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Main Article:

The Power of Visual Approaches in Qualitative Inquiry: The Use of Collage Making and Concept Mapping in Experiential Research

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Abstract

The burgeoning interest in arts-informed research and the increasing variety of visual possibilities as a result of new technologies have paved the way for researchers to explore and use visual forms of inquiry. This article investigates how collage making and concept mapping are useful visual approaches that can inform qualitative research. They are experiential ways of doing/knowing that help to get at tacit aspects of both understanding and process and to make these more explicit to the researcher and more accessible to audiences. It outlines specific ways that each approach can be used with examples to illustrate how the approach informs the researcher's experience and that of the audience. The two approaches are compared and contrasted and issues that can arise in the work are discussed.

Keywords: collage; concept mapping; arts-informed inquiry; qualitative research

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1. Introduction

[I]t has become increasingly clear since the latter half of the 20th century that knowledge or understanding is not always reducible to language. . . . Thus not only does knowledge come in different forms, the forms of its creation differ. The idea of ineffable knowledge is not an oxymoron. (Eisner, 2008, p. 5)

This article investigates how collage making and concept mapping are useful visual, interpretive tools that inform experiential research approaches. It helps to demonstrate how experiential ways of knowing and understanding, or research approaches that involve a tangible way of doing, such as arts-informed inquiry, are a means of making tacit ideas explicit and make new insights possible for both the researcher and the research audience. “The key to learning is linking practice to the critical analysis that transforms experience into knowledge” (Friedman, 1997, p. 18).

The burgeoning interest in arts-informed research and the increasing variety of visual possibilities as a result of new technologies have paved the way for researchers to explore and use visual approaches in qualitative research. These new, arts-informed modes of inquiry mediate different kinds of understandings grounded in direct experiences (Butler-Kisber, 2002; Vaikla-Poldma, 2003), expand the possibilities of diverse realities (Butler-Kisber, 2007), counter the hegemonic and linear thinking often associated with traditional research (Butler-Kisber, 2008), increase voice and reflexivity in the research process (Vaikla-Poldma, 2003), and create more embodied and accessible research results (Eisner, 1991; Richardson, 1995).

Qualitative research approaches, more specifically visual modes of inquiry are predicated on a constructivist epistemology that posits that there are multiple realities and ways of doing and understanding (Creswell, 2003). These are co-constructed in human interactions and activities and are contextually dependent, eliciting “multiple participant meanings” (p. 6). Visual inquiry is used to yield insights and reconstruct data to understand phenomena (Rose, 2001). Visual inquiry approaches, such as collage making and concept mapping, are a means for formulating ideas and articulating relationships among these to help understand phenomena in their formative stages, work through emergent concepts, or to help represent them to others. Collage making and concept mapping, in particular, are useful ways for “listening visually” and getting into “liminal spaces” where “knowledge . . . never arrives . . . it is always on the brink” (Nielsen, 2002, p. 208).

2. About Collage

Collage, taken from the French verb, *coller* (to stick), is the process of using fragments of found images or materials and gluing them to a flat surface to portray phenomena. Collage is not new. Over 1,000 years ago Japanese artists used collage to enhance their poetry which was written in calligraphy. It was also used in folk art in the 1800s, such as in the paper mosaics created by Mary Delany (Hayden, 1980). Collage came into its own,

however, in the early twentieth century when the “fathers” of collage (Picasso and Braque) used it in their work to counter the representational demands of formalist art. In this work, they attempted to make art more accessible, and to use it to question political and social agendas of the times. Collage has continued to permeate the art world since then as a genre of art, and as the postmodern way of thinking, knowing, and communicating (Brockelman, 2001). With the growing interest in arts-informed approaches in research, collage, as a form of inquiry (Butler-Kisber, 2010), has been attracting interest in qualitative circles because it allows the researcher to work in a non-linear and intuitive way by arranging image fragments that reveal unconscious connections and new understandings (Davis, 2008a). In fact, “collage reflects the very way we experience the world with objects given meaning not from something within themselves, but rather through the way we perceive they stand in relationship to one another” (Robertson, 2002, p. 2). Furthermore, the basic skills of cutting and sticking are developed early in life and become part of everyone’s repertoire, so collage can be done by novices while acquiring more sophisticated aesthetic and compositional expertise.

