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### Visual mapping and meaning-creation: Making research visual for design-based thinkers

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#### Abstract

In exploring the significance of metropolitan open space systems in building meaningful city brands, the researcher utilised Visual Narrative Inquiry to explore the opinions, perceptions and lived experiences of Durban residents and its' metropolitan open space system. As a design-based practitioner, the researcher grappled with finding suitable 'meaning-making' methodologies that would answer to both the academic rigour required of a master's dissertation as well as their own needs to visually make sense of the ideas, theories, models, and metrics. This autoethnographic study is a critical reflection on the research and meaning-making process of a design-based thinker, utilising visual mapping. Visual mapping helped the researcher to gain a deeper understanding of their problem and ultimately answer the research questions, embracing a meaning-making process that appeared to be logical, adopting and trialling various methods. Throughout the master's process, the researcher utilised visual methodologies to make sense of their thinking, analysis and planning and utilised the same to share their thinking with their supervisor and mentors. Through the visual mapping process, the researcher was able to make sense of and articulate the connection between the literature, methodology, research, thematic analysis, and findings and through the visual mapping process, was able to further identify existing, potential, and implied connections exploring the topic at a deeper level. Through visual mapping, the researcher was able to create an integrated approach to visualising and analysing the scholarly research. The contribution of this study is to recognise the significance of, and to encourage the use of familiar tools and methods, such as visual mapping for design-based thinkers, practitioners, researchers, and their supervisors in postgraduate research studies. Design-based thinkers often require visuals to explain their thought process while utilising visuals to work through their thinking. This autoethnographic study critically reflects on the research and creative meaning-making process as a design-based thinker and the methodologies explored, while reviewing the various artefacts from the dissertation. The paper concludes by sharing the key insights and significance of supervising design-based thinkers, arguing that familiar tools and methods and a tactile process such as visual mapping enable a deeper and more meaningful sense-making and meaning creation process for design-based practitioners.

**Keywords:** Autoethnography, design-based thinkers, making research visual, visual methodology, visual research methodologies, visual mapping.

## Introduction

This paper is based on the narrative nature of an autoethnography and guidelines provided by Denzin (2014). The story creates a form of tension with events unfolding, an epiphany and reveal, and ultimately the conclusive point that gives meaning to the narrative, providing insight worth sharing within a community of practice. Adams and Herrmann (2020, p. 2) explain that autoethnographic projects use selfhood, subjectivity, and personal experience (“auto”) to describe, interpret, and represent (“graphy”) beliefs, practices, and identities of a group or culture (“ethno”). This paper presents the narrative of how the researcher, as a design-based thinker (the auto), critically reflected on his own research journey, situated within the context of supervisors facilitating design-based students and their sense-making and meaning-making process. The researcher explored the use of familiar tools and visual mapping that formed part of the research process, with observations and reflections shared between his supervisor and postgraduate students (the ethno). The artefacts and actions captured and reflected on through journaling formed part of the data collection and analysis, with the findings presented here as a reflexive narrative (the graphy).

This narrative weaves the theoretical frameworks into the experiences shared (ed. Boylorn & Orbe 2016, p. 20), while also “formulating a theory or general explanation about the researcher’s experience”, with this “theory” serving as an explanation of “how and why something happened” (Pace 2012, p. 7).

Adams and Herrmann (2020, p. 2) elaborate that the researcher’s experience is “used intentionally to illuminate and interrogate” and that the essence of an autoethnographic study “assumes that personal experience is infused with social norms and expectations” and that such a study engages in “rigorous self-reflection – often referred to as “reflexivity”. This paper invites fellow researchers and supervisors to reflect on their own experience and social norms and to consider the possibilities, especially within a design-based community of practice. As Ellis and Bocher (2016, p. 10) state that:

[Autoethnographic] stories welcome readers into these experiences, encourage us to compare and interrogate our own perceptions, and reveal the challenges and opportunities we face in negotiating our worldviews with the understandings of others in our communities.

