Passing on, handing over, letting go – the passage of embodied design methods for disaster preparedness

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Abstract

Natural disasters are predicted to become more frequent and severe. Building on Sangiorgi's (2011) principles for transformative practices in service design, the paper discusses a case study of working with communities and emergency agencies in Australia over a five-year period and the process of designing their adaptive capacities for collective and continuous development in strengthening resilience. When transition of intention and ownership is critical in sustaining any community work, what can be enabled in others and 'let go' in the process of doing design? By following the passage of methods through people's practices, the paper tells the story of how the methods were adapted, embedded and enacted through those who were part of the fabric of change. What were being 'designed' were not just a service performance but people's adaptive capacity for survival as well as the practices of those who attempted to enable transformation.

Keywords: Transformative services, community, natural disasters, participatory design

Introduction

Discourses on transformative and participatory practices bring much-needed human-centred, social questions into service design. These complex and challenging dimensions are often touched upon but not explored in depth in most service design case studies. This may be because majority of service design case studies, which are often based on commercial entities, tends to emphasise service delivery that value efficiency, performance and return on investment. For example, key textbooks by Polaine and colleagues (2013) and Stickdorn & Schneider (2010) provide exemplar guidelines of designing services for companies. The discourse recognises the importance of human-centred concerns such as values, experiences and relationships but other facets of sociality are still emerging, especially when designing public services. In this landscape, research in transformation design (Burns et al, 2006; Sangiorgi, 2011), designing for services (Meroni & Sangiorgi, 2011) and Manzini's

scholarship on designing for social innovation (2010) provides a significant contribution by broadening service design's focus beyond better service delivery and experiences, to also consider how to develop peoples' capacities, assisting them to become change-agents in the continuous making of their own futures. This broadening is a significant human-centred shift, requiring different focus and research questions on how people coalesce action and learn and transform reflexively, which this paper explores in detail. As critiqued by Sangiorgi (2011), service design projects that only improve service interactions, touch-points or redefine service values do not have a transformational impact.

As a way to consolidate transformative practices in design that enables public service reform and wellbeing, Sangiorgi (2011) highlights seven key principles drawn from organisational development and community action theory. Sangiorgi represents these in a cyclical and sequential manner beginning with 1) Active Citizens and 2) Intervention at Community Scale; then 3) Building Capacities and Project Partnerships, 4) Redistributing Power, 5) Building Infrastructures and Enabling Platforms; 6) Enhancing Imagination and Hope; 7) Evaluating Success and Impact. This paper uses these principles as a reflective guide to weave the 'messy' reality and challenges of integrating theory and practice and highlight how certain principles (indicated in italics throughout the paper) are important to address, critique or build upon at salient junctures of the journey. When designing with communities, commitments are made to participants rather than follow a theoretical outline. Even aiming for the first stage of the transformative principle, Active Citizens, can be problematic when fear, confusion and disempowerment are prevalent within a community as encountered in this case study; requiring a reflexive and dexterous approach. This paper contribute praxis knowledge by facing the challenges when shifting from discrete, bounded contexts of workplaces mostly witnessed in service design, to structurally and hierarchically freer social relations where there is a greater degree of unpredictability.

If change is core to any design activity, it is necessary to examine legacy issues to build and augment skills and capacity for on-going change so that people and communities can keep adapting and improving themselves (Burns et al, 2006). This autonomy is a core objective of transformation design, but is also highly relevant to service design when it is more desirable to avert the need to use some services, like hospitals through preventative healthcare, prisons by deterring crime and emergency services by mitigating disasters. Longitudinal studies are rare in service design research and little is yet known about how a service delivery evolves once the designer researcher had initiated or implemented it. In this paper, I describe a fiveyear journey by following the methods that were designed to strengthen resilience in disasters. Most importantly, rather than assigning agency to tools and methods alone, which tends to happen in service design (Akama & Prendiville, 2013), I tell the story of how methods were passed on and handed over by being embedded within people's practices and every-day contexts to become a 'living change process' (Meroni & Sangiorgi, 2011) within communities. In this story, what was being 'designed' was not just a service delivery, but people's transformative capacity for survival and the practices of those who attempted to assist it.

