



How Do Design Narratives Play a Role in Cognitive and Social Processes? An Explorative-Systematizing Expert Interview

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Abstract. Narratives have increasingly come to the forefront of both design and innovation management. As a fundamental scheme of the human cognitive process and mode of communication, the role of narratives has been emphasized in relation to design and innovation processes. Although recent contributions have explored some characteristics of narratives and storytelling in both design and innovation, the literature remains lacking in understanding how narratives by design can affect innovation processes. Drawing from the creative process literature and narratives in design and innovation studies, this study analyzes how design experts employ design narratives at both the personal-cognitive and social-collaborative levels of creative process. The study aimed at building a basic analytical construction of the roles of design narratives in creative processes. Through an explorative and qualitative study, the authors explore the roles of design narratives through the lens of the collective knowledge of 17 design experts. Data collection was conducted using an explorative-systematizing expert interview, supplemented by secondary data, such as existing interview data and archival data, in the three design foundations in Italy. As a result, three aggregated personal-cognitive themes were identified: taking original perspectives as frame tales, weaving problem and solution pairs, and making storyworlds and senses. On the social-collaborative level, three themes emerged: orchestrating idea recombination, an imaginary and aesthetic manner of tension and conflict management, and contextualizing and generating narrativity. This study contributes to the design and innovation literature in terms of narratives by exploring and constructing basic themes regarding the role of design narratives in creative processes.

Keywords: Design Narratives · Innovation Narratives · Creative Process · Personal-Cognitive Process · Social-Collaborative Process · Storytelling

1 Introduction

1.1 Narratives by Design in the Creative Innovation Process

Narratives are increasingly at the forefront of both design and innovation management. As a fundamental scheme of human cognitive processes [18] and a mode of communication [9], the role of narrative has been emphasized in relation to design and innovation

processes [2, 16, 17, 21]. Whereas recent contributions have explored some characteristics of narratives and storytelling in both design and innovation, the literature remains lacking in understanding how narratives by design can play roles and affect innovation processes [14, 21]. This study aimed to explore a basic understanding of the fundamental role of narratives by design in the creative innovation process.

1.2 Theoretical Background

A theoretical lens for coding was set to analyze the data. We consulted traditional creative process literature to focus on the general roles of design narratives during the creative innovation process. Drazin et al. (1999) classify creative processes on three levels: intra-subjective, inter-subjective, and collective. The intra-subjective level is considered the individual level, characterized by internal cognitive processes. The inter-subjective level, regarded as the level between two or more individuals, represents the social-collaborative processes. The collective level represents the development of change across inter-subjective levels [7]. This study focuses on the inter- and intra-subjective levels. Hence, the individual-cognitive processes and social-collaborative processes are the focal points of creative processes.

2 Methodology

This study followed an explorative expert interview approach, which allows researchers to quickly obtain good results when the research area remains deeply unexplored [3]. Expert knowledge is characterized by the opportunity “to become hegemonial in a certain organizational and functional context within a field of practice.” [3] Focusing on experienced designers’ knowledge in this research context, the traits of narrative use in creative innovation processes can be explored as commonly shared knowledge.

The applied approach is a combination of an explorative interview and a systematizing interview: the explorative-systematizing interview [6]. This method has the advantage of both approaches. First, as an explorative tool, irrespective of whether the study area is substantively new or poorly defined, it helps the researcher develop a clearer idea of the research issues and essential concepts and generate a hypothesis, leveraging expert knowledge as “analytic construction.” Second, the systematizing interview supports researchers in applying this method as data triangulation for research activities, including qualitative and quantitative aspects [3, 6].

Meanwhile, some complementary documents were introduced as secondary data such as existing interview results and archival documents. Representing the intellectual heritage of Italian design history, expert interviews with three Italian historical designers’ foundations were conducted to enrich the collected data.

2.1 Data Collection

Data were collected from 17 expert interviews. Interviewees were design practitioners who worked in cutting-edge design practices in the fields of communication design, product design, interior design, architecture, strategic design, and service and UX design,

as well as the representatives of three foundations. The foundations are well-established Italian design heritage foundations of the modern and post-modern era, namely: the Franco Albini Foundation, the Achille Castiglioni Foundation and the Vico Magistretti Foundation. The success of any research project based on expert interviews depends on the number of interviews conducted and the quality of the experts interviewed. Glaser and Strauss (1967) recommended a minimum of ten interviews to adequately analyze the patterns and differences across subjects [13]. We conducted interviews based on the recommendation above. The detailed data collection settings are shown in Table 1.

