Journal of the HEIA
Vol 19, No. 3, 2012

Interior architecture as an agent for wellbeing

Dianne Smith, Priya Metcalfe & Marina Lommerse

Abstract

Wellbeing is affected by our physical surroundings, which are an extension of who we are as people. The built environment, sensitively designed, can offer a sense of belonging for the individual, the family and the community, thereby positively affecting wellbeing. Interior architects can respond to the diverse needs and aspirations of people through their skills in design and their knowledge of occupation. This paper explores the attributes that interior architects bring to the perception and development of the built environment, and how they can contribute to wellbeing through their impact on social sustainability. It examines how socially sensitive and responsible interior architects can create environments that enrich people's lives by redefining traditional constructs of interior architecture practice, and using interdisciplinary strategies to address issues of social sustainability in an increasingly complex world. Through real-life examples, the authors describe how interior architects can work to create built environments that are socially sustainable and responsible, and enhance the quality of life for individuals and communities. As a result, other disciplines may see opportunities for collaborative interdisciplinary work in the area of wellbeing.

Keywords

community engagement interior architecture interior design social aspects of design social justice social sustainability sustainable architecture wellbeing

Introduction

Wellbeing is a dynamic state in humans, constituted by '*a sense of individual vitality*', a need '*to undertake activities which are meaningful, engaging, and which make them feel competent and autonomous*', and an ability '*to cope when things go wrong and be resilient to changes beyond their immediate control*'; it depends in part on '*the degree to which they have supportive relationships and a sense of connection to others*' (National Accounts of Wellbeing, n.d.).

Environments that people inhabit and experience have the power to enhance the wellbeing of individuals and their communities. Historically, wellbeing and interior design have been linked through the creation of hospitals, doctors' surgeries and other related facilities for health care and treatment of illness. Recent trends in interior architecture have broadened the scope beyond the medical model of treating the sick, aged and disabled to the wellbeing of all people in their everyday environments (Smith, 2011). However, interior architecture often goes unnoticed in discussions concerning wellbeing.

Interior design/interior architecture[1] can also be applied to situations in which people are marginalised and where social justice is neglected or challenged. Traditionally, these areas have not been considered part of mainstream interior architecture practice, where there has been an emphasis on lifestyle and aesthetics in affluent domestic and public interiors. The International Federation of Interior Architects/Designers (IFI) and many of the national professional design bodies recognise the discipline's potential for broader application, and are calling for interior architecture practitioners to be involved in socially responsible design. Smith, Lommerse and Metcalfe (2011) identified the various current modes of practitioner involvement represented by a number of case studies. They called for others contributing in this way to make their work explicit, and encouraged other practitioners to engage in such work. Their findings challenge the traditional, more common constructs of how interior architects are understood and portrayed, particularly by the media, who often construct interior design in terms of superficial

1. The terms interior architecture and interior design, and interior architect and interior designer are used in various parts of the world to describe the discipline area and its practitioners. The terms are used interchangeably in this paper.

Contact details:
Dr Dianne Smith
Associate Professor and Head of Program, Interior Architecture
Department of Architecture and Interior Architecture, School of the Built Environment
Curtin University
Email: dianne.smith@curtin.edu.au
Mob: +61 413 034 348

Priya Metcalfe
Lecturer
Department of Architecture and Interior Architecture, School of the Built Environment
Curtin University
Email: p.metcalfe@curtin.edu.au
Mob: +61 417 988 671

Associate Professor Marina Lommerse
Department of Architecture and Interior Architecture, School of the Built Environment
Curtin University
Email: marina@marinalommerse.com
Mob: +61 437 726 459

interventions or decoration—for example, television programs such as *Changing Rooms* and *60 Minute Makeover*, magazines such as *House & Garden* and newspaper sections such as 'Habitat' in *The West Australian*.