3. Uses of Collage

Collage, created from a synthesis of shattered fragments, realized in an emergent, often randomized composition, arrives at meaning in a very different way--accidentally, capriciously, provocatively, tangentially. (Davis, 2008b, p. 250)

It has been described elsewhere how, to date, collage has been used in inquiry in three basic ways--as a reflective process, as a form of elicitation, and as a way of conceptualizing ideas (Butler-Kisber, 2008; 2010). As a reflective process, collage acts in much the same way that memoing does in qualitative inquiry. Memos serve the research process by providing a series of pauses in the work where the researcher writes in abbreviated form about thoughts, connections, and questions that are arising in the analysis (Miles & Huberman, 1994). Memos help to open up thinking to new possibilities and interpretations. Memos, however, maintain linear thinking. When using collage reflectively, the researcher focuses on a question, dilemma, or the like, and then selects pictures that metaphorically reflect aspects of this thinking. Then operating intuitively, she creates a collage producing a visual composition with the selected fragments. This collage process breaks away from the linearity of written thoughts by working first from feelings about something to the ideas they evoke, instead of the reverse. The resulting visual juxtapositions frequently reveal new connections and understandings that have previously remained tacit (Butler-Kisber, 2007, 2008; Davis & Butler-Kisber, 1999).

For example, Mary Stewart has explained how her collage (see Figure 1) helped her understand what was happening in the research group with which she was working:

This visual image of an outdoor dining room helped me to understand and articulate what I was learning about our research group in terms of the need to provide spaces for ideas to emerge and for synergy to build. I feared that

without more structure, we would lose sight of our goals or privilege some voices over others. (Butler-Kisber, 2007, pp. 272-273)

As a result of her collage work, Mary was able to understand differently the relationship between balancing her need for structure with the flexibility and openness needed for collaboration and creativity and to enjoy the work in which she was involved with the research group.



Figure 1. The Silent Light Dance by Mary Stewart--magazine fragments glued on cardstock (8.5 x 11 inches, used with permission).

In literary circles, free writing is used as a way of moving beyond the linear boundaries and logic of written text. It elicits and allows inner and unconscious thoughts to bubble to the surface. In fact some writers fold the page in half during a free writing sprint so as to disrupt even the physical boundaries that constrain the written word (Charlotte Hussey, personal communication, 2002). When collage is used as an elicitation approach to help the researcher articulate her writing, it acts in a similar way. Pamela Markus (2007) used this approach in her thesis, a self-study of her experience as an artist and art teacher. Once major themes had emerged from her field observations and journals, she created a collage to represent a particular theme. Then she used the resulting visual to bring forth the words subsequently used to elaborate and discuss her interpretations. The collage process elicited ideas that prior to this work remained elusive.

Collaging can also be helpful in conceptualizing a phenomenon by fleshing out different facets in order to get a nuanced understanding of it. A useful way of doing this is to create a series, or a cluster of collages (Butler-Kisber, 2010) about a phenomenon. "Artcards," or small-scale collages the size of hockey cards (2 x 2.5 inches) provide a helpful structure because their sheer size limits the number of fragments that can be used, hence the metaphorical content becomes quite focused. It is productive to work intuitively repeating in each collage how the phenomenon "feels" or what it "feels like" to experience something. It is important to work from the feeling to the idea and not the reverse. Once a cluster of three or four collages have been produced showing various visual portrayals of the phenomenon, the collages can be named based on the essence of what has emerged. Each collage then shows a facet of the phenomenon. Finally, the collages can be examined collectively based on content, color, shape, size, content, space, directionality, or any other compositional dimensions, to see if there are unintended commonalities that exist across the collages. When identified, these common aspects help

to push the analysis further and provide a deeper interpretation of the phenomenon in question.

For example it has been described elsewhere (Butler-Kisber, 2008) how a cluster of four collages focusing on what it felt like to work collaboratively in a research group revealed that it produced a sense of serenity, camaraderie, energy, and challenge. However, it was the commonalities that existed across what appeared to be four very different collages that “identified the recurring shades of red and the repeated use of spheres . . . [and as a result] . . . in each collage there is a suggestion of a vortex that threatens to submerge the lips, swallow the birds, and erase the tree” (Butler-Kisber, 2008, p. 271). These common dimensions revealed that a tension existed in this collaborative group work, and provided a deeper understanding of what was transpiring. On the one hand, the group provided support as well as intellectual and emotional nourishment, while on the other it threatened the retention of individuality and voice.