Table 1. Detailed data collection settings.

| Items | Settings |
|------------------------|--|
| Goal | To explore thematic units of design narratives roles To generate hypothesis and sociological conceptualization |
| Premise | Interpretative paradigm [20] Social constructivism Expert knowledge as “analytic-construction”: technical /process /interpretative knowledge [3] |
| Interview techniques | Semi-structured interview The basis of the interview was an interview guideline |
| Interview type | Interviewer as “co-expert” |
| Number of interviewees | 17 |
| Interviewee types | Design practitioners who have at least 15 years of experience The selections were made according to the fields of design problems [5] They are 2 in Communication, 7 in Industrial, 2 in Interaction, 3 in Environmental, and 3 in representatives of Italian historical designers’ foundations who are intimately knowledgeable of the historical designers’ work and processes very well |

2.2 Data Analysis and Synthesis

After data collection, the results were converted into transcripts. Thereafter, we used a two-cycle approach to conduct the coding process [19], based on an interpretative paradigm [20]. According to Gephart Jr. (2004), the aim of an interpretative approach should not be to “discover truth” but to understand the meanings and concepts used by social actors in their real-life settings in order to see how different meanings are retained by different persons or groups [12]. Based on the theoretical coding method, the first cycle was conducted according to the theoretical background of the inter- and intra-subjective levels [7]. In the second cycle, we applied holistic coding, an exploratory coding method, to capture a sense of the overall content and possible categories that may be developed.

The analysis included progressive clustering of the first-order categories into second-order themes [11]. This analysis was partially informed by the theoretical background that helped identify the narrative roles design practitioners experience when performing creative tasks. The second-order themes were subsequently aggregated into high-level dimensions of individual-cognitive and social-collaborative levels.

3 Results

Analyzing the interviews on the design narratives used during the creative process helped in recognizing the roles on the personal-cognitive and social-collaborative levels. The analysis led to the classification of three aggregated themes in the personal-cognitive and social-collaborative aspects (Fig. 1 and Fig. 2).

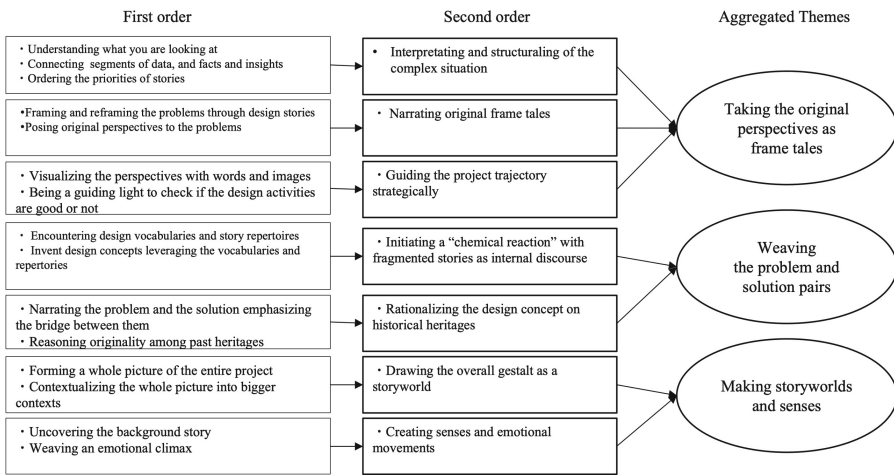


Fig. 1. Coding Tree of Roles of Design Narratives at the Personal-Cognitive Level

3.1 Personal-Cognitive Dimension: Intra-subjective Level

The following three aggregated themes emerged on the personal-cognitive level of creative process: 1) Taking original perspectives as frame tales, 2) Weaving problem and solution pairs, and 3) Making storyworlds and senses (Fig. 1).

Taking Original Perspectives as Frame Tales

The first aggregated theme across interviews can be described as “*Taking original perspectives as frame tales.*” During the interviews, experts revealed that connecting fragmented events and dots, and structuring and ordering the priority of the stories, especially at the initial problem understanding phase, is important. The results revealed that starting from posing fragmented event stories – *provisional narratives* – and connecting them into more structural stories helped in understanding the “ill-defined problem.”