Designing is action research – it changes the context, the people and the design practitioner through designing (Light & Akama, 2012). I have written this paper reflexively using the first person narrative and quote the practitioners who have reflected on their own experiences to indicate the changes they observed. The paper culminates in a reflexive discussion of 'letting go' one's expertise and expectation. Letting this go can catalyse a questioning of our own roles, values, perceptions and attitudes, to embark on a practice of our own journey of transformation before we can enable others in their transformative process. This concluding

discussion is a key contribution to designing transformative practices. Self-awareness, critique and reflexivity are not included in the seven guiding principles but I believe these qualities are significant for change and learning, and offer complexity and richness in human-centred research as we seek to develop our epistemologies of service design research.

The disaster context: Building community resilience for fire

Fires are a continuing threat in Australia, intensified by global warming and extreme climatic changes (Hughes & Steffen 2013). The catastrophe on *Black Saturday*, February 7th 2009, was one of the worst fire disasters in the state of Victoria – more than two thousand homes were destroyed and 173 people were killed (Teague et al, 2010). Its scale and devastation prompted a government funded Bushfire Cooperative Research Centre, which tasked the researchers at RMIT University, Australia, to investigate critical problems that centred on communicating risk to communities. Our team began undertaking field work and pilot projects in various states during 2009 - 2013 to understand how communication is taking place among the fire authorities and between the communities, how social networks perform in preparedness and to explore practical ways to enable shared responsibility and collective adaptive capacity.

With no direct experience of fire or its associated issues, our team began by learning iteratively about the territory as we were influencing it through designing. Initiating an intervention is often the only way to learn the essential dynamics of systemic issues (Schein, 1996). As such, various pilot workshops and engagements with local residents took place to get the ball rolling. Sangiorgi (2011) nominates *Intervention at Community Scale* as the second key transformation principle, but our fieldwork and household visits revealed many issues that made interventions particularly challenging. For example, meeting the residents in the Southern Otways, Victoria, revealed their different levels of vulnerability to fire; their strained relationship with the fire authorities; their level of awareness of risk in relation to their geographical environment; the fragmentation of their community networks due to rapid influx of temporary residents and the enormous task of overcoming social and mind-set barriers for preparedness. Our team quickly realised that it was not a simple process of engaging a coherent and motivated community. Doubt, fear and confusion were rife.

Such descriptions of community as fragmented and dissonant are not often shared in design and social innovation case studies, preferring perhaps an 'idealised' notion without differing agendas, tension or power-dynamics. Ideas of community can often be an imagined grouping (Pink, 2008). Kiem's critique of the EMUDE project by Manzini and colleagues, which explored design for social innovation towards environmental sustainability, points at "...an apparent aversion to questions of power" (Kiem 2013, p. 4) whether within the community or between the in-coming designers and the community. A critical and important challenge for design researchers and practitioners wanting to enable social innovation "is to recognise and negotiate the plurality that exists within communities" (DiSalvo et al, 2013, p. 184) before the participants can become *Active Citizens* (Sangiorgi, 2011, p. 33-34), who can take an "active role in the creation of wellbeing" and tackle issues they feel strongly about.

A significant issue we identified was the community's sense of disempowerment and the learnt dependency on the authorities for help, a conditioning that had been reinforced over years of being told how to prepare in a 'top-down' manner (Akama & Ivanka, 2010). In order to become *Active Citizens* it became apparent that we had to tackle *Redistributing Power*, the fourth transformation principle, initially. To avoid 'telling them what to do', we devised a

workshop that centred on valuing and sharing the local knowledge they each held – their neighbours, geographic location, potential fire hazards or people who they thought could be vulnerable, such as isolated residents, families with children and those with any impediment. This dialogue and knowledge exchange was scaffolded using *Playful Triggers* (every-day artefacts like matchsticks, buttons, toy animals) to indicate potential risks and resources on a local map. *What if* scenario cards were also used to help them think about unexpected incidents that could occur in sudden bushfire, and develop alternative plans for mitigation (see Figure 1).