4. Issues in Collage Inquiry

Collage work is always an engaging process. Whenever it is introduced to a group of researchers, they become totally engrossed and inspired by the work (Butler-Kisber, Davis, & Stewart, 2007). Inevitably new insights emerge about the research in question, or about the researcher herself. As mentioned earlier, making a collage is not daunting because everyone, whether a novice or veteran, can cut and paste and ultimately gets a sense of satisfaction with the product. It is always delightful to see how researchers who never consider they had artistic talent are able to gain confidence using this visual medium, and how some have gone on to produce wonderful instances of collage inquiry (Promislow, 2005). It remains an issue, however, in collage and other arts-informed inquiry, about who should actually undertake collage work in research. A polarized version of this issue is that on the one hand, anyone who wishes should use collage, and a somewhat elitist view on the other, that collage should be restricted to those researchers who have acquired the necessary artistic skills. The middle ground is that researchers wishing to use collage in formal and public products need to develop the necessary skills to produce technically sound work and develop aesthetic sensitivities so that the gains that have been made in arts-informed inquiry in the last decade are not lost by the proliferation of poor-quality work. This still provides lots of leeway for using collage as part of the analytic process to reap the kinds of understandings that result from this approach to inquiry that might not emerge otherwise. It suggests, however, that more of an emphasis has to be made on support systems in graduate programs for developing both an awareness of the potential of collage inquiry, and developing the necessary artistic skills and aesthetic sensibilities. This does not suggest that the emergent and messy thinking that results from collaging and provides interesting insights should be eliminated. These collages can be used throughout the research process and can be helpful in making the research process transparent. It just suggests that the final representational forms need to be able to stand up to artistic/aesthetic scrutiny.

The second issue that is closely related to the first is how arts-informed inquiry and more specifically collage work, can and should be evaluated. This conversation has been

growing but the jury is still out, and in the conversations that have transpired, most have focused on arts-informed literary/written work rather than visual texts. Space does not permit a summary of what has emerged, but Bamford (2005) has offered some interesting insights on the evaluation of digital theses that holds promise for ways of assessing collage inquiry and other visual forms of research. Cole and Kowles (2008) also suggest some interesting criteria for examining modes of visual inquiry. What is clear is that this conversation merits broader involvement and extended discussion that will encourage and not penalize work that is worthy.

Finally, there is yet insufficient guidance on the copyright issues around using found images from popular magazines in collage inquiry (Butler-Kisber, 2007, 2008, 2010). Discussion ranges from total tolerance for appropriation, to fair use of a small percentage of an image, to no use without legal permission which inevitably requires some form of purchase. The solution is of course, to avoid using found images, or to use public images not constricted by copyright, but this has implications for both the researchers and the types of collages that can then be produced. As the interest in collage inquiry increases, as it is bound to, more discussion and guidelines/solutions are needed.

5. About Concept Mapping

Concept mapping is a diagrammatic and visual means of expressing ideas held in the mind. Concept maps are created using hand-drawn sketches or virtual tools in a non-linear and visual format by drawing on paper to show the thinking as it emerges, or to represent ideas in their embryonic stage. Concept mapping was first developed in the early 1970s at Cornell University, USA when psychologists were exploring ways to illustrate children's changing conceptual understandings of science. Concept maps permit the viewer to understand complex phenomena at a glance in order to make new connections, build new knowledge, and/or analyze difficult topics (Blanchet-Cohen, Ragan, & Amsden, 2003). Concept maps are a means to document emergent phenomena visually in ways that words or other visual forms are incapable of doing. In different design disciplines such as architecture, or industrial or interior design, for example, concept mapping is used to document the inter-relationships of aspects of a design in its earliest stages, or as a brainstorming method of documenting ideas (Hanks & Parry, 1991).

Concept mapping is an interesting strategy to use in qualitative research because it allows the researcher to make sense and keep track of data interpretations as they first begin to emerge. It is particularly useful for documenting the relational aspects of initial data interpretations. Whether done as rough, hand-drawn maps of initial ideas (Margulies, 2002; Vaikla-Poldma, 2003) or as schematic diagrams that map out emergent thinking in the research, concept maps help to formulate analytic ideas as they are being conceptualized (Maxwell, 1996).

6. Uses of Concept Mapping

Concept mapping is used extensively in the visual arts in formulating initial ideas, in advertising and innovation thinking, and in personal visualizing techniques (Margulies, 2002; Poldma, 2009). For example, concept maps are used in various design disciplines as a representative form of visual thinking, as a catalyst for brainstorming design ideas or developmental ideas for projects, for documenting processes of design as they are worked through, and for retaining ideas that can be referred to later on in the design process (Poldma, 2009). Yet despite the knowledge that concept mapping is particularly suitable for qualitative work because it retains context, supports qualitative underpinnings, helps reduce data, and can be revisited easily, it has received little attention (Daley, 2004). With the increased interest in reflective practices in qualitative research and in giving meaning to voice in research texts, concept mapping can be used as a way of conceptualizing emergent ideas before they take form by giving a visual sense to messy thoughts held in the mind during the analytic process, and by helping researchers to represent visually ideas that emerge from the data being analyzed. As with collage, the mapping process can give way to a visual restructuring of ideas with text being reduced to a series of small words or phrases that are encircled, and then prioritized and linked through a series of symbols and drawn shapes.