MacroB, a service and UX designer stated clearly the roles of narratives:

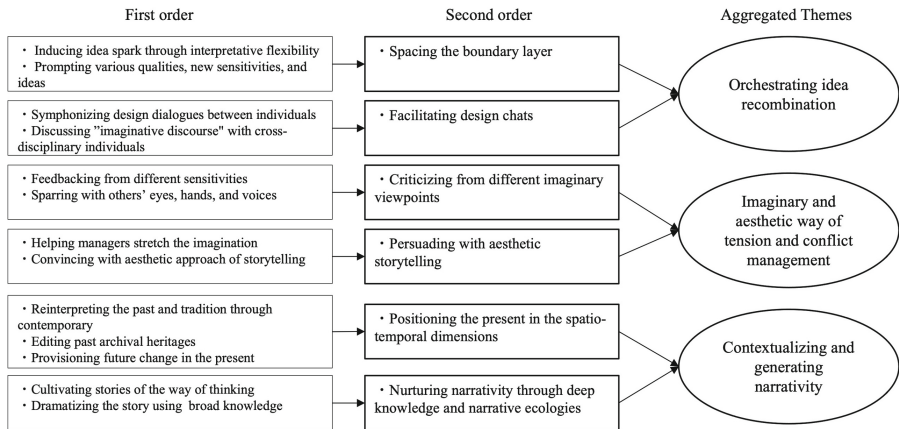


Fig. 2. Coding Tree of Roles of Design Narratives at Social-Collaborative Level

"The first thing that you need to do is to understand what you are looking at. When you have understood that, you can start to say, Okay, what is the story about that? Thereafter, you can look at data, such as understanding trends, categories, and groupings of things. This is the process, and at the end what you have is a story."
- *MacroB*

After understanding the complex situation, the results indicated that designers tend to develop original perspectives by weaving frame tales to capture the problems and reframe them. The interviewees emphasized that this process usually relied on both words and images to make visual stories. Consequently, a constructed frame tale with visual and verbal elements can function as a "guiding light" for the entire project's trajectory.

The comments by MicheleB, a creative director, and NicolòB, a strategic and brand designer, resonated to highlight these specific aspects of narrative roles:

"We who are the storytellers, we are communicators. By asking questions continuously to our client, we investigate needs that may be broader. Therefore, ask: What are the scenarios that are foreshadowed in the future? What are the brands that they look at with more attention? A series of questions that allow us to build our own vision of the brief." - *MicheleB*

"The storytelling that you are creating is linked much more with the positioning, through giving your own viewpoint. It is crucial to have a precise and strong story, which consists of images and keywords." – *NicolòB*

"Story is important as a guiding light and the parameter to check if your work is correct or not." - *NicolòB*

PaolaA, who is the vice chairman of the Franco Albini foundation, clearly emphasized the role of perspective-taking as the designer's own essence in tackling specific projects.

“Every designer must find their OWN essence. The essences should clearly show what you propose. Throughout all the “operas” that Franco Albini produced in his life, you can always recognize coherence in his 22,000 drawings in the field of human urban planning, architecture, and design. Every “opera” mirrored himself.”- PaolaA

Weaving the Problem and Solution Pairs

The second theme that emerged from the analysis was *“Weaving the problem and solution pairs.”* Starting from encountering surprising connections between design vocabularies and story repertoires, the interviewees asserted that designers tended to develop a new design concept, narrated as a problem and solution pair. The following episode of Italian design maestro, Vico Magistretti's Eclisse, represents the role of the designer's story repertoires in his brain and cognitive process:

“In Piazza Conciliazione in Milan, after a business meeting,” Magistretti recalled, “I was told that everyone has a bed. I thought well to design a night lamp. In the subway, I drew behind the ticket a memory of Victor Hugo's Les Miserables; the thieves' lamp with adjustable light beam. I phoned Ernesto Gismondi and described to him the hypothesis of three hemispheres on a pivot, different from Hugo's Jean Valjean lamp, but useful for reading in bed.”- [15]

Magistretti, who was tasked with designing a bedside lamp by Ernesto Gismondi, co-founder of Artemide with Sergio Mazza, thought the crux of the problem was to invent one that would allow for strong or dim light, depending on one's needs, which vary greatly in the bedroom. Thereafter, he suddenly came up with the idea of Eclisse, inspired by his memories of the thieves' lamp in Victor Hugo's Les Miserables.

