

Visual and Textual Interfaces in Design Research: Considering the Value of Concept Maps as an Interior Design Research Tool

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Abstract: *Art and design creative techniques are increasingly used in educational and social sciences research as means to complement narrative qualitative research methodologies. Less known is the means by which interior design and visual arts students may use collage, concept maps or other artful visual tools when analysing the narrative in research. This paper demonstrates how artful methods can be combined with more traditional qualitative methodologies to uncover meaning in research texts or during the data analysis process. The authors show how both the phenomenon used and the method applied to data analysis offers a creative way to allow for meaning to emerge, while situating the research firmly in a phenomenological perspective of lived experience of the researcher through a collaborative conversation. Two visual examples are presented to demonstrate the phenomenon, and the discussion situates the usefulness of this type of research inquiry method.*

Keywords: *concept maps; design research; interior design*

Introduction

Writing and narrative as research in interior design is not a common activity in Canada. More often, research is grounded in development of products and processes, as opposed to developing knowledge situated in the processes of interior design. Conversely, drawings and design sketches are the major form of expression for creating design projects in the design studio or in practice (Arnheim in Margolin & Buchanan, 2000; Vaikla-Poldma, 2003), where writing often takes second place, being usually limited to specifications and contract documents (Vaikla-Poldma, 2003). However, in education and social sciences research, artful analytic methods are increasingly used as a means for the research ‘...(to) approach the data in more holistic ways to get at the core of meaning within a particular context’ (Butler-Kisber et al, 2003, p. 127). This type of qualitative inquiry allows for artful methods, such as design drawings and design concept sketches, to exist within research as a tool for data analysis. Methods such as concept map drawing and collage, when juxtaposed against more traditional narrative methods such as reflective conversations, analytic memos and poetic representation (Davis & Butler-Kisber, 1999; Ely et al., 1997), help researchers to get at the meanings in the qualitative analysis. In essence, the goal is to make the ‘...work

more accessible, empathetic, evocative, and ethical....' (Butler-Kisber et al., 2003, p. 160). Insights are gained through exploration using both visual and narrative mediums, and the juxtaposition of different forms of analysis assures that trustworthiness can be achieved (Butler-Kisber et al., 2003).

In this paper, we will show how artful methods such as visual concept maps or collage, when juxtaposed with narrative research methods, allow for a design researcher to step out of the research and uncover meanings in narrative. We will show how new meanings emerge through the example of our conversation and how we used a visual form of expression to understand the narrative analytic texts in the research that we were studying. We will also show how this interface between the visual and the verbal is a unique phenomenon that evolved through the research itself, and how this method of inquiry helps to uncover issues that perpetuate further inquiry. Finally, the discussion and conclusions focus on what this may mean for future interior design students wishing to use narrative and visual forms of expression as interfaces within their design research studies.

The context of the study and process of inquiry

If we consider art and design as primarily visual curriculum choices, then the thought of producing a doctoral dissertation may be viewed as daunting. Certainly, in Canada, doctoral dissertations produced in interior design are rare, and writing generally is not a common occurrence in the interior design profession when considered to be an academic exercise. Advanced design research in general, and interior design research in particular, are usually located within the scientifically situated behavioural models, and many research studies in interior design that look at the design activities in the studio measure behaviour causally (Canestaro & Carter, 1992; Watson & Thompson, 2001). However, few actually consider the student narrative and the visual activities that they engage in terms of direct aesthetic experience in the phenomenological sense (White, 1998). Qualitative research methodologies offer an alternative means to broaden the research perspective for design, as they seek to uncover the subject voice in the research inquiry (Butler-Kisber et al., 2003; Charmaz, 1988; El et al., 1997). In interior design research, studies are increasingly done with this perspective in mind, where the subject is situated as an active participant in the research experience (Franz, 2000). This type of research requires both a contextual and contiguous approach rooted in the social and interpersonal experiences of subjects (Davis & Butler-Kisber, 1999). In such an approach, it is necessary to look at part of the events as they occur, while simultaneously investigating how this event may compare to similar situations, thus providing the context (Butler-Kisber et al., 2003). This context may be personally investigated, or examined using a collaborative approach with colleagues or fellow researchers (Heron &

Reason, 2001; Butler-Kisber et al., 2003). The goal is to uncover meanings as they emerge, and to uncover these meanings in ways that are considered transparent and trustworthy.

Artful methods considered as a research method for interior design: the choice of concept mapping and collage

Artful methods such as concept mapping and collage are considered to be useful as a means to juxtapose narrative inquiry with a different type of analysis, in order to uncover the ways that the emerging analysis may be examined in detail and how a part of an event may be understood (Butler-Kisber et al., 2003). Two choices are examined in this paper: concept mapping and collage. The choice of concept mapping is particularly interesting choice for interior designers, as this method closely parallels the brainstorming methods that designers use to develop their initial ideas. Concept maps are also considered by qualitative researchers to be a legitimate means by which ideas, rough thoughts, and emerging conceptual ideas might be considered (Ely et al., 1997, Maxwell, 1996). Mapping the innermost thoughts of the designer is also an active means for the designer to sketch out initial thoughts and ideas, as a means to get at creative design ideas and map inner space ideas, as held in the mind (Arnheim, 2000; Margulies, 2002).