Although this paper is co-authored, the researcher is firmly positioned within the narrative as the narrator and main character (Anderson & Glass-Coffin 2016, pp. 57-83; Denzin 2014, p. 4). Cohen et al. (2018, p. 297) echo this approach by explaining that: “an autoethnography places the self – the researcher – at the centre of research about himself/herself in a social context”. For this paper, the researcher is positioned in the first person.

## The photograph: A 'novel' moment

This paper focuses on my experience with visual mapping for my master’s study and subsequent experience in teaching postgraduate design-based students at a brand-focused private higher education institution. Placing oneself in a study involves grappling with personal emotions, beliefs, actions, biases, and failures, in relation to others (Adams et al. 2015, pp. 8-11; Ellis 2004) while it also provides an opportunity to share insights, experiences, and acquire knowledge on a particular topic. Ellis (2004) explains that autoethnography is a symbiotic and relational process of looking both outside in and inside out. Ellis (2004) elaborates on this by stating that the researcher’s personal experience and introspection is a process of looking more deeply into the interaction or relation with others, sharing insights because of this engagement.

A particular moment was the starting point of this inquiry; where I became curious about why I used (and felt the need to use) visual mapping, experiencing an inner tension when faced with the conventional methods and tools used as part of the research process. Working with students as a supervisor, I noticed similar frustrations and limitations.

In preparation for a colloquium in July 2019, I wondered why I had not opted for a conventional presentation instead of carrying a large rolled-up sheet. I nervously observed the other students using PowerPoint presentations. When it was my turn, I retrieved my large roll of paper, walked to the front and as I began speaking, I unfurled my visual map – brown card larger than A0. The map depicted my progress, questions, objectives, and how I planned to address them. It consisted of drawings, quotes, literature excerpts, photos, and connections. Creating the map was a process that involved thinking, exploring connections, and analysing research – it was an attempt to visually express my academic thinking. As I presented, the head of academics suddenly stood up, and with excitement took a photo of me. I noticed the entire audience leaning in with interest.



**Figure 1: Presenting unconventionally (Simpson 2022)**

This was an incredible moment for me, as I realised how significant and unique my approach had been in that context. Although it felt natural to present progress like this – it was applauded as novel. I was overcome with a quiet confidence from the experience.

Much later I would read Kelley and Kelley (2015, p. 229), inspiring creative confidence by suggesting that “when others bring a stack of PowerPoint slides, try using a single image and telling a compelling story”. Margulies (2002) and Root-Bernstein et al. (2022) argue that understanding requires both our personal intuition and the ability to symbolically demonstrate knowledge.

This moment, left me with a sense of curiosity; what exactly made that a novel and significant moment? I realised that there were two critical factors why I opted to present using my visual map; my background as an architectural student and my supervisor’s strong influence through her coaching style.

## The architecture student: A design-based thinker

Although a qualified architect, I teach design at a brand-focused institution. On my first day at university, we had to produce a concept design and present it on a large sheet of paper. Working on such a large scale was new to me and left me excited. Working through the night, I proudly displayed my work only to have a lecturer scribble all over it with a thick red marker. Never again would I mistake

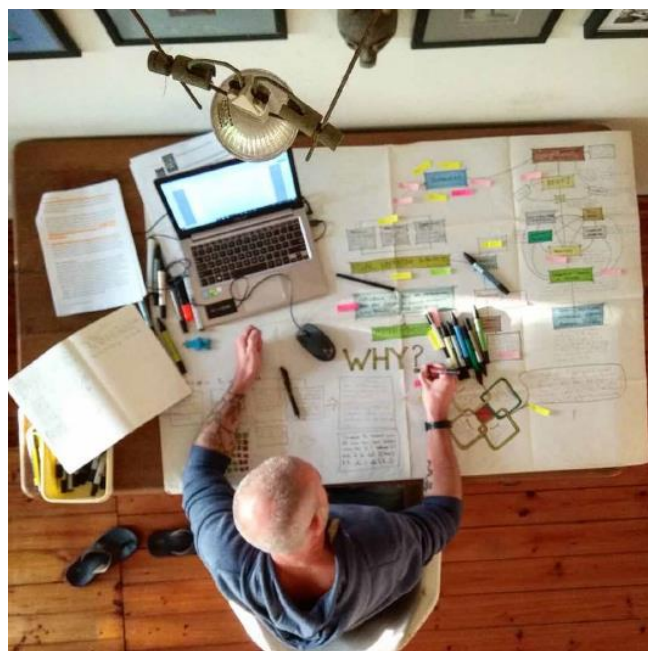
the idea of a concept design for a final one. I learnt to have fun in the creation, to push boundaries, explore ideas and to play during the process. Skaggs and Twede (2023) echo that incorporating play into work stimulates creativity, which in turn helps develop the ability to discover, explore, experiment, and learn.