This paper proposes that socially responsible interior architecture is an essential factor in providing the conditions for the wellbeing of individuals and communities. It draws from the authors' more recent research practice as well as extensively from material in *Life from the inside: Perspectives on social responsibility and interior architecture* (Smith, Lommerse, & Metcalfe, 2011). Tim Costello, CEO of World Vision Australia, describes the authors' vision in his foreword to *Life from the inside* (Smith, Lommerse, & Metcalfe, 2011):

> *No living thing can be understood without knowing its habitat. This holds true of human society. A sense of space and place is intimately bound up with the human experience of being and becoming—the way in which people find their place as self in society, the way in which they build meaningful relationships with others, the way they individually and collectively construct a 'good life'* (p.6).

"A sense of space and place is intimately bound up with the human experience of being and becoming"

The premise is that the key attributes of practitioners of interior architecture, which have been identified from practice and through research and teaching, should enable interior architects to address these topical and often pressing circumstances in a meaningful way. Following a brief overview of contemporary interior architecture, the paper will describe these attributes and provide examples of how they can be applied to socially responsible design practice. The application of design practice that is informed by the ethics of social justice will then be discussed. The examples include different scales of environments—houses to large-scale mixed-use developments—as well as differing relationship dynamics that need to be considered in the client communities, such as kinship or cross-cultural interaction. These examples demonstrate how individuals, families and their communities may be empowered or undergo transformation through the construction of the physical environment.

Interior architecture

In environmentally responsible practice, the discipline of interior architecture is defined as the relationship between person and environment. Opportunities for improving the quality of people's environment, and their interaction with it, are enhanced when the actual and potential forces that impact on life are understood and included in designs.

In a new and evolving global context, an understanding of interior architecture practice needs to address the unfolding moral and environmental issues. Globalisation, mass communication, advanced technologies, the homogeneity of lifestyle brought by consumerism, branding, increasing poverty, climate change and population growth, highlight the opportunities and the need for change in interior architecture practice. Such complexity suggests a need for 'systems thinking' to understand and address the challenges faced. Bawden & Macadam (cited in Victorian Government Department of Sustainability and Environment, 2005) explain that a systems approach explores the relationships between social, environmental and economic connections. Instead of breaking a problem into its component or disciplinary parts for detailed examination, it examines '*the links and interrelationships of the whole system; patterns and themes emerge which offer insights and new meaning to the initial problem*' (p.15). Costello (cited in Smith, Lommerse, & Metcalfe, 2011) adds:

> *In the twenty-first century we seem to have entered into a new world of knowledge discovery, where many of the most exciting insights come not from the authority of a traditional discipline, but from the dialogue that happens at the hubs and intersections of thought—the arenas where different disciplines and approaches, different schools and habits of thinking, come together to collaborate and contend (p.7).*

Interior architecture is not an isolated discipline, but an integral aspect of a larger system, and demonstrates system-like characteristics in itself. Design is interwoven with cultural, social, psychological and environmental strands in the fabric of everyday life. Practitioners who are able to discern and develop these fertile engagements have much to offer in the contemporary world.

Attributes of interior architects

Within an evolving global context, interior architecture's understanding of people and occupation is an important part of the design narrative. At the fundamental level of design practice, an interior architect's philosophy of environmentally sensitive and psychologically informed practice can produce socially responsible and inclusive design through its emphasis on the person and enhancing their quality of life (Beeck, Smith, Lommerse, & Metcalfe, 2011). The literature on relationships between people and their environment includes design for people who are members of minority groups or who may be marginalised (Zeisal, 2006). Smith (2011) describes the attributes that designers of interiors

need to bring to socially responsible projects, and are particularly relevant to enhancing occupation and wellbeing for marginalised groups. These attributes are summarised below.

An awareness of how the environment influences orientation, navigation, and travel or mobility

Environments that use nonverbal cues to facilitate orientation and way-finding can reduce stress. Imagine the impact of design decisions for people with sick children when they need to access emergency wards in hospitals. Consider how design can help people who do not speak the dominant language to make sense of their surroundings when shopping. Can design assist someone with a cognitive disability (such as dementia) to find their way to the toilet? Socially sensitive and responsible design can reduce levels of stress and support the person's ability to act and to cope with the tasks and challenges of everyday life. When space is arranged with sensitivity to these issues, the occupants will be able to interact more effectively with the environment.

