a long working experience (10-25 years) and some newly employed (1-2 years). Managers and

non-managerial employees were mixed in the groups. The research consisted of two full-day workshops performed in November, 2010 in the company premises with three researchers as facilitators. Each workshop included 10-15 participants that were divided into three groups. In Company 1, the groups are called A, B and C. In Company 2, the groups are called D, E and F.
Figure 1 shows the workshop layout. The workshops started with an introduction of the concept of storyboards and how to use the method. Then the employees formed small groups of two-four persons with one facilitator that explained the details of the session and handing out the material to use, the material consisted of a storyboard template, post-its to do the sketches on in order to rearrange them easily and four pencils with different colors. The role of the facilitator was to be the one telling the narrative to, and by that also be responsible for asking complementary questions such as "interesting, tell me more" and "really, how do you mean" in order to deepen the narrative and encourage reflection in the group. After that, the groups were given four questions and told to draw and tell the narrative on post-its, the questions were all individually placed in an envelope and opened one at a time after each question was answered. The questions were:

1. Can you tell me about the case, from the beginning until the end?
2. Can you tell me what people were important in different parts of the project?
3. Can you mention something that was crucial for the project (this can be anything of importance, internal or external to the project)?
4. Can you mention some milieus that were important for the project?

The first question was paired with a black pen to indicate what was drawn on the storyboard when the content of the first question was discussed. The second question was paired with a red pen (i.e., the participants changed from using a black to a red pen when describing/sketching). The third question was paired with a blue pen and the fourth with a green pen. The session lasted 45-60 minutes and was audio recorded. The first question was the most time consuming question and took about 30-40 minutes to complete, its important not to rush through the first question leaving the group in charge of the narrative. In the end, the groups were left to organize for a small presentation for all the participants in the workshop, here the use of post-its was in handy because of the possibility to reorganize the storyboard. The groups presented their story for about 5-10 minutes while interacting with the rest of the participants. This session was also recorded. All sessions were transcribed and analyzed by the researchers. By using the concept of different focalizers and their affect on narration, the data was categorized into groups and analyzed.

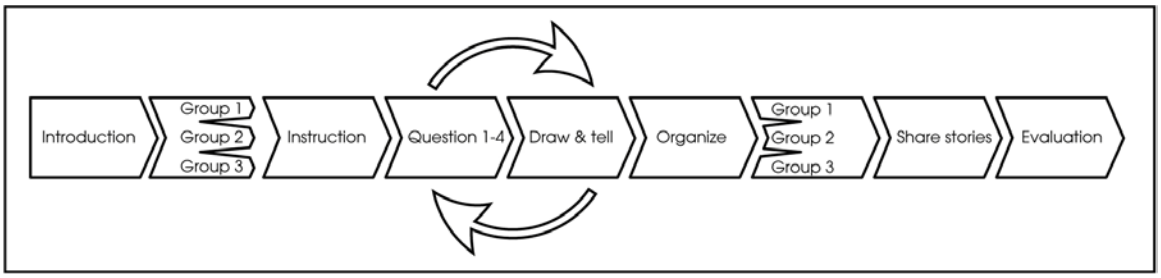

Figure 1. The layout of the workshop.

4 RESULTS

When studying the storyboards there are some common patterns that recur. These will be explained and exemplified in the following section.

4.1 Visual signifiers

In the material, it becomes clear that different participants tell different stories in the oral text and in the sketching. The participants make visualizations in the form of *symbols for objects*. A large amount of specifications is represented as a book by group F, and a country is visualized by a drawing a flag by group D. They also make *graphs*, like an up-going curve for good sales or a flat curve for poor sales in group A, and *metaphors* (a sun for something positive and to be proud of in group B, a clock to indicate a long development time in group C, for example). The group also sketches *individuals*. However, individuals can also be indicated by using text. A happy customer is represented by a hay-man with a smile by group B. What also becomes clear in the material is that the visualization often represents the skills and background of the participants. For example, in cases A, B and C, product

developers draw the core product but do not draw marketing-related issues. Marketing-related issues are not sketched at all. Before the fourth question locations are not sketched but sometimes represented by written text.