Reflecting now – I realise how influential these moments were on my master’s journey. As a student, I had to communicate ideas and thinking visually, through drawing and discussion, on large sheets of paper. We learnt by doing, showing, discussing, breaking down and redoing. I still have scars from cutting materials and recall the feel of my drawing pens, the smell of the glue, the sense of pride and achievement after each step. These memories somewhat mirror my master’s process. I even used the same type of paper and markers almost thirty years later.

Root-Bernstein et al. (2022, p. 3) assert that thinking includes engagement with all of the senses, “sights, sounds, smells, and so forth, abstracting out essential information, recognising and forming patterns, empathising with both animate beings and inanimate objects, as well as body thinking with muscle tensions and emotions”.

As a design-based practitioner and educator, I grappled with finding suitable ‘meaning-making’ methodologies that would answer to both the academic rigour required as well as my need to visually make sense of the ideas, theories, models, and metrics. As an educator, I resonated with Gormley and McDermott (2015), arguing that visuals help communicate thinking, understanding, interpretation and comprehension of ideas, yet felt conflicted in the conventional product of a dissertation relying on text-based evidence – which, as a supervisor, I was now supposed to be encouraging my honours students to do. Nuzzaci (2019) argues that despite the prevailing visual nature of contemporary society, education continues to prioritise written communication over other forms of expression. Textual evidence in academics generally does not demonstrate a connection to personal responses and connections to the researcher (Gormley & McDermott 2015).

I realised that the first problem I encountered was linking my area of interest, spaces, and places, to brand. Although I extensively wrote and researched, I could not make those connections work.



**Figure 2: Big thinking needs space (Simpson 2022)**

Although my process is not unique, my study was described as novel, connecting my undergraduate architecture degree to the world of brand building in which I now situate myself.

## The supervisor with more questions than answers: Noticing the need

At the start of my master's, my supervisor asked a pivotal question: "So why don't you bring your love for architecture into the world of brand building?". I blushed; she had triggered something. An emotive and visceral reaction that sparked my interest. I began creating mind maps of my thinking and interests from that time. Journal entries from our supervision sessions took the form of questions. 'Why does this matter?', 'What does this tell you?', 'What makes you feel this way?'. She asked questions in a way that helped me to (re)frame my thinking, providing direction without direct answers.

My supervisor observed my way of working and noticed that I needed to express my thinking on paper. She recognised that working in a linear fashion was not going to work for me, and to deliver effectively I would need to make sense of my thinking visually. Santiago (2011, p. 130) explains that a student's "awareness of their own thinking process" is paramount and that visual mapping engages both left and right brain abilities and helps encourage critical thinking by allowing the student to "explore, analyse, synthesise, and share ideas", which ties to the constructivist learning approach where interactions allow for opportunities that give learners the ability to build knowledge through reflective interpretation of activities (Cholewinski 2009). Nuzzaci (2019) asserts that the core of visual thinking lies at the junction of creativity and critical thinking. Creativity encompasses the exploration of patterns, shapes, textures, and colours through visual methods, while critical thinking involves analysing clues, considering alternatives, and exploring diverse possibilities.