The focus of the workshops, in partnership with the local fire authority and organisations, supported a community-centred process to enable collective strategies for preparedness. Despite the fragmented networks and strained relationships with authority, it attracted residents who shared a mutual concern about fire. It did not really matter whether they knew one another before, because the process of engagement naturally coalesced a group of action. Subsequently, they realised the importance of strengthening relations between neighbours as a form of increasing resilience. The workshop then seeded the need for conversations on collective action to continue afterwards among co-located groups. These design-led initiatives have been published already (c.f. Akama & Ivanka, 2010; Akama & Light, 2012), candidly written to learn from its challenges and enactment, and illustrate how these approach's evolved out of moments of connection, inspiration, unexpected surprises and the responsiveness to new contexts in often in unplanned ways. Critical reflection of these accounts enabled the rich understandings to emerge and a gradual attunement to the complex issues and empathetic connections within the local residents.

Enthusiastic feedback from workshop participants and project partners encouraged our team and build our confidence. Residents were delighted in the effective engagement and thanked us for giving them the methods to use. The tools that scaffolded the engagement process were intentionally 'light-weight' and non-technological, thereby economical and easy to replicate in future workshops. Some residents who came to the workshop requested if they could adopt these methods and develop it further for their particular geographic locality. We continued to receive positive reports from our partner organisations that our initiatives were central in establishing the Community Fireguard Group in the locality where workshop participants signed-up to continue actions for preparedness. In all, the outcomes seemed positive.

After our team had completed the pilot study, to our surprise, no further workshops were held to recruit more residents, and we did not hear how the engagement process sustained and went beyond the initial groups we worked with. Numerous reasons can be given for this, for example, the lack of funds to pay a dedicated facilitator or support multiple workshops; the departure of key advocates from partner organisations and perhaps a general complacency about fire preparedness due to the persistent wet weather conditions that followed. However, the obstacle that hindered this approach from being passed on seemed to stem from a more basic and underlying issue — our team made the assumption that stakeholders cared deeply enough about fire preparedness to take the methods and use them going forwards. In hindsight, even though the participants and project partners had experienced the methods first-hand and were convinced of their value, there was not enough education or guidance to continue supporting them as new facilitators and, perhaps, the 'owners' of this process, to ensure its future sustainability. It demonstrated the difficulty beyond one-off interventions to truly embed transformation so the community had the final ownership of the process and methods themselves for on-going evolution.

Here is another reminder that methods alone cannot enable agency and the need to reorientate towards the practitioner who embodies the methods and its enactment. Such a position is strongly articulated in Light and Akama's (2012) paper in participatory design, (so it will not be elaborated in great detail here). One of their key arguments is "the interrelatedness between the method as practiced and the practitioner ... that there is no method until it is invoked" (p. 61). The act of designing with groups of people is rife with contingency and so it involves an embodied knowing – affective, experiential and improvisatory – drawing upon the personal and performative; merely giving them the methods was not enough. We needed to support community organisations and the fire authorities' ability to facilitate continuous workshops with their residents and truly make the methods their own. The third key principle, Building Capacity and Project Partnerships, describes the need to develop, not just the mechanisms of involvement but of change. Our research took a turn towards educating facilitators who could enable the community build adaptive capacities for preparedness. The next section details how this principle was addressed, and more specifically, to catalyse "changes in organisational culture, as well as in the attitudes and behaviour of state officials and service providers" (Cornwall, cited in Sangiorgi, 2011, p. 34) to shift inculcated power-dynamics between disaster management agencies and communities, which is a chronic issue in bushfire preparedness.

Passing on...: Integrating the methods with education



Figure 1: Workshop with emergency management staff. What if scenario cards being used together with Playful Triggers (artefacts like toy animals, matchsticks, etc).

The Australian Emergency Management Institute (AEMI) runs an intense, four-day programme called *Community in Emergency Management*, to foster a ground-up dialogue for community-centred engagement. Since 2011, I have been running a two-hour workshop nested within this programme. Various professionals participate from all over Australia, including government, state-based emergency services, police, ambulance, NPOs such as the Red Cross and volunteering organisations and council staff. The workshop introduces the

methods used in the Southern Otways. It is an interactive process of learning-through-doing to ensure participants get the 'feel' for what the *Playful Triggers* and *What if* scenario cards enable. To further reinforce community-centredness, participants are asked to visualise their own social networks using the *Playful Triggers*. This provides them with an opportunity to reflect on their relational connection to their 'community of place' and build empathetic understanding of others. Conversations on who to trust, what reciprocity means, who to seek advice and emotional support from, enables the participants to see that their own relationships with members of the community are important in building and fostering social capital.