The verbal and visual data from the storyboards shows that when the participants find it difficult to express something, they use different strategies. One is to orally explain the subject exclusively, for example an event or a situation. In this case, no signs are shown on the storyboard. Nothing is visualized. Instead, there is a "blank" space on the storyboard that, together with the oral information, indicates something important. One example is when the importance of winning a contract is orally expressed, but not visually, in group D. A second strategy when explaining something difficult is to use both oral and visual communication, in the form of text. The result reduces the content to words that communicate parts of the importance but leave out other parts. One instance is when, instead of visualizing "cultural training," the word "China-adaption" is written down in group D. A third strategy is to explain the subject through both oral and visual communication in the form of symbols, but with a comment regarding the difficulty of drawing it.

Figure 2 shows the difference in the oral and visual information, indicating that when something is hard to describe, it is partly left out of the storyboard. We mentioned earlier that the facilitator of the workshop could be defined as an external focalizer when he/she asked a question that pointed out a specific focus of the process. When the participants in the workshop were confronted with questions, the participants are forced to react and start communicating. In all cases, they started by discussing the starting point of the project and how and/or what to draw to illustrate it. Participant B1 says: "I have a timescale here to describe that we had some pre-development here, (…) We defined the problem to solve, and then we made the prototypes, then we skipped the prototype, and then we (…) skipped the first solution, (…) and then we (…) I don't know if that picture was the best to describe what I said." B1 is referring to Figure 2, and the sketch doesn't show this at all but states that the story begin with an angry customer and products with bad performance before 1994.

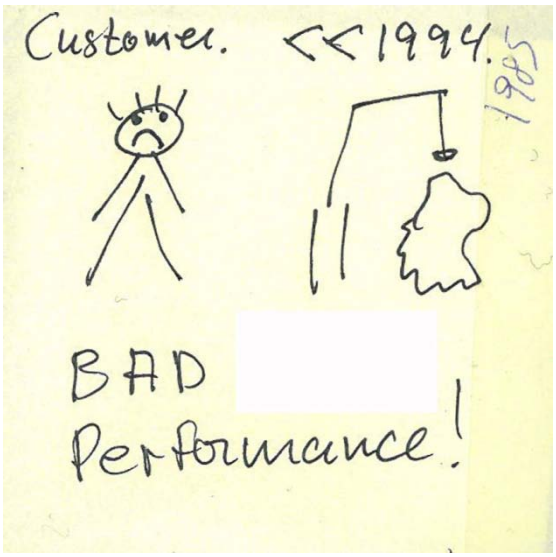

Figure 2. The sketch differs from the oral information.

4.2 The spatial structure of the storyboard – and the spatial organization of a project

The storyboard had a structure with 12 pre-printed yellow squares in total, four squares per row in three rows. From the cases, it is clear that the background affected how the post-its were placed and how the groups organized their post-its. There are two different approaches in the material. In four cases (A, B, D and F), the groups followed the structure and did a chronological storyboard where each post-it was neatly placed in the squares and they used one or two sheets. In the end, one group changed the order of the post-its. They used the possibility to move the post-its around along with new insights but they held on to the pre-printed structure. In Cases C and E, the participants tried to break the structure of the frame. The organization of the background was put a bit aside. In case E, the approach to put all the post-its on the table during the telling the story and arrange them the last three minutes created a round circle, a form that better fitted the dramaturgy of that part of the story. That is

