DIGITAL STORYTELLING AS A REFLECTIVE PRACTICE TOOL IN A COMMUNITY OF PROFESSIONALS

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Introduction: Storytelling and Digital Storytelling

People seem to have an innate ability to represent their experiences in a natural way in the form of stories (Bruner, 1992; Ong, 2002) because they facilitate communication, describe content in a rich context and require less effort than more formal methods. We can tell a story for personal reasons, or to explain and teach a specific topic, so the term story can refer to either fiction or non fiction, depending on the context. In this paper we will use the term story to refer to the narration of a workplace experience. In the last few years many authors have recognized the importance of storytelling as part of the adult learning process. Schank (1995) suggest that all we have are experiences, but all we can effectively tell others are stories and learning from one's own experiences depend upon being able to communicate our experiences as stories to others. Other researchers have studied the role of stories in knowledge sharing in organizations (Orr, 1996; Prusak et al., 2012), in transmitting norms, values and to spark action (Denning, 2001), to promote strategic leadership (Boal & Schultz, 2007), to promote explicit tacit knowledge (Linde, 2001), to describe a problem and to suggest a possible solution (Jonassen & Serrano, 2002).

Since early times stories have been transmitted through different methods: orally, textually or through art, nowadays it's possible to create personal narratives using new digital media, and share it on-line, so "Digital" Storytelling is not a totally new concept, but it is only a new genre or new way of transmitting the stories. Digital Storytelling was originally developed by the Center for Digital Storytelling in the early 1990's mainly to support personal narratives (Lambert, 2013), but it evolved to apply to a variety of purposes and is now broadly used in many contexts (education, social, health promotion, etc.). A typical Digital Storytelling artifact is a video or a slide-show just a few minutes long and its essential elements include a strong point of view, dramatic questions and emotional content that keeps the viewer's attention and speaks directly to the audience: indeed, a digital story is often viewed as a strong emotional experience. Digital stories also convey a more detailed context than textual and verbal stories, facilitating tacit knowledge elicitation.

The study context: storytelling and professional practices

This exploratory study based on an ethnographic research (Ferranti, Nadin & Ravarotto, 2012), was carried out as a training project in 2012 and involved N=72 food safety professionals (physicians, veterinarians, biologists, chemists, nutritionists and prevention technicians) of the Veneto regional health system (North Eastern Italy). The training project was aimed at improving the cooperation between people belonging to different service industries that deal with animal health and food safety. For these professionals, during their everyday work, there are few opportunities to exchange information and talk about and solve critical issues. To fill this gap, we experimented with the creation of an on-line Community of Practice (Wenger, 1996). Initially the study was supposed to focus mainly on the analysis of relational processes and the thinking practices of a community of professionals that used for the first time the support of a platform and online forums, subsequently, the analysis of the interactions in the forums highlighted an interesting factor concerning the manner in which the various problems for discussion were presented: in fact, they always began from a true story of a professional incident that the narrator was protagonist of or that in turn he had heard about from others. One of the participants wrote the following:

> *"In the forum ... you see what other colleagues think about a particular problem, in particular if they have resolved it. Some cases are still unresolved. But you can find out about a case that you yourself have solved the issue, maybe even 10 years ago, so you may have a suggestion for the individual who asks for help"*

Very often the reaction of other colleagues, besides commenting on the story, was to discuss in turn a story from their own professional experience that either confirmed the same issue in other contexts, or provided a suitable solution in a similar context. In order to better shed light on the problems, pictures and photos taken by the same members of the community were also posted. Seeing thus the relevance that the emergence of narrative modalities in the processes of problem-sharing and problem-solving had taken on in the online community, we decided to support their "reflective practices" encouraging participants to create Digital Storytelling artifacts about the problems they perceived to be the most important. It is recognized that experience by itself does not always lead to improved professional practices, unless we reflect on it: so communicating our experiences as stories is not enough, reflection is recognized as an important process needed for real change. Learning Cycle of Kolb & Fry (1975), Schön's (1987) concept of the "reflective practitioner" and Gibbs (1988) Structured Debriefing, provided important theoretical references for this topic. As Schön (1991) notes, we need to capture those stories to make them objects of reflection and with the help of multimedia, these stories can be recorded. One of the purposes of the study was then to determine how a collaborative digital storytelling construction process could support reflection on professional practices. To this aim, the following research questions were explored:

> *How can a digital storytelling activity support a reflective process to improve and diffuse good professional practices?*

Our working hypothesis therefore provided for the use of Digital Storytelling in two successive stages: the first stage understood mainly as an internal process within the community, to encourage reflection on one's own professional practices told by the stories, and the second as a product to be utilized as a support for communicating best practices both inside and outside the community (Figure 1).
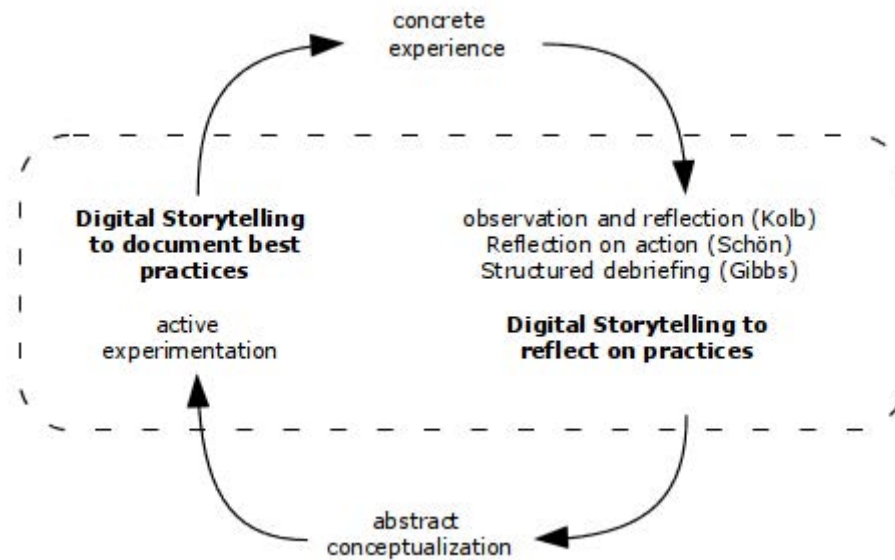
Figure 1. The implementation of a Digital Storytelling activity inside a general model on reflective practice based on the models of Kolb (1975), Schön (1987) and Gibbs (1988).

Creating a digital story as a reflective practice: the process

The stages of storytelling

In order to facilitate the process of narration of the stories taken from the participants professional experience and to save time, in our blended training program we decided to bring together all the participants on one day specifically dedicated to this activity. The participants worked in groups of 3-4 people telling each other stories taken from their work experience and then they chose which ones to discuss and elaborate. In a second step, they wrote the storyboards together and created by themselves the videos because before, the training course, participants had already learned to use some simple software video-editing tools. Prior to gathering in groups and telling their stories, we provided them with some "guidelines" in order to make them more aware of their role as storytellers and listeners, taking as a reference a number of conditions for encouraging participation in Mezirow's (1991) and Tyler (2009) "critical discourse":

- The time spent for each story on storytelling and for possible requests for clarification and comments should not exceed 10 minutes;

- The story that was told had to have as a subject a non routine problem that required a creative or unusual solution or it had to be an issue that was not fully fixed by the protagonist;
- Everyone had to make themselves available to answer without reluctance questions for the purpose of making the issues clearer or expanding upon the issues rose by the others, and had to be as open as possible to accept comments, possible criticism and suggestions of potential alternative actions from the others, that could come out during the discussion.

This stage of storytelling and collective discussion of the stories was considered very important: in fact, in this manner one can negotiate shared meaning, and the listener also becomes a co-author of the narrative through a process of inter-subjective participation (Boje, 2001; Gabriel, 2000; Tsoukas, 2009). At the end, after hearing all the stories of their peers in each group, they chose to convert one into a Digital Story.