Through mapping my thoughts, I was able to connect ideas and think more holistically. Ligita et al. (2022) argue that mapping tools help qualitative researchers to visualise and represent complex thinking and assist in finding insights through the analysis phase by organising and constructing knowledge from the data. "Critical thinking and visual thinking combine in linking materials, previously learned personal experiences, and new experiences" (Nuzzaci 2019, p. 244), while Lupton (2014) argues that design is a process where instinct and intent blend.

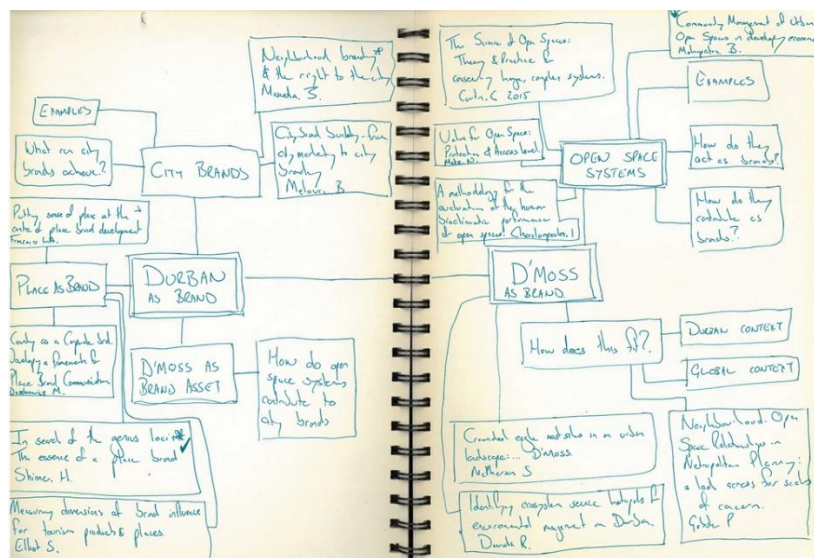


Figure 3: First 'map' from my master's study (Simpson 2022)

Lupton (2014, p. 22) describes mapping as allowing “designers to quickly explore the scope of a given problem, topic, or subject area”, while Divya and Smitha (2020, p. 834) describe mapping as a tool to aid in comprehension, which enables one to “visualise the structure of knowledge”. For this paper, visual mapping is considered to be a general term covering concept maps, mind maps, idea maps and other tactile visual sense-making tools; using traditional creative tools. My initial maps were created in my journal to explore topics for research while reading the literature. As I progressed, the maps became more analytical and complex. Together with reflexive journals, mapping became my most valued research tool. They increased in scale, moving out of the journals and onto large sheets. Butler-Kisber and Poldma (2010) argue that mapping is a useful tool to interpret, understand, analyse, and inform experiential qualitative research when combined with reflexive practice, which helps express the researcher’s thinking as it evolves.

Reflecting on this, I questioned whether I would have had the same approach with a different supervisor. She encouraged me to think in a way that came naturally to me and through well-articulated questions, to seek my own problems and solutions. She carefully observed and encouraged the use of visual mapping as a familiar tool to express my thinking. Although she probably did not say so in as many words, she encouraged me to use my visual map instead of a PowerPoint presentation, when I doubted myself, she challenged me by asking: “what makes you believe that you can’t?”

## A view from the top: Making connections

My visual narrative inquiry explored residents’ lived experiences and emotional connections. The process of analysing the transcripts and trying to sort themes and narratives into tables, spreadsheets and the like frustrated me. Emotional connections did not belong in little square boxes. After several failed attempts working with the data digitally, my supervisor noticed that I was stuck; “why not map it?”. I printed the transcripts, cut them up, along with reflexive journal entries and field data, and mapped them out on large-scale paper. Through trial and error, I managed to connect my data with my literature findings.

The process felt intuitive and tactile, resonating deeply with me. The flexibility of it helped immensely. Viewing the map from a distance provided a fresh perspective. I vividly remember a moment when I stood up and noticed one sheet was upside-down, discovering an overlooked connection. As I continued to play around with repositioning, I found additional similarities. My preconceived notion that research could not be enjoyable changed – I was playing with pieces of data and having fun – it did not feel like work. Although the final output of the research was a written dissertation, the process of thinking, the meaning creation and understanding came through the visual mapping in a tactile manner.