one solution to solving the difficulty to express simultaneous actions and complexity in a storyboard.
The affects of the storyboard structure are both positive and negative. It seems that it is difficult for the informant to break the pre-printed structure, and that the groups felt restricted by that. In case B, for example, B1 says: “For me, it’s easier if you have a whiteboard, than (…) here you are restricted in the small space available”. Informant B2 answers: “But isn’t that part of the point, it should be short. It forces you to think in different steps (…)”. The structure forces the group to focus on important steps in the story, but not just that. It also gives modularity. In a group interview, the verbal narration tells the story. In a group interview with storyboard, the story is broken down into modules (= post-its), the modules are movable, and it is possible for the whole group to rearrange something said by another person and place it somewhere else. The same freedom is not available in a verbal narrative. The refining of the story, the arranging and rearranging, lets the group form their version of the story from their understanding. They create a common understanding of the project.
The story visual affect the group, the overview of the narration leads to insights. In Case C, the story was told once and the workshop facilitator acted as an external focalizer by asking question number two: Can you tell me what people were important in different parts of the project? Earlier in the sketching and telling, there was a dialog and some jokes about what to draw. In this way, the meta-level of the storyboard making was already reoccurring in the dialog. But here, the spatial structure of the storyboard and the visual overview of the project seem to structure the thoughts of informant C1 in a spatial direction. Informant C1 was affected by the internal focalizer. C1 refers to them in the verbal dialog: “One of those aspects that I think is very interesting here is that this shell, this top line is very the core, the core product. This little shell here is the side almost the little skunk work side (…) this is the group that is not in the core; they are at the other side of the Atlantic.” C1 sees that the spatial structure, the “top line” of the storyboard represents a possible similarity in a spatial organization of the product realization project in the real word (see Figure 3 below). The structure of the storyboard was made with the chronological order in mind, but suddenly a spatial order emerges. The top line represents the core product. Line two then represents the skunk work side, where development is on the other side of the Atlantic and in another city in Sweden. On line three, it is shown that it is possible with the skunk work team to take a long road (post-it 10 in Figure 3 below). This line cannot devolve outside the company too long. In the end of the storyboard, it was integrated back into the project. C1 thinks of a similar division in other projects – and concludes from his experience in the Company that this line is important for the innovation in product realization.