In the following example, Sylvain Bertin (2008) developed his M.A. work on the complexity of lighting the urban environment. His study focused on both the processes involved in the work and how the different stakeholders were involved in conceptualizing lighting the urban environment. He conducted interviews in an attempt to understand the underlying meanings in what he believed was a complex inter-relationship between the theories and practices of conceptualizing the practical and aesthetic dimensions of lighting an urban environment. In a series of concept maps, he tried to understand both his research process, and how his own “reflection-in-action” (Schön, 1987) affected what he saw and as this is shown in Figures 2, 3, and 4. First, Sylvain observed and collected data, reflecting upon on the creation process of the lighting designer, the practices of other stakeholders, and the diverse factors involved in creating the lit urban environment. Through a series of concept maps he explored these relationships and the dynamics of the interplay between stakeholders, issues, and design complexities. He sketched some very rough thoughts in a series of concept maps such as the example of Figure 2, each becoming more refined as he reflected on these data, as in Figure 3.

Once the concepts were fleshed out, he created a final schematic concept map that synthesized visually the ideas both in terms of the research process and the conceptualization involved in solving the practical and aesthetic issues of lighting in an urban environment, and as shown in Figure 4. The final schematic map is not only a relational series of ideas, but it also shows the complexity of the inter-relationships that he uncovered. In this final concept map (Figure 4), the inter-relationships he was developing became more refined in the schematic diagram he created.

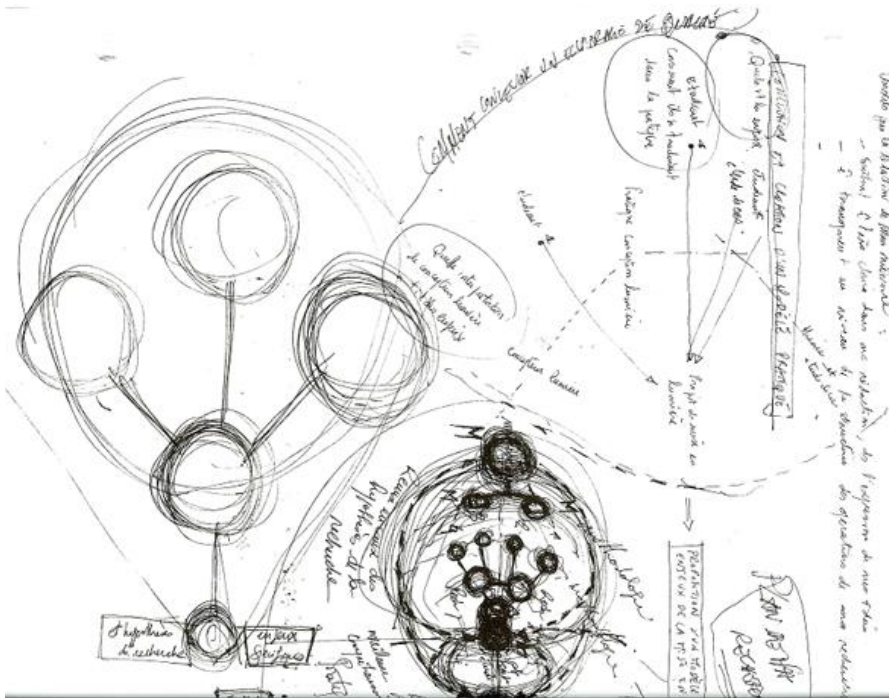


Figure 2. Initial hand-drawn concept map in black pen by Sylvain Bertin (2008, used with permission).

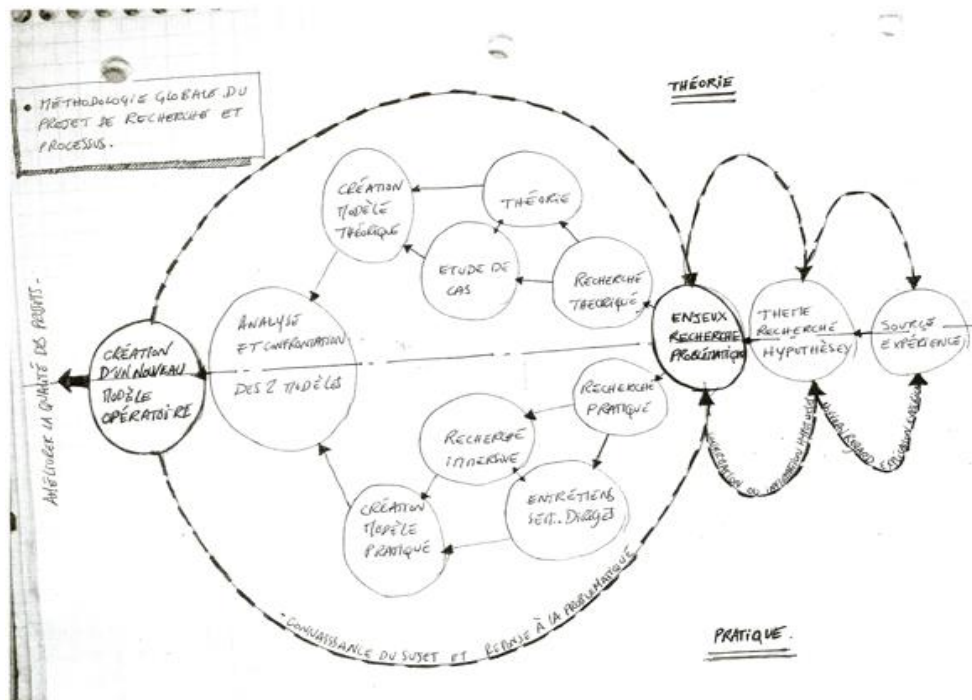


Figure 3. Refined hand-drawn concept map in black pen by Sylvain Bertin (2008, used with permission).

