

Disseminating Design Research: The Contribution of Visual Communication in Capturing and Translating Design Knowing.

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How might we collectively learn from the activity of disseminating the research of individual practitioners? This broad question frames the motivation behind this paper's more specific investigation into the role visual communication can play in capturing and translating the practitioner-researchers design knowing into substantive knowledge for the communities of practice. The key objective then is to explore how visualising the outcomes of research can enhance the contributions embedded within project-based design research.

There is a growing acceptance that research through design can elicit for the researcher and the community a form of design knowing. But this paper is concerned with the quality of dissemination; first from the perspective of how an individual's project findings are captured by the practitioner-researcher, secondly how they are translated into collective knowledge for the community of practice. The tension has always been that although the artefact is central to project based design research, conferences and publications continue to privilege the written word as the predominant vehicle for disseminating research. Unconstructively this standoff draws too sharp a distinction between the artefact and the exegesis when the design knowing that comes from research would ideally encapsulate both the theory and the practice.

The practitioner-researcher approach to this research acknowledges the situation-specific context of practice by valuing concrete observations over abstractions that can become disconnected from the culture of professional practice. In this case the term practitioner researcher refers to the dual academic and professional practice of the researcher with the research driven by a commitment to facilitating research learning between academic and professional communities of practice. The research will be investigated through designing and grounded by educational theories about practitioner research and situated learning. The inclusive definition of 'designing' refers as much to designing the intent, the nature and the medium for the communication as to the visual form the communication is mediated through.

This decision to conflate divisive distinctions between doing and reflecting, experience and abstraction was made to establish the applied relevance of the design research. Situating the projects within an industrial context enhanced the potential purchase of the research for enabling a critical praxis.

In visualising artefact dependent research you align the dissemination language with the visual literacy of the communities of practice. It is hoped that by visually communicating design research we can develop a complementary dissemination strategy that motivates both the researcher and other practitioners to engage with research findings. The paper will present studio-based examples where critical accounts of research through design have been translated and explicated through a process of visualising personal theories of practice. The graphic design examples presented will explore how visual communication can offer a reflective, generative and exegetical language for revealing to the researcher the tacit understandings behind their practice. In addition to presenting visualisations of researcher's findings, the paper will also reflect upon how successfully the visualising strategies disclosed the findings to the relevant scholarly and professional communities. The paper and the research projects it sites seek to investigate how the outcomes of an individual's practitionerled research could capture and translate design knowing into concrete observations of practice. The primary objective is to communicate 'packages of situated knowledge' (Jordan 1989) that can supplement the contribution of project-based research beyond the written exegesis and the designed artefact.

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We ignore the visual characteristics by which these forms communicate only at the peril of a profound ignorance and blindness—since it is through their visuality that they communicate. (Drucker 2002)

When the engineers embrace market stalls and life scientists design poster case studies, you wonder why the design research community continues to favour the conferred authority of the written word. As medical research is communicated through sophisticated visualisations you ask if there is a complementary language for disseminating design research that could live up to the rich complexity of the creative process. Could alternative dissemination models accommodate and respect the realm of design as one of possibilities (Dilnot 1998)? Can the voice adopted for disseminating the research speak to the visual literacy of design practitioners? These questions introduce the potential role visual communication could play in conveying the individual practitioner-researcher's design know-how as substantive knowledge for the relevant community of practice. This paper does not purport to already know how visual accounts of design research would contribute to how we acquire and share knowledge. Instead the paper broadly considers the implications of the strategies we use for creating and transmitting design research being sympathetic to the nature of designing and design knowing.

In this paper the term practitioner-researcher refers to academic and professional practitioners who see research undertaken through designing as an important activity for improving their practice. This practice-led approach acknowledges the situation-specific context of everyday practice by valuing concrete observations over personal anecdotes or diluted generalisations. By researching through ones practice it is possible to conflate these divisive distinctions between doing and reflecting, between experience and abstraction (Lave and Wenger 1991). The research projects that are referenced were investigated as part of a higher degree, but set within an industrial context to enhance the potential purchase of the research for enabling a sustained critical praxis [Jarvis]. The conference presentation, in contrast to the written paper, will verbally and visually represent the slippage between the

personal experience of designing the graphic design research projects and theorising about design process and practice.