**Figure 4: Seeking connections (Simpson 2022)**

Visual mapping gives researchers an opportunity, argue Ligita et al. (2022), to interact with data in a creative and meaningful manner to help organise and make sense of what they have found. I found the process of reading, writing, analysis, and research done on one device limiting. Instead, I used free writing, highlighting sections on printed articles, and drawing to process and organise my thinking. In order to aid with academic writing, I would cut the articles up and paste relevant pieces together to construct arguments visually, before writing them. This technique – although effective in gaining understanding and constructing knowledge, had its pitfalls; I frequently forgot to include references and had to backtrack.

Visual maps are not generally used as final outputs but are used in the process, argue Ligita et al. (2022), while Avdagic et al. (2021) and Daley (2004) suggest maps can be used during analysis, interviews, focus groups and in the presentation of results. The maps assisted me in the analysis and writing of the literature review, provided direction in the research design, and used extensively in the data analysis and concurrently to present the research process and findings through more finessed diagrams. I also found it easier to talk about my master's by showing the distilled process map:



Figure 5: Distilled process map (Simpson 2022)

## Big paper thinking: A more creative approach

As a master’s graduate now able to teach a design-based honours degree, my supervisor and I were assigned students to supervise. In supervision sessions, students were encouraged to map their ideas. From my interactions with the class, I observed that their design process had become more linear and that they were working exclusively on their laptop devices. Leading up to their proposal presentations, as part of a class I encouraged mapping their process. At the end of the lesson, several students left their maps on the table. Although Butler-Kisber and Poldma (2010) argue that mapping often attracts the attention of design researchers, as the process of visualising information is a natural one, the idea did not resonate with them.

Intrigued by this, I decided to explore it further. The aim was to understand whether my experience could relate to fellow design-based thinkers, and how they might benefit from making their research more visual. Qureshi and Vazir (2016) argue that supervisors use their own experiences from their postgraduate studies to inform their supervision style. In keeping with a constructivist approach to teaching and learning, I wanted the students to build on their own understanding of the information



they had already researched, by truly engaging with the material in a different manner, allowing them to dissect, reassemble and reexamine the material.

Students were invited to participate in a visual-mapping focus group that took the form of a workshop. Seven of the ten students invited participated. The students were approximately halfway through their honours programme. They presented their proposals in the weeks before and were exploring research methodologies at the time. Participation was voluntary and informed consent was received before the workshop commenced.

The focus group was structured to observe the participants in action, using mapping activities complemented with discussion. A suitable environment with good lighting, sufficient space, and comfortable surroundings with mapping materials, including a creative toolbox, was provided. Participants were asked to:

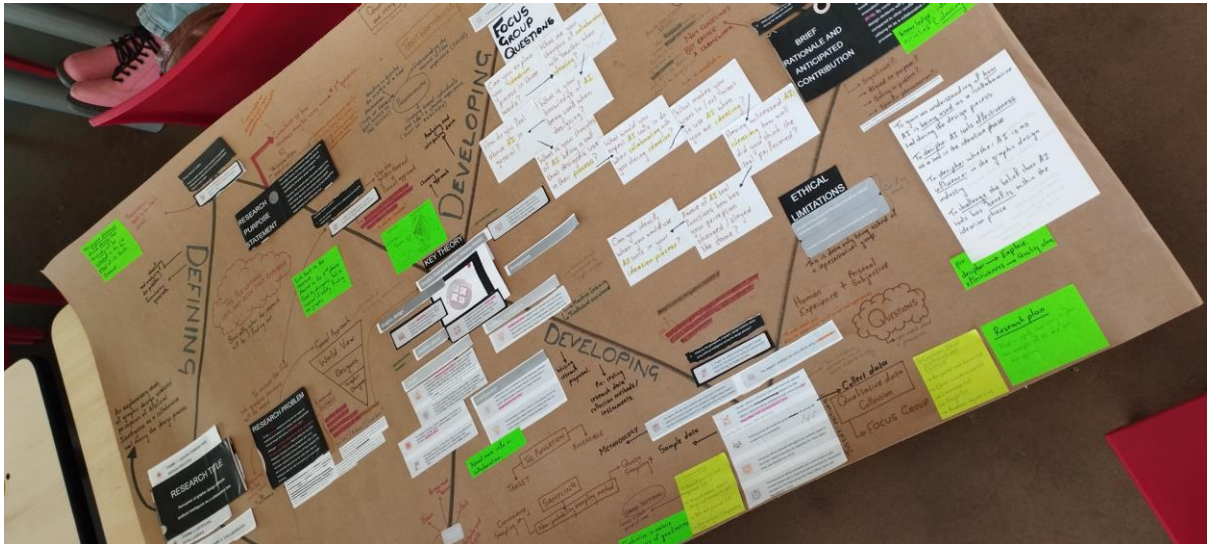
1. Intuitively visualise their research process using a simple line drawing on A4 paper
2. Describe their research process using words, including their emotive responses, and the kinds of thinking they applied
3. Display the drawings and collectively discuss through explorative questions, sharing what they noticed
4. Create a visual map of their research on large-scale brown paper (A0) using pre-printed copies of their research proposal and presentation
5. Reflect as individuals on the experience by answering questions such as: what did you notice during the map-making process, what remains unresolved and should still be considered, what did you learn from the process, how might you consider using visual mapping as part of your research process, and how will that serve you?

To aid in their research process, participants were able to keep and continue to use their maps. The individual reflections, maps and mapping process, discussion, together with my own journalling, were utilised as data for analysis.

When presented with a creative toolbox, the students became excited and engaged on a different level. There was an emotional response when they saw the tools set out. A few elements stood out: the use of colours, the large brown paper, and seeing their proposals in printed format. One participant stated, "it felt exciting to be doing something design related and with colours" and another shared "mapping is physical playing, although not 'work', it was more productive".

The students really engaged with the process. What happened for me was happening for them. They were having fun and were able to make previously unseen connections. One participant experienced a significant 'aha' moment when she realised that her research process correlated with her theoretical framework: "I was unintentionally following the same process when creating my research map".

What I have found was that the process, although resonating with the students using familiar creative tools, invited them into a creative process not necessarily familiar to the confines of research; as a participant responded: "I also found myself more engaged and immersed in my study compared to other instances. As instead of working on my study through a laptop, I actually saw it on paper and was able to create and discover".



**Figure 6: Students working visual map, with additional supervisor notes added (Simpson 2023)**

Lupton (2014) stresses the need to sometimes break apart pieces of a project to understand its core before rebuilding it. Echoing this sentiment, students were given the freedom to cut their proposals into pieces and rethink the connections, flow and structure of their work.

Several students discovered connections that they had not seen before, and many commented on how their golden thread became more visible and clear. One participant commented that “with mapping I realised that the different sections of the research hold relevancy to or dependency on each other where I hadn’t seen it before, and this helps reinforce a golden thread” and another becoming aware of “how maps and links were in my research proposal that I didn't notice before”.

Students expressed that doing mapping “felt more like play than work”, because they associate laptops with working, and they realised that “you could be more productive thinking physically and you are more free to think and turn and come up with non-linear thoughts”. One participant observed that “I also realised how doing this process on just my laptop is quite limiting in the sense of creativity, excitement and expansion”. The students pointed out that when talking about their projects, they would usually have their laptop open to talk through points, but that in this case, it felt good to be “thinking and talking it through without my laptop”. Another student observed the significance of the mapping process: “[The] map-making process is beneficial and should be done throughout any project as map making can be applied to anything that involves a process and solution. The actual process of making the map is also beneficial as it takes the person away from a structured and stagnant process of mapping intellectually”.