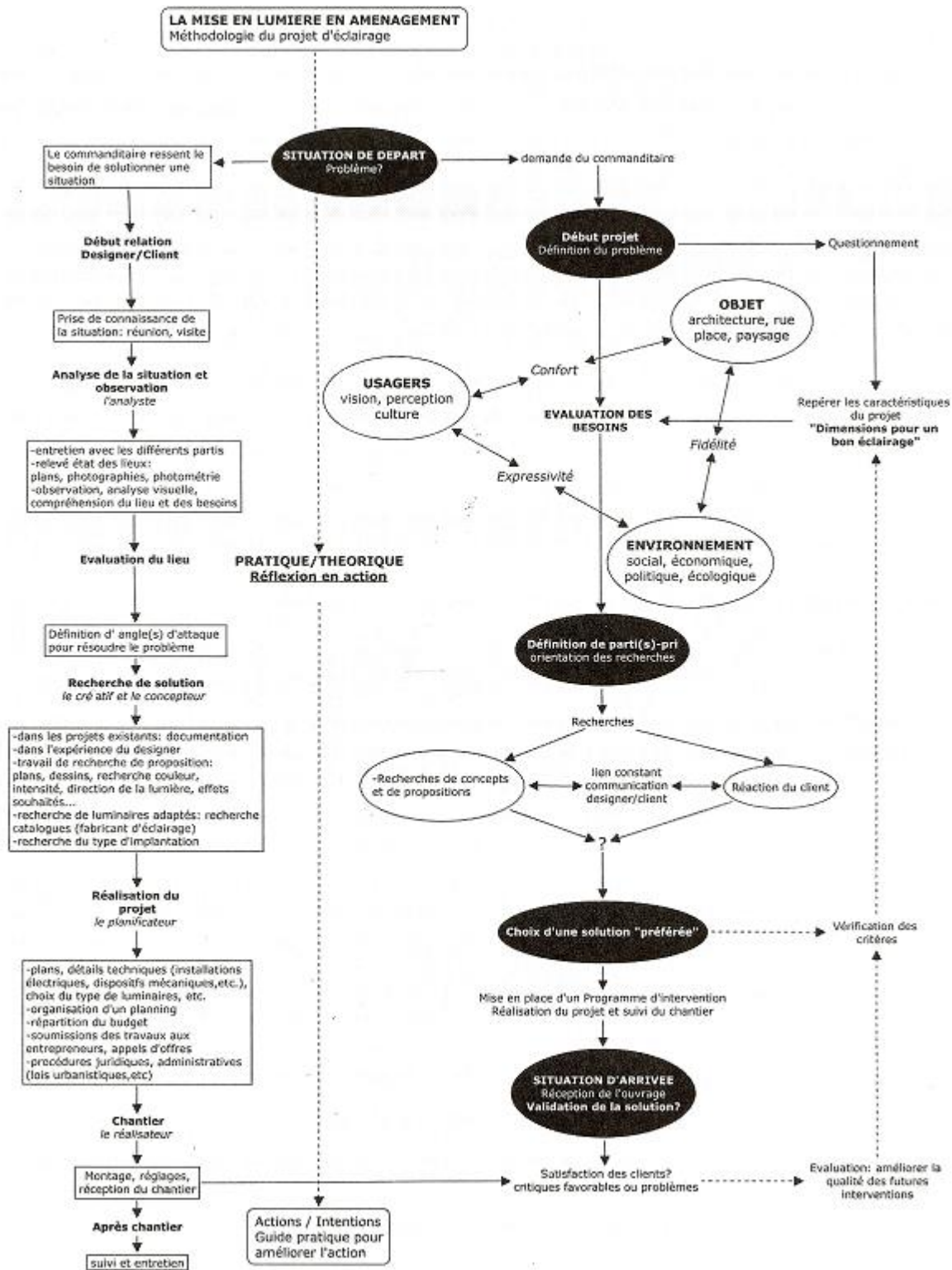


Figure 4. Final schematic concept map digitally configured by Sylvain Bertin (2008, used with permission).