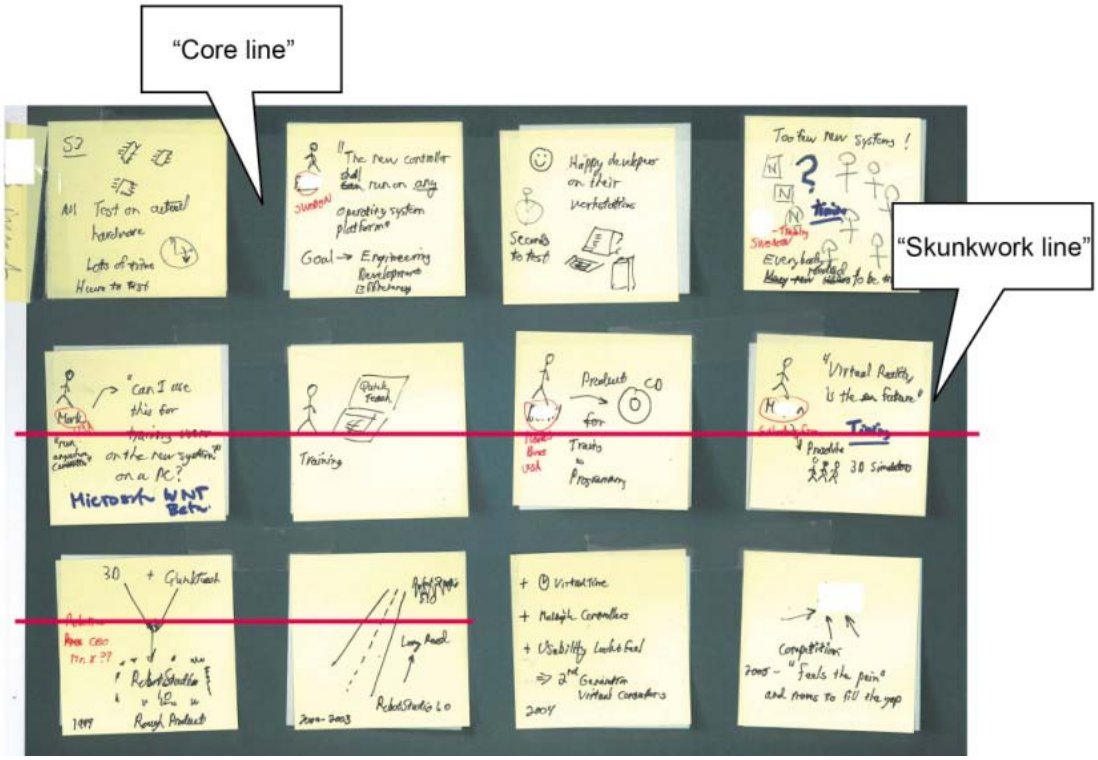

Figure 3. Storyboard Company 1, group C. The spatial distribution of the storyboard. The core line on top, the skunk work line marked out in red.

4. 3 Shared knowledge

The different participants are focalizers that are agents for the narratives. Their different perspectives, views and background, acting when telling the story, raise discussions about things that seem unclear, are understood differently or are difficult to understand. By discussing these issues, the participants bring added value to the storyboard. In case B, shown earlier in Figure 2, when the start of the project is discussed, the following dialog took place between B1 and B2: B2 says: "Draw an angry customer. B1: I think he was quite happy with the current product but he saw (a) possibility of improvement, he was not really angry. B2: Not really angry, but…comparing with competition and find out that the others were doing much better at this time." This example shows that the participants first start reflecting when something is unclear, and this often brings more information to light. The discussion indicates a section where the participants might feel a lack of knowledge. This often occurs in the beginning of the story when explaining the start of the project. By being forced to draw a starting point, the discussion starts and the participants share knowledge among themselves and with the facilitator. The sketches in the storyboard facilitate both individual thinking and interactive communication because they allow these processes to occur simultaneously. This means that they become group-thinking tools [17]. The storyboards clearly inspired the groups. As one of the main managers (F1) said: "I mean, one thing that I thought was really good about it, (is) the way that it was rather focused on one thing at a time, so it's a little bit more controlled, the layers that were supporting this structure… I found that quite good".

In the cases studied, it is clear that when a discussion about one specific sketch did not apply to the mental image of the others, a discussion started and the participants had different memories of the episodes and different interpretations of what had happened and why. The redesigned sketch becomes a common memory and a representation of a shared mental image in the group. One example of this is shown below (Figure 4 from Case E), where the "tech-center" for one participant becomes a mental image of the BMW tech-center in Munich and the discussion starts. If we focus on how our brain works cognitively, we find that that process is linked to our way of creating an understanding of what we see. We also discover that this understanding raises new questions that stimulate other parts of our brain. As we already have discussed, our understanding is based on an interaction between internal and external images. Hansen has pointed out that individuals use three different ways of receiving information: external, internal (mental) and a combination of the two [18]. As shown in Figure 4, the external sketch of the mental image "tech-center" is being discussed and reasoned. It is as if they are comparing their mental images with each other, and finally the sketch becomes the common mental image. Storyboard as a retrospective method uses these three ways of creating understanding of the phenomena that took place.

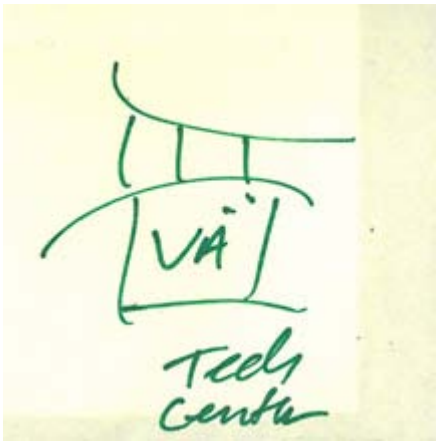

Figure 4. The external sketch of the internal image "tech-center" is being discussed and becomes the common mental image.