Understanding of how the environment influences mood and atmosphere

The physical environment can affect the emotions and spirits of people, including those with physical or mental disabilities either in negative, constricting ways or positive, therapeutic ways, or a mix of both. Noise, temperature and lighting, a sense of safety and vistas to look out on, can influence the person's state of being, momentarily or in the long-term, depending on the context (Rashid & Zimring, 2008; Woolner & Hall, 2010). Moreover, the materials, lighting and decoration of an environment have a positive influence on the atmosphere, and thereby, on the occupants' mood.

Understanding function, activity and the associated physical and spatial requirements

People's wellbeing is supported by design practice that is informed by a deep understanding of function, activity and the associated physical and spatial requirements. Everyday activities such as cooking and eating are, of course, part of contemporary design briefs, but interior architecture is also concerned with identifying what individuals, families and communities need at a deeper level.

Understanding of how the environment influences image and identity and sense of self and/or community

The individual's sense of self is challenged during illness, disasters or when institutionalised. Designers can bring sensitive awareness and empathy to the task of designing an environment that will positively affect mental states—one where people can feel calm and safe, rather than irritable and anxious (Evans, 2003; Ulrich, Zimring, Xiaobo, Joseph, & Choudhary, 2004; Woolner, 2010). Design that is sensitive to people's needs, especially in challenging circumstances, can enable flexibility and personal expression. Interior design also needs to take account of the ways in which interaction between people may take place, whether direct or indirect, formal or informal, private or public, social or antisocial, collective or intimate.

Understanding of how the environment engenders or inhibits a sense of privacy

Interior architects, through their understanding of environmental psychology and the relationship between the person and their environment, and through their knowledge of aesthetics and of the phenomenology of experience, can facilitate a sense of belonging, privacy and control. This enhances people's ability to express or conceal their identity as they engage with the environment, and to select with whom and where this may occur (Wilson & Mackenzie, 2000; Dijkstra, 2009; Galvin, 2010).

An awareness of environment as an enabler of self-expression

A person may be seen as distinct from the physical setting. However, people are also interdependent with their settings and belongings, within and among which they construct themselves and each other through their ongoing interactions (Smith, 2008). People's surroundings acquire meaning for them through their attachments and memories (Rapoport, 1990). Designers who understand these relationships can apply these principles to various environmental settings to facilitate a sense of self-esteem and community identity.

An awareness of environment as a facilitator of levels of and degree of interaction

Settings also provide clues by which people make assumptions about other people. These assumptions can impact on the wellbeing of the observer or of the one who is being interpreted. People are generally treated according to how they are seen and understood.

Understanding of the interdependence of the person and the environment as a whole and its constituent parts

Dominant ways of conceptualising the world can cause the individual (as they see themselves) to

“People are also interdependent with their settings and belongings, within and among which they construct themselves and each other through their ongoing interactions”

be lost in the dominant family or community rituals and understandings. The design of the environment can reduce or mitigate this phenomenon, so the individual is not submerged.

Knowledge of rituals and their physical, social and psychological contexts

In contrast, other individuals need to have rituals enabled in order to feel at peace and to live a full spiritual or religious life, whether in a mosque, a cathedral or a home; again, understanding cultural contexts and embedding them in the design of the spaces can facilitate wellbeing.

Other attributes include:

- understanding of the interplay of meaning and purpose for individuals and collectives
- a sensitivity to people's needs and an ability to communicate.

Interior architecture and social sustainability

When defining the value of sustainability in interior architecture, it is necessary to consider 'sustainable development' and 'sustainable communities' as part of the discussion. According to the Brutland Report (World Commission on Environment and Development, 1987), '*Sustainable development ensures the needs of the present [are met] without compromising the ability of future generations to meet their own needs*' (p.240). Sustainable communities are characterised by a strong connection to place, building capacity and resilience to external forces. These connections protect the community and create alliances beyond that community (Northwest Policy Institute, n.d.). The concept of sustainable development is ecocentric, emphasising the effective use of resources. The concept of sustainable communities, on the other hand, is anthropocentric, focusing on human relationships, people's needs and their quality of life (Kearns & Turok, cited in Jarvis, Pratt, & Cheng-Chong Wu, 2010). Social sustainability captures the human dimension of the sustainability discourse, rather than focusing on environments only in terms of energy and resources.