The storyboard writing stage and the creation of the video

Even in this second stage participants were provided with some precise directions for drawing the storyboard in which the following elements had to be clearly defined: the main character(s) (who); the context (where) and the events timeline (when); the content (what happened, what was the problem, how and why did it happen);

In addition to having a clear representation of the problem to narrate, we requested participants to pay particular attention to the broad description of the context, in that at times details are of fundamental importance in the solution of a problem and they help in making "tacit knowledge" explicit. The typical structure of a story in order to be recognized as well made, like the narratology of Propp, Greimas, Campbell and others, had to contain at least four elements: the existence of a problem or something that needs to be done and gives meaning to the story, a set of conceptual resources or materials that are necessary for the task, a set of established rules to be respected, and finally the recognition of the resolution of the story. For the purpose of stimulating reflection, we advised against choosing necessarily stories with a 'happy ending', and to also leave space for "cautionary tales" that in the context of work are often associated with bad practices. The other important aspects that we required participants to pay a lot of attention to were:

- maintain in the story a balanced level of emotional involvement;
- selection of the most suitable audience for viewing the digital product;
- intentionality (why that particular story was chosen, the underpinning morals and values).

With Digital Storytelling, the need to stimulate reflection must be balanced, an excessive degree of emotion that emerges from the story can seriously damage cognitive performance, particularly in the process of problem-solving: this criticism is clearly depicted by the Yerkes-Dodson law (Figure 2). Often is through emotional connection, rather than reasoning, that a story is evaluated (Bowman et al., 2013).
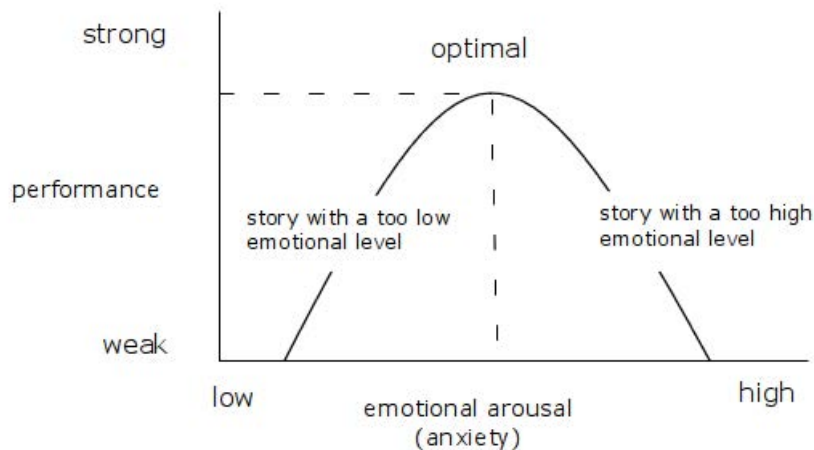
Figure 2. The Yerkes-Dodson law (Broadhurst, 1957) applied to the emotional content of a story

Lastly the choice of the audience also implies a careful adjustment in the language, in the level of tacit knowledge to use in the drawing of the storyboard and in sharing the morals and the values that one wants to communicate.

The reflective practices triggered

In order to stimulate reflective practices and to help to define the problematic moments of the stories, the groups were able to draw their "Visual Portrait of a Story" (Ohler, 2008): that is to think about the story more as a map of the critical moments and real "turning points", rather than just a series of events presented in sequence. These moments, identified through a group discussion, were used as stimuli for reflection on the ways in which the problems were resolved, unresolved or resolved in an unsatisfactory manner by the protagonist or protagonists.

The digital products created

A total of 14 Digital Storytelling items were created on various topics of interest to the community of food safety professionals: for example. how to deal with cases of transporting a pet abroad, how to follow the proper procedures to ensure one cooks mushrooms collected personally without toxic risks, how to create samples that test for the presence of pesticide residues in agriculture, and the most effective methods for water inspection, etc. The participants identified four possible audiences for Digital Storytelling:

- their peers in the community,
- schools/students,
- institutions and food companies,
- consumers and citizens.

Of a total of 14 videos created, as many as 8 were addressed to a target audience of colleagues: this was considered a significant element, linked to the willingness to share experiences among members of the community about specific professional procedures which could be substantially different (for example procedures for water chemical control, in testing

histamine in fish, in mushroom edibility, seafood sampling and so on). All videos were also classified according to the way they exposed the problem:

- most of them, 11, (79%) proposed a problem resolved in an effective manner,
- while 2 (14%) make explicit a problem solved but not in a completely satisfactory manner,
- only 1 (7%) showed a problem that has not been solved at all.

The preference for creating "problem solved" stories, was strongly related first to the will to help them peers and share effective solutions, and also to their need to compare with one another the quality of solutions adopted. In all cases, all types of videos were recognized by participants as valuable, real "shared artifacts" on which to discuss and refer to, inside and outside the on-line forums.