The importance of weaving the problem and solution pairs and the role of story repertoires was also emphasized during the interview with GiovannaC, the director of the Achille Castiglioni Foundation:

“If you see Achille's design process, it is very complicated. It is like chemistry, if we can use a metaphor. A chemistry which has different aspects behind it. There is irony, functionality, a reaction between the client and the user. There is a funny name. There is something hidden. Therefore, there is a good mix of stories behind the chemistry. Achille Castiglioni tried to collect anonymous objects to stock his vocabulary or design languages and episodes to make a “chemical reaction” in his brain.”- GiovannaC

Making Storyworlds and Senses

The third theme that emerged across the interviews was *“Making storyworlds and making senses.”* The results showed that design narratives play an essential role in making

sense, hence the emotional movements when articulating the created design concepts to individuals.

The design concept tends to be communicated as a form of narrative composed of the entire picture. This narrative form of communicating the design concept is carefully contextualized within larger contexts, such as the company's innovation purpose and the larger socio-technical landscape. Through the narrative form, a concept also triggers emotional reactions, such as surprise, resulting in an emotional climax in the users.

A series of comments by MicheleB provides an essential sphere of the narrative role to create a narrative storyworld:

“Narrative by design is a form of narration that allows us to create an aura, or a world, around our project and to connect it with those who will use the project. First, it is a form of explanation, contextualization, but also a form of involvement of the target we are going to speak to. It is also a way to tell the story of the current project we are busy with and the company we work for.” - MicheleB

GiovannaC recalled the works of Achille and emphasized the roles of creating an emotional reaction and surprise for designers:

“...yes, let us say communicating the function and meaning behind the product to the users. Reaction and surprise, I think, are a few keywords for Achille. It is important today for designers to solve a problem and also surprise you not because the shape is nice. The designer has to surprise individuals because they solve a problem and individuals say, oh! it works!” - GiovannaC

3.2 Social-Collaborative Dimension: Inter-subjective Level

In the social-collaborative dimension, three aggregated themes were elicited by inductive reasoning from the interview scripts: orchestrating idea recombination, an imaginary and aesthetic manner of tension and conflict management, and contextualizing and generating narrativity (Fig. 2).

Orchestrating Idea Recombination

The first role of design narratives, which may be one of the most significant roles as stated by several design experts, can be summarized as *“Orchestrating idea recombination.”* In the social-collaborative mode, narratives can be conducted to connect various small stories, attract and repel generated ideas, and blend critical perspectives among the different players in a design project. In this sense, the narrative itself has strong *“gravity”* and simultaneously a specific *“margin”* or *“boundary layer”* to allow for individual interpretation and a sense of their own viewpoint. A good design narrative can create *“narrative groove”* for designing.

In the article by ABITARE, presenting an exhibition by the Vico Magistretti Foundation, the importance of *“dialogue”* orchestrated by Vico was stressed as follows:

“The lack of executive drawings by the studio made the prototyping stage even more important, during which “dialogue” between two or more individuals working on the design process, carefully orchestrated by Magistretti, played a fundamental role.” - [1]

Thereafter, the importance of margin in a story to be interpreted differently is metaphorically stated by MatteoH, the product design leader at an Italian manufacturer.

“Mistaken innovations can be made through the margin of misinterpretation of a story. In fluid mechanics, it is the ‘boundary layer.’ There are also boundary layers between cultures. Cultures are created full of width, where the system of diet and lifestyle is not clearly partitioned. Cultures are created through friction. This is where various qualities, new sensibilities, and ideas are born.” - MatteoH.

Imaginary and Aesthetic Manner of Tension and Conflict Management

The second synthesized theme is described as an *“Imaginary and aesthetic manner of tension and conflict management.”* Very often ideas and thoughts are not the same among different project members, even between the client and the design professionals. Narratives by design tend to facilitate negotiation and coordination among different viewpoints through their own imaginary and aesthetic manners of harmonization and communication.