5 DISCUSSION

Using storyboard as a research method, as described in Figure 5, brings up some questions concerning its validity. First, it is difficult to decide when the method starts. Is it with work in the small groups or as early as when the method is presented for the big group; or when the first discussion takes place

with the director of the department? The researcher has to be very restricted in the information given out when arranging the workshop in order to have the “black pen narrative” unbiased by the researcher.
Second, on a Meta level, the participants asked themselves what to sketch and who are willing or allowed to sketch? They had different skills in sketching, and some took a more leading position by grabbing the pen and starting to draw. In doing so, he or she took the position as an agent (focalizer) for the group. The sketches had an impact on the group process. In addition to creating a common understanding of a project, it may also contribute to creating new narratives because of the change of focus of, for example, the hierarchy in the group and who has the right to steer the narration. The one holding the pen can take an initiative as well as the one that speaks. Nevertheless, since we gathered several groups of two to four employees, the researchers got access, not only to several cases, but also to the value of different perspectives of every case. The narration is discussed and different sources of information can bring out a pattern in the material validated by the group in doing and discussing the content of the storyboard.
The work around the storyboard also creates a focus on the combination of internal and external information, giving new meaning to the phenomena. This occurs simultaneously throughout the process of creating the storyboard. First, there is some talk. Then someone sketches while the others think and then the collaborative building of the sketch takes over. This iterative process could be compared to a creative process. This process is also compelling in terms of consensus about the narration, creating this common mental image about the phenomena.

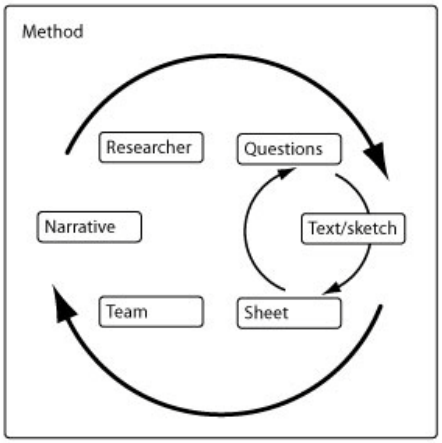

Figure 5. The method of storyboard with a focalizer and the relationship between the focalizers and the iteration in creating the storyboard.

5. 1 What can we learn about the method when applied in an industrial context?

As the storyboard is easy to create and access, it is valid for research about how to capture experiences of workflow processes and the evaluation of finished projects. By the creation of several storyboards on the same case, but from different departments, there could be a great amount of learning. It would be interesting to interpret the different parts the story consists of, if and how they differ from one group to another, and what can be found in between the post-its in the storyboards. The “not covered” areas, the “blanks”, the “spaces in between” or “the gray” areas are strong points for new questions. These “blanks” are arguments for further investigations! The storyboard does not completely cover how a case in an organization was carried out, nor is it a simplified model of the workflow. It is a story, told by the participants, and it creates common understanding, formed by the participants when designing the storyboard.
In the material, text, symbols for objects, graphs, lines, individuals and metaphors work as focalizers for the narrative in the storyboards. In a frame, an individual can have a within position, since he or she refers to his or her own experience, and creates an internal focalizer (by a sketch or mark, for example). In all cases, the group started by discussing the starting point of the project and how and/or what to sketch. The first frame on the storyboard forces the participants to react and start discussing what to communicate.