Towards the end of the four days of intense learning, experiencing the challenges and effectiveness of being engaged in a dialogic, generative and bottom-up process, participants begin to understand its value in disaster management in contrast to their accustomed, top-down management practices. They also understand that resilience can be co-created by a meshwork of people – agencies and communities working alongside one another. Evaluation from AEMI participants consistently demonstrates that they have learnt a great deal through this process, enabling them to adapt the methods and approaches to their own respective roles and work practices.

The following section is based on an interview with two facilitators who were introduced to this particular methodology and have begun applying it in their own contexts. M is part of a team at a local council, working collaboratively on a project that aims to reduce risks and impacts from climate change. They are located in a peri-urban suburb of Sydney, bordering three large National Parks. The risk of fire is significant in this locality, but being so close to the city, many residents have a false sense of security for service provision and assistance in an emergency. Another facilitator, J, had been working for more than a year with an Aboriginal & Torres Strait Islander community in a small, regional town in Queensland that had experienced a succession of devastating floods. The significant difference of the community, type of disaster and location helped to understand what happens when methods are handed over. However, even though this demonstrates the portability of the method, it is important to note that this is not about repetition. Rather, the discussion emphasises the human-centred dimension and the improvisations made to 'fit' the situations they encountered. This is a necessary re-designing process of transformation, echoing the fifth principle, Building Infrastructures and Enabling Platform to appropriate and evolve the 'designfor-future use'. This notion of 'infrastructuring' to embed iteration and sustain people's participation has been well established through participatory design. Le Dantec and Di Salvo's (2013) bring a more nuanced view where infrastructuring can also scaffold affective bonds that coalesce groups of action, which we also see in the accounts discussed below.

Handing over...: Embodiment and enactment of methods

M intuitively felt that the *Playful Triggers* mapping activity would engage, stating that she "...knew people would be into it right from the start..." and "...felt quite open to make it what we wanted and how it would work for our local area...". M and I had a chat about this 'intuitive feeling' as facilitators, and that we need to feel our way through, often reading the atmosphere in the room to determine how we knew if anything has shifted for people in that activity. Interestingly, M related this to her own facilitation work in the health sector; "you feel something change in the room that's got a life of its own ... you try and set something up but ... sometimes it comes off in quite powerful way, and sometimes average...". M

valued hearing my own personal accounts and experience of running community preparedness workshops that pointed at "where do people get stuck and how to get out of it", tips that are often omitted from a textbook. Facilitation, like designing, is an iterative process, learning from past engagements and understandings, adjusting and re-adjusting what one does in relation to others. And even when some things might have occurred incidentally rather than intentionally, we note more consciously what worked, and weave those learnings into the next engagement.

There were many instances where M modified the process and activities, prompted by gauging people's reactions. For example, when using the *What If* scenarios,

... suddenly, what was going to be a written activity turns into a discussion ... is that right or wrong... and how does that make the experience different for people? ... as a facilitator that's exactly what's interesting to work with ... there were a lot of things like that that arose for me ... there's lots to play with here ... I would definitely be experimenting with what seems to works best, not only in engaging people but really helping people to get their thinking to a level where they haven't gone to before...

The discussion here indicates the seamlessness of the method and practitioner – it is impossible to determine where a method ends and the practitioner begins. In fact, this seamlessness extends beyond this coupling, knitting the entanglements of collective actions, experiences and emotions of the participants and facilitators with the complex dimensions of risk and mitigation. In this way, such experiences are carefully woven into a meshwork of people's everyday realities and the relational bonds between one another. This connection to people's lives is tangible and on-going, reflected in the feedback six months after M held the workshops in her locality. Many residents were motivated to complete a bushfire survival plan for the first time or have follow up conversations with their family and neighbours about being prepared. Remarkably, one resident was so concerned for his neighbours who missed the workshops that he sent a personal invitation to everyone on his street and hosted a gathering at his home. He organised the local emergency staff to attend and relay the information he had gained to those who came.