The second choice of collage is an artful analytic method favored by qualitative researchers as a means to interpret in depth emerging ideas about a phenomenon (Davis & Butler-Kisber, 1999; Butler-Kisber et al., 2003). In artful analysis, '...the researcher approaches the data in more holistic ways to get at the core of meaning within a particular context (Butler-Kisber et al., p. 127). Collage is one of these artful methods, and these form part of the interpretive inquiry methods such as narrative, poetic representation and visual methodologies such as ethnographic and phenomenological study (Ely et al., 1997; Rose, 2001; Butler et al., 2003).

Our role in the process

We were two students studying and doing our own doctoral work in 2001 when we came together in a collaborative group of students exploring artful forms of analysis in qualitative research. We explored methods including cartoon analysis, poetic representation, concept maps and collage as potential artful visualisation tools that could help us to juxtapose insights emerging in our narrative data analysis. We explored what artful analysis is within a qualitative research framework (Butler-Kisber et al., 2003), defining it as follows:

Artful analysis is a stance that a qualitative researcher appropriates in order to use alternative 'tools' such as found poetry, collage, dance, video, narrative, photography, and so on, to move beyond the more traditional, categorizing analytic approaches. It serves to open the 'reading' of the data to a peripheral vision, to a more embodied, intuitive and

vulnerable interpretation. These more porous readings can be used as either interim and/or final representational forms... (Butler-Kisber et al, 2003, p. 133).

Tiiu's story

As an interior designer and teacher who came to research through my own masters and doctoral work, I was intrigued by the use of artful methods in research as an analytic counterpart to the more traditional narrative methods commonly used (Ely et al, 1997; Clandinin & Connelly, 2000). I decided to try out some of these methods, including poetic representation, collage and visual concept mapping (Maxwell, source unknown). In particular, I was interested in the ways that narrative could be interfaced with visual as a means of articulating issues, using the visual methods as intuitive and creative catalysts for the narrative inquiry. For example, Ely et al., (1997) describe a process by which artists collaborate, and their conversation creates a creative tension, referring to Glenn Zorpette, who interviewed visual artists and their collaborative work: '...pairs of visual artists...our best ideas are born from talking...Then the creative spark comes' (p. 308). I thought about how students in design classes talk to one another, talk to the teacher, do research and then use concept maps such as bubble diagrams to express non-visual thoughts and ideas, as they move towards artful visual expression of their designs. I also considered how art allows for the expression of unspeakable things, whether through collage or dance. For example, collage can be used as a means to explore an emerging theme in research when juxtaposed with narrative tools such as reflective memorandums, journal entries written to the self during the data collection process (Davis & Butler-Kisber, 1999; Markus in Butler Kisber et al., 2003; Vaikla-Poldma, 2003).

I decided to see if this might work in data analysis as well. I had begun the study with narrative methods such as reflective journal writing, analysing the events unfolding reflectively (Clandinin & Connelly, 2000), as I was recording them and transcribing the data. I appreciated quickly that this alone did not get at heart of the issues. I was growing frustrated realising that I needed to delve deeper into the underlying issues somehow. I decided to sketch out the issues using design concept visual mapping techniques to tease out the narrative analysis that I was engaged in. Juxtaposing these visual maps against the written words was helpful, as they moved the narrative into more conceptual meanings when drawn in visual form.

The process from the point of view of Mary

During the summer of 2002, while Tiiu was working on her study, she was losing the meaning of her analysis. She had been using concept maps as a means to juxtapose her reflective memos and poetic re-transcriptions (Ely et al., 1997; Butler-Kisber et al., 2003), and was having trouble seeing the emerging issues clearly. She decided to get an outside opinion, and met with Mary.

Mary and Tiiu looked at the data, sitting side by side, much like the teacher and design student as the design student sketches an idea. While Mary looked at the data, Tiiu explained the process and both began to sketch small concept maps. Through this immediate experience, an interface emerged between the narrative text of the analysis and the emergent visual concept map (see Figure 1). Insights emerged about what data were analysed, what was missing, and how Tiiu could go about completing her analysis by substantiating her claims, an essential ingredient of qualitative research (Anfara et al., 2002).