An interesting aspect of concept mapping is that it allows the researcher to move from written analytic text to the visual and back again. During this analytic process, concepts and themes begin to emerge, all the while analyzing both the research texts and the visual content of the data simultaneously (Rose, 2001; Vaikla-Poldma, 2003). Concept mapping can help to synthesize ideas that are becoming evident in the analysis that are difficult to put into words alone. Quite often the design researcher is compelled to extract categories or concepts to make links in the data being analyzed (Miles & Huberman, 1994). It is at this point, when thoughts are racing as the emergent ideas and concepts are beginning to take shape but have not yet crystallized, that concept maps become very helpful. They allow the researcher to develop quick representations of the phenomena first by jotting down key words and phrases, and then by linking relational ideas as they emerge. This mapping process deepens the analysis and facilitates the development of propositional statements for a more conceptual understanding of the phenomena being studied (Vaikla-Poldma, 2003). The example in Figure 5 shows how a concept map takes shape during the coding process but before the salient themes and categories are reconstructed.

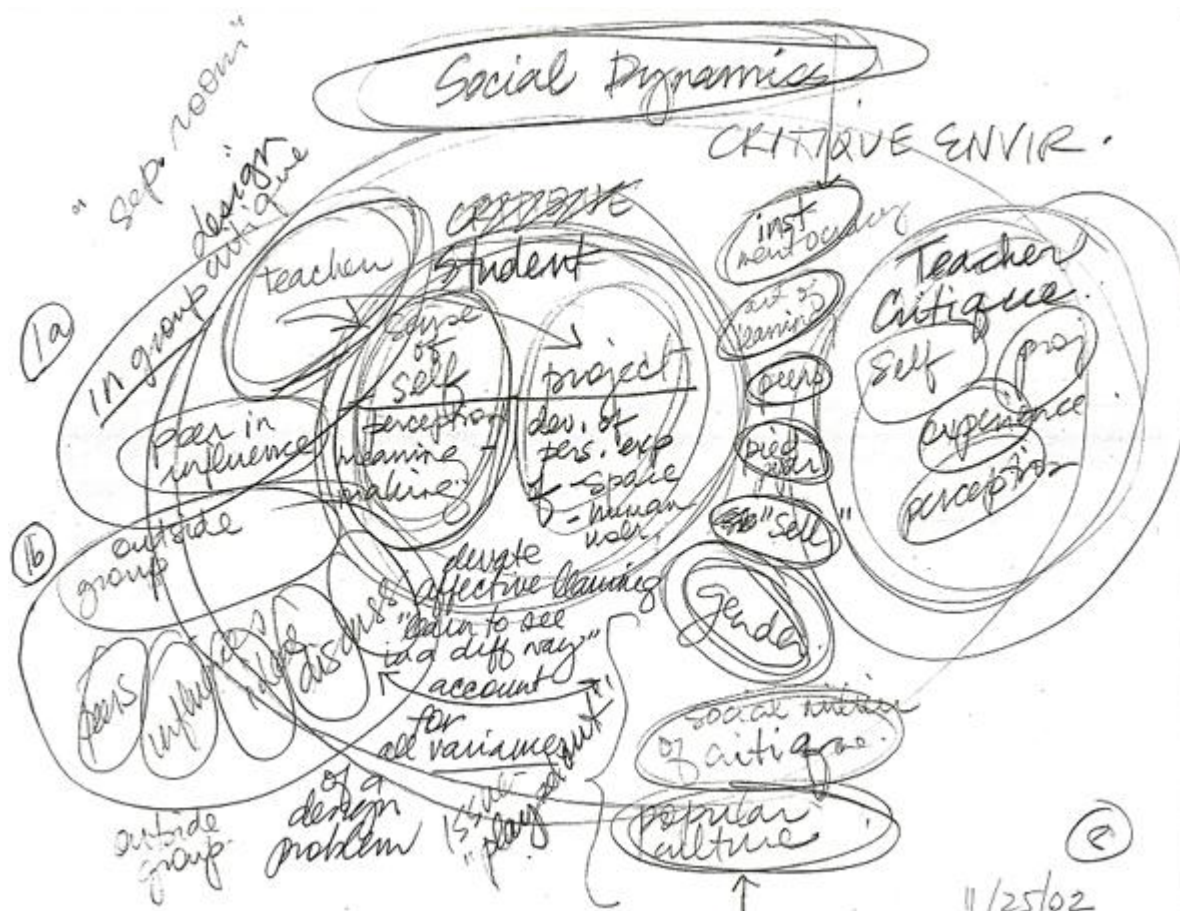


Figure 5. First conceptual sketch, hand-drawn pencil on paper by Tiiu Poldma (Vaikla-Poldma, 2003).