At the end of the workshop, the students asked, “can we keep it?” and they walked away with their visual maps, eager to use them in their next supervision sessions. Students expressed pride in the visual output created from their own work.

## Making research visual: The significance

Going into this research, I believed that visual mapping would be an effective method for design-based thinkers as they are used to working with visuals. I further believed that the creative tools were familiar tools to design-based thinkers. Although the creative tools are familiar, it is not necessarily

the tools used in an academic research context; and especially for digital natives who use digital devices daily.

For many of the students, working on large sheets of paper was a first. When I presented students with the large sheets, using colour and the “permission” to physically dissect their work, they were delighted and excited, especially at the prospect of working by hand. The large sheet presented a sense of being boundless and playful. This encouraged the space for “big picture” thinking and allowed for connections to happen. It encouraged looking for gaps, being curious and to seeking solutions. It encouraged a playful process, for creative and analytical thinking to happen, synchronously.

What I have noticed is that computers have become a potential crutch; a belief that we are not really “working” (as researchers, designers, and students or in general) unless we are performing the required tasks on a device such as a laptop or on screen. The students, as much as I did, felt a sense of delight to think that we were “allowed” to approach the research process in a creative way. The immediate assumption was that research, analysis, thinking, and presentations should be done using a computer. Although the creative tools were familiar, the common route was to use computers instead; focusing on the final product instead of creatively engaging in the process. What would the impact be, if we as supervisors were to carefully notice the need for design-based students to think visually and encourage students to use creative tools?

## Conclusion

The authors argue that supervisors, in their capacity to appropriately guide design-based thinkers, should be mindful of their influence in either limiting or encouraging play as part of a critical sense-making process. The significance of supervising design-based practitioners is in the facilitation process of encouraging the use of familiar (creative) tools and methods, creating a tactile “thinking” process such as using visual mapping that enables a deeper and more meaningful sense-making and meaning creation-process. By encouraging the use of visual mapping, a supervisor is able to introduce play into the thinking process.

The output of postgraduate studies generally places emphasis on the delivery of a written dissertation, delivered in a linear fashion, making it easy to forego the creative process, but arguably, research projects require far more planning and playful ideation than many a design project, due to its highly complex sense-making and meaning-making nature. We are not suggesting that every supervisor and student need to bring out an A0 sheet, but rather to notice the need, and support creative freedom during the research process, and to experiment with tools that enable their thinking and make their research visual and tactile.

Our computer screens have become our familiar tool; our “go-to tools” for search, for research, for communication and often for play and design, but operating on a screen can be limiting. If we are to influence the minds of future thought leaders, then we need to encourage our students to think beyond their screens and provide ways and tools that connect design-based thinkers back into creative play, where creative and analytical thinking can happen intuitively, and synchronously as an interplay between the creative process and the research process, providing a space where research becomes enjoyable for design-based thinkers.

## References

Adams, TE & Herrmann, AF 2020, ‘Expanding our autoethnographic future’, *Journal of Autoethnography*, vol. 1, no. 1, pp. 1-8, <<https://doi.org/10.1525/joae.2020.1.1.1>>.