Mary's story

Tiiu and I both feel the day she spent at my home in July was an 'eureka' experience on two levels. First, she came to a much deeper and clearer understanding of her own data by sharing her emerging ideas in the way she has already described. Although we were both doctoral students at the time, I was able to offer a number of concrete suggestions because, at that point, I was farther along in the process. In addition to this, however, the power of talking 'through' the generation of a concept map became evident to me for the first time. As a seasoned classroom and physical education teacher I was already cognisant of, and appreciated, the advantages of working and thinking through various genres to come to know things in different ways (Gardner, 1982). However, it was only as we tried to untangle and make sense of rather complicated bits of Tiiu's data that I first fully appreciated the powerful way one could use language and the visual experience concurrently to break through what we had been unable to do using either language or visuals alone. Without even being consciously aware of what we were doing until later when we reflected on the experience, Tiiu and I seemed to gravitate to this hybrid medium because it allowed us to share our thinking and move forward so effectively. In many ways we were like children who speak different languages but are so intent on playing together that they 'invent' ways to communicate almost effortlessly. The new space I occupied that morning helped me appreciate Tiiu's perspective as an artist and educator in a way I had not done so before, and powerfully convinced me of the need to remain open to using language and visual tools interchangeably and fluidly as particular challenges present themselves.

Discussion

How the insight emerges through the use of concept mapping and collage

As demonstrated in Tiiu's doctoral study, this process became an immediate artistic means to engage in analysis, as she describes how both researchers:

...simultaneously sketch some concept and relational diagrams. Not only...making meaning in the method ...(but) also seeing the data differently. ...Mary identifies how

we made sense of the data, shoulder to shoulder, both of us drawing and learning from our own sketches and from each other. We create meaning through conceptual conversational meaning-making, and this occurs while talk and draw (Vaikla-Poldma, 2003, pp. 177–178).

If we consider that learning in part is constructed in the conversations that we have with fellow students and teachers, then the interface of conversations with written words or images is fundamental to help transform into expression actions and experiences. Visual forms of expression such as visual mapping and collage help move the emergent insights forward in both research and design thinking, by offering a new and different perspective from the written word.



Figure 1: Concept map generated with Mary.

Considering collage

We began by using concept mapping quite spontaneously to express the thoughts and discussions that we had together. We have since moved towards collage as an alternative means to explore thoughts held in narrative that might be difficult to express. For example, currently we are exploring our individual research journey with a collaborative group of researchers. We have explored concept mapping, and are currently exploring collage as an artful form of analysis, juxtaposed against our narrative accounts of our individual and collaborative research work. We

show an example of a collage that Tiiu created in Figure 2. As a group we discuss ideas about artful research collectively, and then we use our individual voices to situate our understanding of our current role in the research process in our collective research group, through the use of collage. This particular example of collage is an individual piece of work that forms part of a larger group of collages that the group has generated over a period of two years. We are in the process of examining the collages in order to understand our individual roles within our collective research group as we explore collage as an analytic method.



Figure 2: Tiiu's idea about her individual research journey, as part of a collective group of researchers.

These artful methods allow for the creative idea generation and for a placement of the visual within more formal forms of narrative analysis. For art and design research students, this phenomenon allows for the creation of new insights using art either as the starting point for creative thought generation or as the means by which new meanings in the research can be uncovered. Artful methods of analysis may also be used to substantiate emerging issues that when seen from a new perspective. This helps to contextualise those issues uncovered while adding rigour to the research process (Butler-Kisber et al., 2003; Vaikla-Poldma, 2003).

Conclusion

Concept maps and collage are two artful analytic methods that can be used as a means to visualise the narrative conceptually. The visual and textual interface of these tools can both help students to generate visual images to express verbal concepts, and to formulate ways to write about the visual experiences that they may have in the classroom, or during the development of research ideas. It is the interface of the two that helps new insights to emerge, be it in the design studio or in design research, such as was done in the study explored herein.

Interior designers, who situate much of their professional lives using visual methodologies, can use these concepts as a means to engage in the development of design research questions. In the first stages of the design concept development, quite often bubble diagrams are used as visual exploratory methods for generating ideas prior to the developed design stage. In this sense concept maps are useful tools that help to situate narrative ideas in a visual format during the research process. Collage can be used as a method to express ideas about a concept, and give the designer who researches a visual outlet for expression of these ideas. In essence, both allow for an interface between the visual and the textual, thus enriching the design researcher's analytic process.

Design research is complex and demands both the visual as much as the narrative, and the subjective/intuitive as much as the quantitative. The techniques discussed herein offer a means for interior designers to engage in research in ways that use their skills and thinking. These methods also help the design researcher to triangulate the data and create a framework for emergent issues and ideas that is considered, transparent and trustworthy (Anfara et al., 2002; Butler et al., 2003). Insight and voice emerge through the phenomenon analysed both verbally and visually, and help design researchers to 'see' the data in a new way.

It is important for interior designers to document the activities of design research, design engagement and design thinking, as these occur in the design studio and in practice. By looking at possible tools that could be used to frame these types of research, this paper attempts to offer real and tangible techniques that are already known to the designer. These techniques require some knowledge of the visual arts, as is normally understood by the designer. Future explorations could include looking at the ways that students use the verbal and visual as complementary interfaces that lead to creative, well-formed design research solutions, and how artful forms of analysis in research become framed in the master thesis or the doctoral dissertation, as a means of providing validity to qualitative studies situated in design. This paper informs the process as an initial means to understand data in design research as a complex and layered exercise, and how visual methods such as collage and concept mapping are things that we as interior designers may find useful as research tools.

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