Participants took multiple copies of materials – CDs containing resources and the *What if* scenario cards. They became useful, physical reminders as well as conduits to build further connections with neighbours, as reflected in the feedback. M called these 'a gift' that can lubricate a tricky dialogue of "impinging on your space wanting to have this conversation [about bushfires] ... 'I've got something to offer you ...' a step into that conversation that makes it much easier". M said such materials became a bridge across social barriers in this urban neighbourhood. These resources have more value by coming via a neighbour rather than receiving it impersonally in the letterbox, especially when accompanied with personal stories; "I know you missed the workshop and I thought you might find it helpful to know". These touchpoints powerfully demonstrated the sixth principle of *Enhancing Imagination and Hope* that reframe how realities are perceived, overcoming barriers to imagine alternative futures. The residents, through participating and emerging out of M's workshop, were able to build optimism, empowered enough to consider that they could help others too.

These actual demonstrations of the transformation towards collective preparedness by the residents are a significant achievement for Mand the project team. This story is powerful because, through M's hands, the methods were embodied and made relevant to her local context, and more importantly, M can continue her work to develop the residents' adaptive capacities in her own particular way. And indeed, her work is still continuing in this locality,

currently with senior residents and addressing the issue of multi-hazards in partnership with various emergency agencies and humanitarian organisations.

Handing over...: From vulnerability to empowerment

Facilitator J has been working with an Aboriginal and Torres Strait Islander (ATSI) community in Queensland for over a year, building the fundamentals of a trusting and respectful relationship. This small township has had a succession of devastating floods in recent years that had resulted in widespread infrastructure damage and a loss of life. The state government asked the local council to implement a Disaster Management Plan, a substantial document that had no connection or meaning to the community. This 'top-down' governance and authority's intervention is a familiar story but more wretched in this context, echoing the town's historical, colonial treatment of ATSI people, assuming them as vulnerable, needing control and protection and are unable to make their own decisions (Blake, 2001). Perceiving Aboriginal people as vulnerable is problematic, bringing with it a paternalistic attitude. J suggests, "that's where you'll keep them", already placing limitations on the capacity that can be enabled. Transforming the community's perception of vulnerability to empowerment was therefore critical to achieve.

J was particularly keen to integrate the methods she learnt at AEMI into a disaster awareness weekend in partnership with the community, emergency services, local council and Aboriginal elders as a way to establish ownership and find a way forward for disaster planning. J was confident of its effectiveness:

The methodology was perfect for discussions and worked well with literacy levels. ... This method allowed great interactions and learnings about their community ... placed locals at the centre of their own solutions.

One of the methods that J adapted was the social network mapping. Instead of undertaking this in pairs, which is how she was introduced to it in the AEMI programme, she visualised all the social groupings that the participants were connected to on a large piece of paper, resulting in a complex web diagram. The visual nature worked really well – she enabled them to actually see how inter-woven their kinship and friendship ties were, reflecting their tight-knit community. It was an eye-opener for the participants who may have tacitly assumed their connection to one another. One participant in J's workshop commented that,

the [social network exercise] was very good ... for the simple reason that you think of your groups, but when you sit down and think who you're involved with, its a big network that I'm involved with ... its good to be able to refer people to other organisations [when you're helping others].

For this participant, her priority was to help her grandchildren, but since knowing her connection to others, it had made her feel more secure – it means that she could also be assisted as well. Collective recognition of their connectivity was further reinforced in the *What If* scenario exercise that triggered discussion on unexpected emergencies like 'no power, phone or internet'. It prompted participants to identify key people whom they will pass on and receive information from, visualised in the social network diagram.