Figure 5 shows how rough initial thoughts and ideas are put down in a free-flowing series of key words. These types of initial maps remain quite rough. Later they can be tidied up

for a more formalized portrayal in graphic schematic representations. Figure 6 illustrates how a concept map evolves from an initial, rough form into a more refined schematic representation.

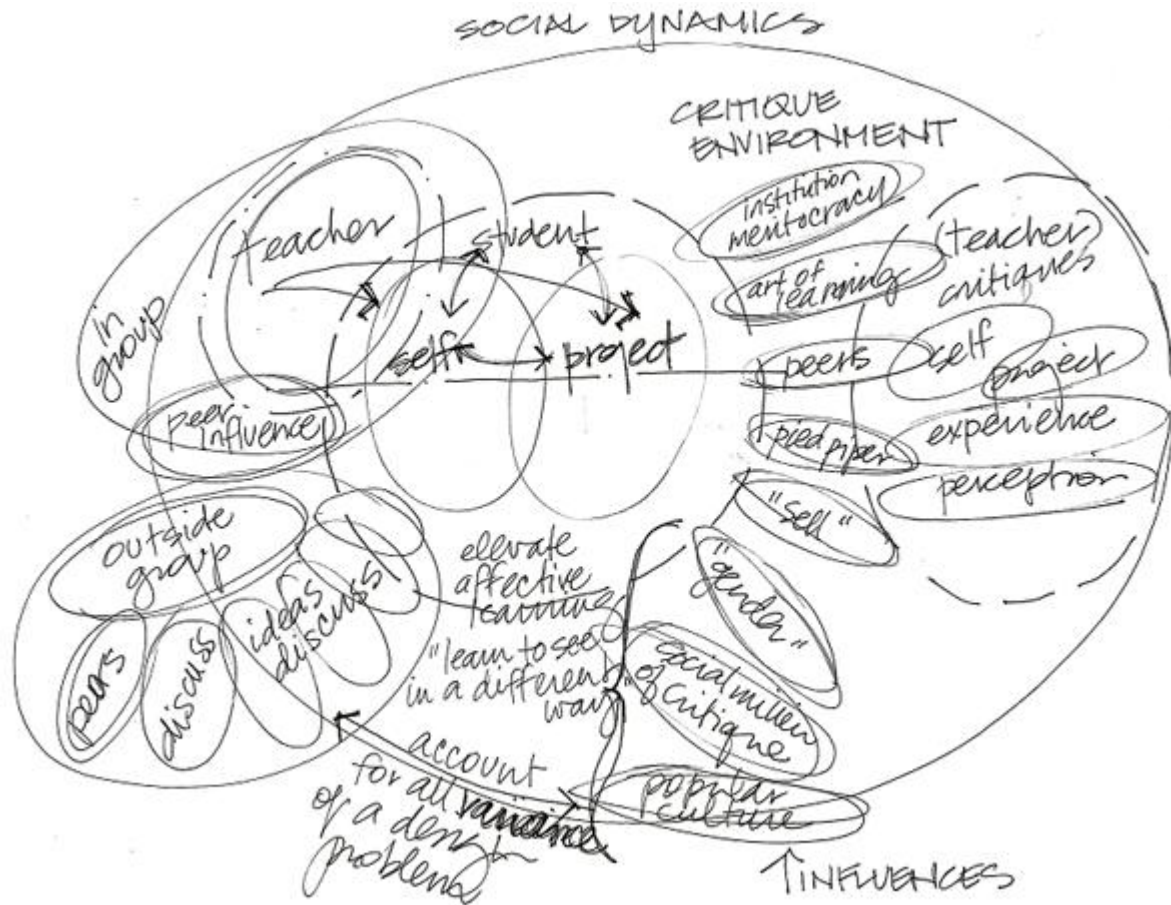


Figure 6. Refined version of ideas in sketch form, hand-drawn black felt pen by Tiiu Poldma (2003, personal archive of Tiiu Poldma, used with permission).

For example, in the Figure 5 concept map about one particular student's experience in a design course revealed how there were multiple influences acting on her understanding of the project the students were required to do. These included teacher, peer, and environmental factors. While redrawing and formalizing the sketch in Figure 6, the process revealed that at the core of these influences was the dynamic between the teacher and the student in the group critique session, suggesting that this student was struggling between her personal sense of self and her project, and the student-teacher interaction that occurred in front of her peers. This concept map was developed with input from several other students. Each helped the researcher to clarify these evolving ideas, enabling a return to the textual analysis and writing with new understandings.

The concept maps illustrated here are only one example of what is possible. Concept maps can and have been developed using many different styles, layouts, and approaches.

Current digital technology offers many interesting possibilities for pushing the stylistic boundaries further, and/or for portraying sophisticated and aesthetically pleasing representations. However, whether hand-to-paper approaches are used, or the finest digital technology, the process and result are still the same. Concept maps allow the researcher to step outside the constraints of linear thinking and to engage in, and encourage the messy and nonlinear work of, the brain, and in so doing, tease out ideas and connections in the data that might otherwise remain implicit. It is when these implicit thoughts become apparent that the analysis can be pushed to a deeper level.