When researching *about* design (Frayling 1993) the research methodologies predominantly operate within social science and humanities based disciplines, so it holds that written papers appropriately disseminate the research to the predominantly academic community. Whereas with growing acceptance that research *through* design can elicit a form of design knowing, this paper considers how practitioner-led research might speak to the designers that comprise the community of practice the research seeks to inform. This is considered first from the perspective of how a research project's contribution is understood by the practitioner-researcher and second ways to account for this knowing to the community of practitioners. These issues will be explored across the fields of design and reflected upon in relation to a collaborative research project initiated by the author and situated at Studio Anybody, a professional graphic design consultancy in Australia.

Could there be an alternative, more sympathetic language for communicating design research?

The tension has always been that although visual output is central to project-based design research, publishing models continue to privilege the written word even though they often fail to connect with the professional communities applied design research might hope to reach. Conventional notions of dissemination often ignore that for professional design communities the contribution of research is inextricably linked to the designed artefacts and the situated knowledge they represent. In this climate the contribution of the research can become lost in the compliance driven imperative of the dissemination model imposed by research bureaucrats. Yet if the design knowing that comes from a reflective research practice inhabits the space between theorising and doing, it can be counter-productive to draw too sharp a distinction between the written exegesis and the designed artefact. By supplementing the facility of the artefact or the written word to illuminate design know-how, this paper seeks to accommodate academic research communities' dedication to peer-review while also establishing relevance and agency for research findings within professional communities.

Concerned with enhancing the agency of research, this paper acknowledges that the professional relevance of research is wedded to both the design practitioner's ability to read and interpret the research and to understanding how the documented research can direct their practice and inform the practice of others. Can playing to designers' visual literacy enhance a dissemination model's capacity to influence the purchase of design-led research? Would communicating visually allow the research to be more easily translated by the practitioner and understood by the intended audience? By using *designing* as a research methodology the practitioner-researcher brings their research practice in line with the shared practice of their applied profession. This paper proposes that to build strategic practice knowledge within an industrial context, dissemination practices should similarly respect the literacy of the professional community by allowing the research content and practice to determine the form of dissemination.

How might visual and written reflections serve to communicate in a situated example?

From 1999-2001 I worked on a series of studio-based research projects with my colleagues at Studio Anybody. The following account retrospectively describes my experience as a practitioner-researcher, specifically from the perspective of why I intuitively made decisions at the time and how I observed responses to our work. The reflections attempt to account for how the multi-various mediums for dissemination impacted on my and Studio Anybody's practice as well as the professional and academic design communities who came into contact with the research.

This particular research study was undertaken as part of a research degree where, in addition to submitting studio projects, I was required to write an exegesis for examination. As part of the exegesis I opted to design a diagram to visually elucidate ideas that did not seem easily conveyed by words. Both the essay and diagram were printed on the back of an A1 poster that showcased the final artefact from the study. Over the following years the poster was also distributed as supplementary material at professional and academic conference presentations.

Although I approached the written exegesis with suspicion I soon acknowledged the rewards that came from critically stepping back to 'write up' our experience. My account of the study's

process and outcomes afforded a greater understanding of what we had only tacitly understood. I struggled throughout the writing process to find an accurate vocabulary or the writing skills to structure my reflections—but ultimately appreciated that the arduous process heightened my self-understanding.

I designed the diagram to illuminate the structure, nature and ideas behind the various projects. This was a straightforward design challenge since I believed the diagram would economically capture our design knowing in a way that words would have failed to translate in the space available. The creative challenge was for the diagram design to capture the nature of the inquiry, the unifying project characteristics and the spirit of the study's outcomes. This conceptual mapping of the study never sought to present hard evidence. The empty picture boxes amongst the key projects and the web of lines visually translated the idiosyncratic network of recurring themes in our practice, in a way that I cannot (once again) accurately describe here in writing. The challenges presented in designing the diagram were familiar, engaging and satisfying—particularly when the nature of the diagram began to mirror the study's concepts and findings.