Towards the end of the workshop, J facilitated group discussion where participants nominated two tasks they could undertake as a strategy of moving forward. Most volunteered to adopt roles in their own street, the assistance they could provide to others and identifying information that they could pass on. This ensured that preparation was

connected to their lives and those around them. Knowing what others were going to do eased any anxiety of being over-burdened. They recognised that they did not need to be totally dependent upon the emergency agencies, nor did they have to be totally self-sufficient and do everything alone. The importance of social networks is touched upon in the sixth principle of transformation, Enhancing Imagination and Hope and relational ties are key to building partnerships and trusting relationships. To add, social networks reinforces such social capital and are fundamental for transformation and strengthening resilience as it plays a unique role in fostering information flows and exchange and become a repository of local knowledge (Akama et al, 2013). There is latent potential in social networks, especially those that span across many groups beyond kinship ties to enable people to gain access to advice, services, support and resources. This relational process supports transformation and adaptive capacity, mobilising collective action and prevents social isolation. Likewise, the participants in J's case study demonstrated their collective resilience by rising above the devastation of previous successive floods and in displaying their concern and inter-connectedness with one another and the broader community. In essence, it could be argued that they are now better placed to cope in future disasters than other fragmented and disconnected communities in Australia. Their approach to collective preparedness and planning ensured it was designed in their own words, taking into account their own and each others' contexts and they take ownership of what happens. Their plan has been put forward to the local council to support and passed on to Emergency Management Queensland as their Disaster Ready Strategy.

Letting go ...: Embracing indeterminacy and reflexivity

The importance of participant engagement and empowerment is central to J's practice – a practice built through many years of witnessing ineffective 'lectures' by well-meaning 'experts' who "talk at them rather than with them". J said the hardest thing about community work is the assumption, personal beliefs and expectations brought by the practitioner on what *should* happen and how it *should* happen because "I'm supposed to have the expertise". An expectation that is often placed upon the practitioner by themselves, or by the stakeholders they work for and with. In fact, J explains that the practitioner needs to put the delivery of a project as secondary, and instead, initially engage in active listening in order to achieve a trusting, respectful relationship with the community. "We may have the knowledge [but] the hardest thing is to let go of [our] expertise and to build capacity ... and they do it their way."

J's observations on 'letting go of expertise' so 'they do it their way' can be confronting for designers. To design, after all, is to have an intention and purpose. Could expertise and intention really be relinquished? This is tentatively touched upon in the fourth principle of Redistribution of Power, where it describes the potential tension between researchers and participants. The control dilemma that is discussed as a principle relates to external divisions of who is directing the process of change, whether it is the designer-researcher or the user-participant, but it could also relate to the control dilemma within our own approaches. It is better to 'let go of' expectation, dependency and reliance upon theory and methods alone. They are useful and valuable as discussed here, but they cannot be taken for granted in achieving desired outcomes. Instead, I advocate for a kind of surrendering and openness in the practitioner, to embrace indeterminacy and allow for a process that can keep evolving, changing and transforming in ways that may have not been intentional or foreseen at the beginning. To many, this may sound paradoxical and frustratingly confusing, particularly in design research where rigour is often determined by replicable and generalisable

methodology (Akama & Light, 2012). However, I emphasise again the importance of the human dimension – to design in this space is to *become* transformative, rather than merely *understand* transformation (Akama, 2012).

Such introspection, questioning and curiosity for our own values and motivation are important. This is because transformations are not limited to the process, method or what the community does, during or afterwards. We do not yet know about the transformation that occurs within a practitioner as they engage in this kind of process, which omits a vital part of a story. In theory, the approaches described in transformation design, designing for social innovation, participatory design and community-centred design can appear similar, but in practice they are not, especially when it is the people who enact, catalyse and sustain 'change' in their localised contexts. We must embark on a human-centred turn for a deeper and fuller account of designing transformative practices.

Having an honest, open and personal conversation with J and M, and with many other practitioners, researchers and residents over the last five years have significantly shaped my practice. As discussed throughout this paper, this journey enabled critical learning opportunities to understand the tensions inherent in emergency management, the power dynamics of different communities and the challenges of enabling participation. Through this journey, I have developed the ability to be more open, to listen more actively, to attune into different viewpoints and to surrender expectation. To directly experience how hard it is to be challenged, grow and transform also means one gains the ability to build greater empathy for others who are also engaging in the process of transformation too. And indeed, J also admits that it had taken close to ten years of working with communities to be able to 'let go' of her expectations and expertise, and her practice is richer because of this. Such personal stories of transformation need to be explored and shared, and more so in design.