"The concept of sustainable communities ... is anthropocentric, focusing on human relationships, people's needs and their quality of life"

As Dillard, Dujon and King (2009) state: '*The challenge of sustainability is to limit the environmental harm while reducing the deprivation and suffering resulting from poverty as well as excess*' (p.1).

Social sustainability is the ability of a society's or an individual's lifestyle to continue in a way that suits their needs and those of subsequent generations. The values and spiritual aspirations of the people should be reflected in their interior environment, and the processes and activities involved in design should respect their history, current needs and future potential beliefs and rituals. Access to such environments should not be at the expense of others. Social sustainability recognises that the environment and its design facilitate relationships and experiences fundamental to who we are as people and as a society, and that basic human rights to dignity, security and shelter are met now and into the future.

Interior architecture that is socially responsible provides a reflexive and responsive practice that addresses both the broader context (of socioeconomic conditions, climate, and national/political ethos) and the personal and cultural needs of communities. Interior architecture should be championed by planners, practitioners, educators and academics as a powerful agent for construction of more sustainable communities that address people's fundamental and changing needs.

Interior architecture practice recognises that issues of social justice are embedded in the longevity and continuity of cultures in society, and the sum of these is social sustainability. The ethic of social justice is that all human beings are entitled to basic rights, to be treated with dignity, and to have a sense of identity within their day-to-day life. All people have a right to be treated equitably in regard to resources and conditions, so that they may experience a basic standard of living that provides security, shelter and comfort. The basic human rights of dignity and access to usable facilities are dependent on equity of access. A lack of education or finance, for example, may prevent some people from taking an opportunity that is accessible to others. In these cases, although it may appear to the outsider that there is opportunity for all, in reality, access is compromised for the disadvantaged individuals. Social justice in practice can foster positive change at a personal level. Vienne (2003) states that '*we are about to redefine the very nature of design*', (p.244) and there is a pressing need to consider '*how interior architecture relates to the quality of life for those who are without, disadvantaged or non-mainstream*' (p.244).

In areas of high-level disaster and trauma, those who are best able to address the construction of services and infrastructure are needed at the forefront of action. People with skills in engineering and building, sanitation and medicine, are often the first to be consulted. What may be overlooked is that, when helping people whose living conditions will affect their mid- to long-term realities, the skills and knowledge of an interior designer will be of great value.

While basic human needs for clean water, shelter and sanitation are crucial to existence the world over, people's lived experiences embrace other aspects of life. Aspects such as community, cultural, social and ritual behaviours are equally important in the minutiae of daily life. The sites of these aspects are both natural and human-made, and encompass work, social interaction, traditional religious or cultural rituals and domesticity. It is the constructed environments that are of concern here, along with their social sustainability through continued use, which may evolve over time to reflect shifting social mores and changing technologies; they may also change through adaptive re-use of what would otherwise become redundant sites, settings, buildings and their interiors.

The examples in the following section outline the potential this discipline has to make real changes in the lives of the people with whom it engages.

Applying the attributes of interior architecture to socially sustainable design

Environments are important to social sustainability and to individual and community wellbeing. Interior architects, through their practice and knowledge, can support the aspirations and facilitate the empowerment of communities. That is, the processes involved in design, and the synergistic relationships within a community and between the design team and the community, allow the individual and/or the collective to step out of their personal situation, to envisage themselves in a new light, to open up hopeful possibilities of a different future, and to create a long-term flow-on effect of benefits.

The case studies that follow involve different scales of environment and different kinds of relationships, including traditional family units and kinship structures. Disparate groups have contributed to these projects, including design students working with construction tradespeople from diverse cultures and socioeconomic backgrounds, and a community that was decimated by political and economic forces and envisioned a transformative future. Each, in its own way, demonstrates how individuals, families and communities can be empowered. The first case study analyses the limitations of state housing for Indigenous people, and how such projects can be made more culturally appropriate; the second exemplifies a cross-cultural design/build project; and the third is the story of how a culturally significant site was redeveloped. Each study will be discussed in terms of the main interior architecture attributes that have been identified so far.