The informants seemed to sketch things they are familiar with, and things they are able to sketch. Three strategies are detected in the materiel when something is difficult to sketch: a) orally explain the subject, in this case no signs show on the storyboard, nothing is visualized; b) use both oral communication and visual, in the form of text; and, c) explain the subject both by oral and visual communication in the form of symbols, but with a comment regarding the difficulty to draw it. Interestingly, places and marketing are not visualized in the storyboard, maybe it is not considered important or it could be an unseen part of the story.
The colors of the pens showed different dimensions, additional information, the placement of this information, and activities that came to be marked with several colors. Central for the workshops was the verbal narration, and the actual focalizer (an individual in the group or the group as such) sometimes tells different stories in the text and the pictures. It could be explained by the fact that words and pictures belong to different symbol systems. In addition, visual signifiers such as arrows, marks and lines for emphasizing detail work as internal focalizers. Together with the recordings of the different voices of the employees, the storyboard draws a multi-faceted picture of the cases, revealing different layers, shedding light on things that normally would not be visible in an interview or a stage gate model, for example.
The organization of the storyboard both limits and structures the work of the group. Through the externalization of the information, the group can reflect over, restructure and refine the story. The modularization supports that. Being able to see the result provides new ideas. By grading the problems, it is possible to make a schedule for scheduling and timing. A sketch of the working-flow or schedule supports involvement, and the participants involved get an overview of the whole process. These sketches are supposed to explain the idea and its context. It may be the roughness of the sketch that allows other participants and colleagues to add value to it by interpreting the sketch in their own way, leaving drawn or written comments on it, a kind of opener to new associations and a deeper understanding of the phenomena. The creating of the “information graphic”, with sketches and text combined, facilitates individual thinking, as well as interaction between participants and the facilitator. A participant or the facilitator can point at a frame in the storyboard to explore more about a certain issue in the narrative. The sketch communicates effectively and provides an understanding of the phenomena explored. The purpose of the storyboard becomes creating a common mental image of the phenomena and having the necessary information in one place. These sketches serve as building blocks in the development of knowledge through reflection regarding the phenomena.
There is a difference between using storyboards for creating a future vision (as used in film making) and when used to reflect and learn from experiences (Figure 5).

Storyboard	
Future scenarios	**Retrospective**
Highligts problem Helps planning Understand problem Visual info to Evaluating ideas User centered	Highligts problem Identifies gap in planning Understand process Visual info from Evaluating process Consensus

Figure 5. Comparisons of using storyboard in future scenarios and retrospective.

5.2 How can storyboard be useful in recalling earlier experiences?

The testimonies from the participants were that the storyboard structure helped them to focus on one aspect or problem at once in the actual process they were asked to retell. All participants came together after the storyboard session; the aim was to present the storyboard for all and to evaluate the workshop. In that context, several participants mentioned that the evaluation of finished projects often ended with nothing concrete, because focus was often missing. What is demanded is a deeper understanding of working flow in projects. One of the results from the workshops was that the participants experienced a clearer, graspable method for getting a deeper understanding for workflow. And they demand tools for being able to use the storyboard method in the future while evaluating finished projects as well as ongoing projects.

6. CONCLUSION

To conclude, using storyboard as a supportive method for capturing earlier experience from a product realization project can be recommended. It is also valid to borrow the concept focalizer from the narrative theory since it helps us to interpret the range of focus in the storyboard in relation to different individuals and in relation to the questions asked by the facilitators. The focus for narrative theory is the narrator (the storyteller), the essence of a narration. The focus has been to interpret the relationship between the story told by the group and the individuals in order to capture the experience from the workflow in evaluating the product realization. The focalizer is the agent for the narrative. In addition, in storyboards made by a group, we can leave out several agents, such as the individuals and the group as a whole. The questions asked by the facilitators brought up new memories among the participants and that led to new aspects of the narrative, and sometimes the internal focalizer changed since new visual signifiers were added. The narrative became visible and, in that manner, concrete. Finally, the position of the focalizer at different stages was possible to identify, both for the group and the facilitators. Here the variety of color used for answering the questions in the storyboard was crucial; otherwise, it would not have been possible to identify the different positions (focalizers) the group took in the answers.

This research has focused on retrospective use of storyboard. However, the use of storyboard in explaining processes and describing relations between storytelling and story making is of interest when developing new innovative products or services, this research is ongoing.

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