Digital stories to document best practices: between a willingness to share and privacy concerns

It's interesting to note that about half of the digital stories produced (58%) had targeted specific audiences, community members or outside co-workers. The intent of this approach was not only to provide immediate and concrete help to solving common problems, including that of wanting to keep the presentation of best practices in a coded and easily accessible form, different from other solely textual formal representations. Particular attention on the part of all participants was given to the problem of privacy: while sharing photos and pictures taken from real contexts within the closed forums of the community and used for the creation of digital stories did not raise any particular concerns, some problems emerged when we proposed to share some stories representing contexts and highly sensitive material, with a larger audience on specialized websites or simply on their corporate website. The solution proposed was not to give up the sharing, but as much as possible to rework the digital stories trying to eliminate any references considered sensitive.

Video creation

The actual creation stage of the video took place in part in person or in part it was carried out long distance, through the community forum, where participants continued to work on their digital story. The lack of experience with the use of multimedia software on the part of some of the participants did not create particular difficulties because we originally provided for special training in their use in a series of laboratory meetings and we also had the help of more experienced colleagues. Interestingly, to confirm the fact that the images and videos used were actually derived from professional experiences, the majority of the material was obtained through the use of their mobile phones and not with professional video cameras or digital cameras.

Some preliminary findings

To gather feedback on their perceptions on the process of creating a Digital Storytelling artifact from their work experiences we submitted a simple questionnaire mainly to investigate:

- the difficulty perceived in elaborating a story taken from a professional experience,
- the possible use of the digital story in the workplace context,
- the reflection on practices and competences stimulated by the digital story creation process.

The answers to the question about the difficulty revealed a favourable bias: the average "complexity" of all the stories created was high, both with regard to the narrative aspect itself as well as the professional content. This was a sign that the process of recalling "good stories" taken from their workplace experience, writing a storyboard and translating it all into an audiovisual form, was a real deep reflective process. Most of the professionals (54%) did not seem to have particular trouble at this conceptual stage (Table 1) even though a total of 46% showed some problems in elaborating the story (14% difficult, 32% not too easy).

Table 1: The perceived difficulty in elaborating the stories from professional experience.

Question 1: How easy was it to elaborate stories taken from your professional experience??	
Very easy	7,30%
Easy	46,40%
Not too easy	31,90%
Difficult	46,40%

The many members said in personal interviews, that the difficulties encountered in the process of formalizing workplace experiences into digital narratives was mainly of two kinds: one, because they often had to elicit a lot of tacit knowledge "embedded" in their practices, and two, because they realized that, telling a story about a problem-solving incident, would have revealed necessarily to others a great deal about their professional competences on the subject. Precisely this concern was taken into consideration by the question of how the process of creating a professional story and reworking the professional stories has made them reflect in depth on how to solve the problems proposed in the stories. Eighty-eight percent of participants said in this regard that the activity was perceived as very useful or useful and only 11% perceived it little or not at all useful (Figure 3).

Figure 3. The perceived effect of the digital story creation process on reflective practices

Conclusions

The digital storytelling process helped the community to reach a higher level of awareness about their specific professional competencies and critical work issues, fostering high levels of commitment and motivation. This dialogic process can be a way to transform simple narrative knowledge into an intersubjective, negotiated knowledge. The apparent successful outcome of the narrative activity, creation and reflective processing of digital stories encourages us to further test the method in this and other professional contexts, not only when it is necessary to stimulate "reflective practices", but also when it is necessary to stimulate the emergence of a community of practice. In fact, during the collaborative creation of the digital story, the community can become a true community of practice.

In this respect then it becomes very important to mention the concept of "reification" of Wenger, this in fact implies that the production of concrete artifacts, and facilitating the negotiation of meanings, is an important element upon which the community is based on. But unlike traditional storytelling activities which often take place orally, the realization of a concrete digital artifact offers numerous advantages. Not only during the initial step of creation, as we have seen, but it has alternative uses even later, when it can be made available to others, for example to support the training of new employees, or remain as documentation of best professional practices of the community or made available in new contexts, where it can be negotiated and re-interpreted and where it can generate important feedback for the community.

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