7. Issues in Concept Mapping

The intuitive and experiential nature of the concept mapping process makes it extremely attractive for design researchers, because the process of visualization comes quite naturally to them and they often use visualization processes to enhance their textual analyses. First, when multiple researchers are exploring issues within a project, the concept map can be done simultaneously during a discussion to situate the explorations, as in a brainstorming session. Second, during the conversations between researchers, when one researcher is explaining a process to another, concept maps become a form of visual dialogue wherein the map outlines quickly the representation of the bulk of data analysis by synthesizing the concepts into a concise series of words and images (Poldma & Stewart, 2004). Third, the tensions and issues that arise in emergent research can be documented quickly and helpfully while simultaneously working through research texts.

However, challenges do exist. One issue is how best to integrate concept mapping into the research process systematically. Concept maps work when they are read alongside textual analysis as a juxtaposition of the verbal and the visual together, and as a means of reconstructing ideas in a relational manner (Poldma, 2006). They are not independent forms of analyses. Second, the skills required involve the creation of the sketches and the ability to use visual graphic tools to refine the work. And while these are fairly easy to learn, for some they do not come easily (Margulies, 2002).

A third issue is how refined concept maps should become once they have been created. Because the maps are created in the messy phases of the research process, further development of the map changes its original intention as a messy document representing the ongoing thinking and helping to make it transparent. As each version of a concept map becomes more refined and rational, there is a “smoothing out” which results from the ongoing refinement of the original map. The final version may be more aesthetically pleasing, but it may also change the meanings that were first formulated and the researcher needs to be aware of this change.

8. Comparing Collage and Concept Mapping as Inquiry Processes

As themes and research concepts emerge, both collage and concept mapping are visual approaches that can be used to construct initial ideas, concepts, or early thoughts about a phenomenon. Both approaches are forms of visual representation that help to portray the essence of emerging concepts. These tools are often used in the early brainstorming

stages of research, and can be used as a way of thinking reflectively about data, or as a way to elicit unconscious thoughts about the research and/or to make connections among the data. They can also be used as a way of representing what finally emerges in the research.

Where collage and concept mapping differ from one another, or from more traditional analytic forms of inquiry, is in how they are used and how they help the researcher construct meaning. Analyzing and interpreting data means sifting through research texts and unearthing meanings held within data about what participants are saying about a phenomenon, or how they express what they do in practice. Collage represents ideas by creating links between fragments that represent emergent feelings first and then ideas. These fragments are reconstructed to represent feelings that when viewed can suggest new meanings, or a whole new take on a phenomenon because of the artful way the pieces are put together and portrayed.

Concept mapping, on the other hand, rebuilds rational, analytic ideas into a new visual form. Analysing and interpreting data means sifting through research texts and as interpretations of the text emerge, documenting these in a series of visual, relational concepts. Concept mapping allows the researcher to step away for the moment from the textual analysis, and visually document the relations between the interpretations of voices or relational concepts emerging, and to develop diagrams, matrices, or groupings of ideas that demonstrate the links among these concepts. The resulting schematic provides a means to express the relational aspects of the emergent progression of messy thoughts, transferring the written word to the visual word and conceptual idea. When the diagrams are developed, the researcher then can return to the writing and use the diagrams to organize the concepts that have surfaced. Table 1 summarizes the similarities and differences between collage and concept map.

Table 1. *Similarities and Differences: Collage and Concept Map*

Collage	Concept Map
Visual form of inquiry	Visual form of inquiry
Analytic or representational form	Analytic or representational form
Nonlinear process	Nonlinear process
Reveals implicit/unconscious understanding	Reveals implicit/unconscious understanding
Moves from feelings to ideas/words	Moves from ideas/words to relational dimensions
Juxtaposes image fragments to create meaning	Frees ideas/words from texts to see connections and new understandings using visual graphic tools
Evokes intellectual and affective responses	Permits graphic, holistic understanding/ generates intellectual response
Creates ambiguity offering alternative insights	Reduces ambiguity; increases search for new meanings

9. Conclusion

The examples of collages and concept maps described earlier demonstrate how emergent experiences can be portrayed through both these experiential, visual approaches. They provide a place for the researcher to document and record ideas, concepts, and meanings gleaned during the making process itself. This direct experience helps the researcher to construct the meanings in the data and make links needed to synthesize thoughts and push the analysis further. In each case, new insights emerge through these visual processes. Collage hones research through an intuitive-rational process, while concept mapping shapes the work through a rational-relational process, and each one contributes to new insights and understandings of research data. We believe these two approaches to inquiry merit further attention, development, and use.

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