No graphic designers ever discussed the essay with me, yet many kept the poster because of the image on the front. A quick glimpse of the diagram was enough to provoke many practitioners to discuss the nature of our practice with me, interpreting the mapping of the projects and positing alternative readings of the diagram from another's experience. These constructive conversations were comparable to discussions generated from the distribution of our studio-initiated projects. The academic audience in comparison discussed the essay with me more frequently than the diagram, but neither academic nor professional community ever commented on the finished artefact. Some academics wrote papers citing the essay and many students followed up issues raised in the essay. For my teaching practice the essay offered an extended vocabulary and clarity by which I could discuss the relevant ideas and provided knowledge that research students could expand upon. The collaborative process of designing both the poster artefact and diagram influenced Studio Anybody's practice, as undoubtedly the greatest contribution to our understanding of the topic came from creating and critiquing the research artefacts.

Most significantly, my personal learning that came from writing the exegesis never seemed of relevance to my colleagues and only through my interventions did it influence our practice. In contrast, the diagram sparked a watershed moment for the studio, revealing to us overlapping conceptual interests that we regularly revisited in our initiated projects. This new shared understanding of the motivational potential behind these conceptual ‘threads’ became foundational to how we presented the studio in meetings, conference presentations and on our website—becoming the most influential, sustaining outcome of the research. Yet I believe the contribution the threads made to our practice was not due to the significance of the finding, but simply that it had the greater agency for my colleagues because it was the point that was represented visually. Although some of my colleagues never read the essay, they all viewed the diagram and even though they had not observed the pattern before, they were able to effortlessly interpret the structural implications of the conceptual threads. This observation suggests that for my colleagues the exegetical contribution of the poster was weighted toward the diagram over the essay.

In what ways do the design process, concepts and artefact contribute to design knowing?

Does my colleagues’ lack of engagement with the written word—coupled with the unit sales of glossy design picture books—confirm that professional design practitioners prefer to ‘read’ images to words? If we do not presume that professional design practitioners will read these conference proceedings, could we presume that presenting the research artefact should be the design equivalent of publishing a paper? Why would we consider supplementing the artefact with visual accounts of the concepts and process?

The act of interrogating the artefact can enlighten our understanding of design and inform future designs, but this does not necessarily assert that the artefact is the container of design knowledge. The expectation that the artefact itself can embody and explicate the research is misguided if we accept that what design has to offer lies not in the artefact produced but in the process of designing [Newton]. In this case the agency of design research would be beholden to a closer reading of the determined and unplanned moves we enact within a specific project. These readings offer a greater understanding of how a design situation can shed light on the complex interrelationships and dynamic concerns that shape the ongoing

design conversation (Schön 1983). If it is the active process of *designing* that reveals design knowing to the practitioner-researcher, then, in addition to creating the artefact, there is further knowing to be shared through explicating critical designed accounts of the research project. In turn fostering the discipline to notice one's practice the researcher develops the skill, perhaps even compulsion, to communicate their critical reflections with others—to share, compare and discuss experiential accounts of practice (Mason 2002).

Why would the practitioner-researcher visually translate their research?

In presenting visual accounts of research projects researchers begin to align the dissemination 'language' with the literacy of the communities of practice—acknowledging the fundamental visuality of, in the case mentioned above, graphic design practice. This complementary dissemination strategy advocates that the mode of communicating and capturing knowledge should match the way knowledge will ultimately be put to use by the community of practice (Wenger, McDermott et al. 2002). To improve the quality of dissemination the practitioner-researcher would need to appreciate that their research learning extends beyond the creation of artefacts, representations or prototypes of the final design. Researchers would have to recognise that the activity of designing, even at the point of disseminating a completed project, might offer further insight into the research.