- Adams, TE, Jones SH & Ellis, C 2015, *Autoethnography*, Oxford, New York.
- Anderson, L & Glass-Coffin, B 2016, 'Learn by going: autoethnographic modes of inquiry', in SH Jones, TE Adams & C Ellis (eds), *Handbook of Autoethnography*, Routledge, New York, pp. 57 – 83.
- Avdagic, E, May, F, McClean, T, Shackleton, F, Wade, C & Healy, K 2021, 'Mind mapping as a pragmatic solution for evaluation: a critical reflection through two case studies', *Practical Assessment, Research, and Evaluation*, vol. 26, no. 5, <<https://doi.org/10.7275/sqqw-ht68>>.
- Boylorn, RM & Orbe, MP (eds) 2016, *Critical autoethnography: intersecting cultural identities in everyday life*, Routledge, New York, pp. 13–26.
- Butler-Kisber, L & Poldma, T 2010, 'The power of visual approaches in qualitative inquiry: the use of collage making and concept mapping in experiential research', *Journal of Research Practice*, vol. 6, no. 2, Article M18.
- Cholewinski, M 2009, 'An introduction to constructivism and authentic activity', *Journal of the School of Contemporary International Studies Nagoya University of Foreign Studies*, vol. 5, pp. 283-316.
- Cohen, L, Manion, L & Morrison, K 2018, *Research methods in education*, 8<sup>th</sup> edn, Routledge, New York, p. 297.
- Daley, B 2004, 'Using concept maps in qualitative research', *Proceedings of the First International Conference on Concept Mapping, Concept Maps: Theory, Methodology, Technology*, Pamplona.
- Denzin, NK 2014, *Interpretive autoethnography*, 2nd edn, Sage Publications.
- Divya, P & Smitha, R 2020, 'Concept mapping as a tool for meaningful learning', *International Journal of Advanced Research*, vol. 8, no. 12, pp. 833-841, <<https://doi.org/10.21474/IJAR01/12221>>.
- Ellis, C 2004, *The ethnographic I: a methodological novel about autoethnography*, Walnut Creek, AltaMira Press.
- Ellis C & Bocher AP 2016, 'Merging culture and personal experience', in RM Boylorn & MP Orbe (eds), *Critical autoethnography: intersection cultural identities in everyday life*, Routledge, New York, pp. 9-10.
- Gormley, K & McDermott, P 2015, 'Search for evidence – teaching students to become effective readers by visualising information in texts', *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, vol. 88, no. 6, pp. 171-177, <<http://www.doi.org/10.1080/00098655.2015.1074878>>.
- Kelley, T & Kelley, D 2015, *Creative confidence: Unleashing the creative potential within us all*, London, William Collins.
- Ligita, T, Nurjannah, I, Wicking, K, Harvey, N & Francis, K 2022, 'From textual to visual: the use of concept mapping as an analytical tool in a Grounded Theory study', *Qualitative Research*, 22(1), pp. 126–142, <<http://www.doi.org/10.1177/1468794120965362>>.
- Lupton, E 2014, *Graphic design thinking: beyond brainstorming*, New York, Princeton Architectural Press.
- Margulies, N 2002, *Mapping inner space: learning and teaching visual mapping*, 2nd edn, Tucson, Zephyr.
- Nuzzaci, A 2019, 'A picture is worth a thousand words: visual thinking between creative thinking and critical thinking in the teaching-learning processes', *img journal*, vol. 1, no. 1, pp. 234-253, <<https://doi.org/10.6092/issn.2724-2463/11071>>.

- Pace, S 2012, 'Writing the self into research: using Grounded Theory analytic strategies in autoethnography', *TEXT*, vol. 16, (special 13), pp. 1–15, <<https://doi.org/10.52086/001c.31147>>.
- Qureshi, R & Vazir, N 2016, 'Pedagogy of research supervision pedagogy: a constructivist model', *Research in Pedagogy /Istraživanja u Pedagogiji*, vol. 6, no. 2, pp. 95–110, <<http://www.doi.org/10.17810/2015.38>>.
- Root-Bernstein, M, Root-Bernstein, M & Root-Bernstein, R 2022, *Creative imagination and practice as embodied cognition: towards the education of homo synosius: the practice of thinking: cultivating the extraordinary*, Lannoo Publishers, hal-03892553.
- Santiago, H 2011, 'Visual mapping to enhance learning and critical thinking skills', *Optometric Education*, vol. 36, no. 3, pp. 125-139.
- Skaggs, P & Twede, B 2023, 'Play and creativity', *Journal of Higher Education Theory & Practice*, vol. 23, no. 11, pp. 167–173, <<http://www.doi.org/10.33423/jhetp.v23i11.6227>>.
- Simpson, J 2022, 'Exploring the role of metropolitan open space systems in building meaningful city brands: a D'MOSS case study', IIE Space, viewed 1 September 2023, <<https://iiespace.iie.ac.za/handle/11622/598>>.