SimoneI, a product designer, emphasized the importance of discourse across different eyes, voices, and hands:

“During the design process, many individuals from the company were involved. Thus, there were many eyes, voices, and hands on it, and all together we could understand whether something was a good product or not. It was not just an evaluation by the designer but something that they have to evaluate all together.” - SimoneI.

LuisaC, a design and creative director, explained the original characteristics of a designer’s way of harmonizing the conflict between different opinions among individuals:

“Like any other design or architectural firm, we have our own style or designer’s grammar. We try to convey our style in the client’s project. It is like putting your own glasses [on] to read the client’s narrative. In this way, it is like an aesthetic approach of storytelling rather than the scientific or rational approach of communication. To reach the right result, you have to deeply understand the client’s values and the DNA.” - LuisaC

Contextualizing and Generating Narrativity

The third theme can be described as *“Contextualizing and generating narrativity.”* Across interviews, different expert views resonated, emphasizing that strong design concepts should be based on broader contexts, such as the company or industry’s history as tradition and modernity. Design narratives act to link the design concept to a specific *spazio-temporal context*. Thereafter, rooted in well-woven *narrative ecologies* in the spazio-temporal dimension, *narrativity* surrounding the design concept is generated.

Vico and Cesare, the founder of Cassina, emphasize the importance of contextualizing the design concept into a spazio-temporal dimension:

“Although from two different perspectives, Vico and Cesare shared a vision of the relationship between modernity and tradition, which they each applied to their approach to design. For Magistretti, creating something new meant maintaining a bond with history, as he had been taught by his teacher Ernesto N. Rogers, an intellectual and architect at the Studio BBPR: ‘Being modern means being a link, with one eye on the future, and the other on the past’.” - [10]

Thereafter, CarlaC, a product and interior designer, distinguished the technical tools of storytelling and the deeply rooted design narratives behind the object, emphasized their traits to enhance meaningful and emotional value at the narrative level of experiences containing narrativity:

“Like Andrea Branzi says that design is not the story of a product, but the story of a way of thinking. Furthermore, the narrative is different from a design tool of storytelling. It is the story of something behind the object. (...). For example, naming the product is the starting point of “narrazione.” A product named after a musician, politician, cultural figure, or an individual who has achieved something in history is sufficient to expand the product’s image. They provide names to things even from Greek mythology. In this sense, a designer is like a ‘poet’.” - CarlaC.

4 Discussion and conclusion

This study presents an initial investigation on the knowledge of certain essential roles of design narratives at the personal-cognitive and social-collaborative levels of the creative process. The analysis of expert knowledge as “analytic construction” allowed for the building of a knowledge structure foundation comprised of three aggregated themes for each level of the creative process.

Moreover, some of these findings complement and develop a step ahead of the extant literature of narratives in design and innovation management. In relation to the innovation process, this study complements the argument of innovation narratives proposed by Bartel and Garud (2009) from a design point of view; namely, that design narratives can offer powerful mechanisms to facilitate innovation through coordinating efforts among many actors. The findings related to designers’ roles and capabilities on both inter- and intra-subjective levels overlap and complement the extant arguments, including the designer as “hub-narrator” and “design narrator” [16, 21], leveraging a “semantic heritage” and “repertoire of stories” [8, 21]. Regarding design artifacts produced as outcomes, the findings echo the argument of the narrative level of experiences such as “design brings stories to life” [4].

However, there are some limitations to this study. First, the findings are still on an initial foundational level regarding the issues, as this study relied only on expert knowledge. Hence, the findings must be examined through further empirical research, such as case studies, to be further verified and generalized. Second, the interviewees were selected from experts who have been working in Italian design contexts. Therefore, expert knowledge should be compared with those in other countries or contexts to better generalize the findings.

Future research should broadly be undertaken in several avenues. The first avenue is further empirical research regarding the role of design narratives in design and innovation processes. Real-time process data, such as designer discourse, can unveil deeper knowledge of how design narratives perform in design innovation processes. Second, theoretical consideration among narrative studies, design studies, and innovation management can open interdisciplinary research avenues, leveraging enormous academic knowledge as heritage in narrative studies given that it has decades of history. Third, broadening the themes related to design narratives can take researchers to new research path frontiers. One example is the more-than-human related themes that are gaining considerable interest in design and narrative studies.

Acknowledgement. The authors would like to thank all the experts for their participation in the interviews.

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