If this model were to be led by practitioners what would motivate design researchers to see this set of practices, not as a compliance task imposed upon them, but as an integral part of their research practice? What drivers might prompt the practitioner-researcher to elect to communicate their research through designing visual accounts? Since the process of writing papers is foreign to the designer's primary practice it can be potentially more time-consuming and create more anxiety. The tension being that to translate a predominantly experiential process into a rational written language requires different skills, different discipline. Comparatively, capturing and translating one's experience may be less contrived if the working process and reflective process intersect at the dissemination of the project. In return, could the speculative space created for visualising one's practice generate formal visual experimentations? Could the complementary nature of reflecting through a visual design process facilitate closer readings of one's experience? Might this more sophisticated backtalk, between the practitioner and their process, reward the researcher with greater self-

understanding and the clarity to deploy this understanding in future projects? Consequently, visually communicating knowledge, as opposed to verbally communicating it, might afford a more critically reflective practice *and* fuel a reservoir of new design ideas for subsequent projects.

Does designing visual accounts offer a process and form for communicating design research?

These points might underline potential incentive for the practitioner-researcher to elect to visually account for their research, but can visualisations capture the poetic nature of designing and design knowledge (Rosenberg 2000)? Note I am not considering the utility of visualisations to explain predominantly evidence-driven information. I am concerned with the potential of design as a process and medium for evoking a discursive engagement with the practitioner-researcher's knowing. The domain of design I am referring to is more about inscribing possible structures than revealing inherent ones (Newton 2004), a process more divergent than convergent, and design knowing more situated than verifiable. Can a design-led process appropriately visually account for the contingent connections between the designer's situated experience and the concrete learning of relevance to others? If designing offers a process for generating design artefacts and a process for critiquing the artefact, does it not also offer a process by which to negotiate and communicate design knowing?

Although I recognise that the visual accounts success or failure to communicate will be based on the clarity of thought behind the documentation, I am also interested in the implications that would arise from open-ended readings of visual texts. Could it be constructive to put aside rationalist conventions and intentionally investigate transmission models that not just enable, but encourage, multiple interpretations of the designed dissemination? Would a discursive, transactional process for interrogating research projects be more accessible or obtuse to the design community? Might inviting the audience to be active participants in reading and interpreting the research also disclose design knowledge that could be locked out by the inherently different process of rationalist academic writing?

The design process of visualising offers a reflective, generative tool as well as an analytical vehicle for explicating critical ideas through the field of design. The practice nature of the

different design fields will ensure the emergence of a diversity of approaches to the visual account. For example, whereas architecture and industrial design are already familiar with presenting models or prototypes, graphic design is often able to reproduce the artefact to scale and has therefore not had to consider ways of communicating representations of the artefact. Across the fields these accounts could visually document salient points through models, diagrams, photos, prototypes, maps and diagrams. The visual material would be generated both during the design process and retrospectively upon reflection, allowing the researcher to refine how this supplementary material can orientate and facilitate an audience's interrogation of a project's intentions, process and findings.

Conclusion

This paper argues that the insight that comes from the act of sharing knowledge might be heightened for both researchers and practitioners if the nature of dissemination mirrors the nature of the discipline. If sharing experiences and generating provocative discussion frames one motivation behind disseminating design research, it would be counter-productive to promote potentially onerous or inconsequential tasks that can be unsympathetic to the skills and practice of the researcher's domain. With design researchers already having the skills required to visually convey their experience, it seems relevant to consider whether the ambiguity inherent in visual signification might enable a discursive, sustaining engagement with knowledge creation and dissemination.

If research-led by practice seeks to influence professional design communities by harnessing and applying the learning that comes from the researcher's experience, then designing visual accounts should resonate as an appropriate strategy. Yet before dissemination models and peer-review structures can endorse the validity of a predominantly visual strategy for sharing knowledge, the image-driven material needs to be assessed and evaluated with the same rigour as the written text. It is not possible to consider here all the implications of this point, but if we already have peer-review processes for design awards and accept that visual explanations can be evaluated by the clarity of the thought translated, the issue seems more political and logistical than pedagogical.

In conclusion it would appear that this paper's contribution is best understood as simply identifying the questions to ask. Since the greatest insight into the considerations addressed in this paper will emerge from the applied practice of designing visual accounts and reflecting upon their contribution to the fields of design. Yet for these strategies to become accepted practice, individuals must recognise the personal value and communities the strategic advantage of initiating and advocating alternative models for the acquiring and sharing design knowledge (Wenger, McDermott et al. 2002).

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