The process of bringing the rich transformative learnings from praxis into the service design discourse is still relatively nascent, and for that matter, reflexivity of the designer researcher is necessary to critically question their interventions on what they are actually doing, why and for the benefit of whom (Sangiorgi, 2011). Interestingly, self-criticality and reflexivity are not stated in the seven key principles for designing transformative practices and, yet, I consider it is a fundamental part of the process. In parallel to designing transformative practices with and for others, I argue that we need to develop a reflexivity of our own values, perceptions and attitudes that manifest as we engage with others. We need to surrender and 'let go' of our expectations and dependency upon methods and principles alone to build a practice and awareness around our own processes of transformation.

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References

Akama, Y. (2012). A 'way of being': Zen and the art of being a human-centred practitioner. *Design Philosophy Papers*, 1, 1-10.

- Akama, Y., Chaplin, S., & Fairbrother, P. (2013). Social Networks and bushfire preparedness, Proceedings of the International Conference on Risk-informed Disaster Management: Planning for Response, Recover and Resilience, Queensland University of Technology, Brisbane, Australia.
- Akama, Y., & Prendiville, A. (2013). Embodying, enacting and entangling design: a phenomenological view to co-designing services. *Swedish Design Research Journal*, 1, 29-40.
- Akama, Y., & Light, A. (2012). A candour in reporting: designing dexterously for fire preparedness. *Proceedings of CHI 2012*: ACM digital library.
- Akama, Y., & Ivanka, T. (2010.). What community? Facilitating awareness of 'community' through Playful Triggers. *Proceedings of the Participatory Design 2010*, Sydney, Australia.:ACM digital library.
- Blake, T. (2001). A dumping ground: a history of the Cherbourg Settlement. St Lucia, Queensland: University of Queensland Press.
- Burns, C., Cottam, H., Vanstone, C., & Winhall, J. (2006). RED paper 02: Transformation design, The Design Council, London.
- DiSalvo, C., Clement, A., & Pipek, V. (2013). Communities: Participatory Design for, with and by communities. In J. Simonsen & T. Robertson (Eds.), Routledge International Handbook of Participatory Design (pp. 182-209). London and New York: Routledge.
- Hughes, L. and W. Steffen (2013). *Be Prepared: Climate Change and the Australian Bushfire Threat*, Climate Council of Australia. Retrieved from http://www.climatecouncil.org.au/uploads/c597d19c0ab18366cfbf7b9f6235ef7c.pdf
- Kiem, M. (2013). If political design changed anything they'd make it illegal. *Design Philosophy Papers*, 1, 1-8.
- Le Dantec, C. A., & Disalvo, C. (2013). Infrastructuring and the formation of publics in participatory design. *Social Studies of Science*, 43(2), 241-264.
- Light, A., & Akama, Y. (2012). The human touch: from method to participatory practice in facilitating design with communities. *Proceedings of the Participatory Design 2012*, Roskilde, Denmark.
- Manzini, E. (2010). Small, local, open and connected: Design for social innovation and sustainability. *The Journal of Design Strategies*, 4(1), 8-11.
- Meroni, A., & Sangiorgi, D. (2011). Design for services. Farnham, England: Gower.
- Pink, S. (2008). Re-thinking Contemporary Activism: From Community to Emplaced Sociality. *Ethnos*, 73(2), 163-188.
- Polaine, A., Løvlie, L., & Reason, B. (2013). Service Design: From Insight to Implementation. New York: Rosenfeld Media.
- Sangiorgi, D. (2011). Transformative Services and Transformation Design. *International Journal of Design*, 5(2), 29-40.
- Schein, E. H. (1996). Kurt Lewin's change theory in the field and in the classroom: Notes toward a model of managed learning. *Systems Practice*, 9(1), 27-47.
- Stickdorn, M., & Schneider, J. (2010). This is service design thinking. Amsterdam: BIS Publishers.
- Teague, B., McLeod, R., & Pascoe, S. (2010) Victorian Bushfires Royal Commission Final Report Summary. Melbourne, Australia: Parliament of Victoria.