The case studies highlight the role of the physical environment in the social and cultural dynamic, and how the application of interior architecture processes and attributes impacts positively on individual experience. These projects are drawn from and discussed more fully in *Life from the inside* (Smith, Lommerse, & Metcalfe, 2011).

Case study 1: State housing for Indigenous people

Memmott (2011), an anthropologist and architect, writes of current government sector mainstreaming policy in relation to remote-area Aboriginal housing. He points out that assumptions that '*the nuclear family [is] the norm and the expectation that families will display a patterned distribution of domiciliary behaviour-types in conventional household spaces according to Anglo-Australian norms*' are not appropriate to the design of Australian Aboriginal housing (p.125). He identifies the critical need for architects and interior architects to contribute to culturally appropriate domestic buildings and interiors:

> *to competently design appropriate residential accommodation for Aboriginal people who have traditionally oriented lifestyles, architects [or interior designers] must understand the nature of those lifestyles, particularly in the domiciliary context. The knowledge also increases understanding of the needs of groups who have undergone cultural changes, including those in rural, urban and metropolitan settings, by helping to identify those aspects of their customary domiciliary behaviour that have been retained* (p.124).

Memmott's (2011) observations demonstrate the significant role that both the architect and the interior designer can play (but currently infrequently do) through their commitment to some of the key attributes that were identified earlier. The attributes of culturally sensitive design implied in Memmott's platform include:

- an understanding of the functions, activities and associated physical and spatial requirements of the inhabitants
- an understanding of how the environment influences personal image, identity and sense of community
- awareness of environment as a facilitator of levels and degree of interaction
- an understanding of the interplay of meaning and purpose for individuals and collectives
- knowledge of rituals and their physical, social and psychological contexts.

> "Critical need for architects and interior architects to contribute to culturally appropriate domestic buildings and interiors"

The key contextual issues that need to be recognised include:

- the pervasive influence of Aboriginal kinship on household behaviour

"A number of family units may occupy a house, and clearly defined rooms such as the kitchen, living room and bedroom within an Anglo-Australian home cease to exist"

- remote Aboriginal household structures
- the relationship between large Indigenous households and crowding
- the need to design houses for large household sizes with culturally specific behaviours
- space for activities in semi-enclosed and outdoor spaces.

Aboriginal kinships are coded in terms of the various relationships and obligations between relatives, such as father–son, sister's son and mother's brother, which have an impact on the spatial relationships in the interior and determine the way that a household is occupied.

This is distinctively different from the typical Anglo-Australian family relationships. A number of family units may occupy a house, and clearly defined rooms such as the kitchen, living room and bedroom within an Anglo-Australian home cease to exist (Memmott, 2011). Enforcement of the typical Anglo-Australian housing model in traditional Aboriginal communities creates the stress of crowding and forces a coping mechanism of rules that govern the occupation of the interior; these rules are based on age, gender, conjugal status and kinship (Memmott, 2011). Aboriginal families are frequently larger than the conventional household model can accommodate, leading to stress and in some cases hostility. The families tend to prefer sleeping and socialising outside, both for climatic reasons, and to allow surveillance over the immediate environment. Interior architecture is well placed to bring more appropriate design models for these communities.

Case study 2: Cross-cultural design/build project

The second case that addresses some of the identified attributes of sustainable design is drawn from Beaverford's (2011) 'More than bricks and mortar: lessons in design and world citizenship', in which she discusses 'Service Learning in the Global Community'. Service Learning in the Global Community is an annual community-based non-profit design and build elective study unit in various countries, as part of built environment courses offered at the University of Manitoba. It is a project in Northern Ghana, where a kitchen, dining room and study hall were constructed. Although Beaverford describes the principal learning objectives as 'international knowledge and intercultural competencies', the project also addresses a number of knowledge-based objectives for her students.

This example demonstrates the importance of education in fostering change to practice, by modelling how students can use key attributes of design for social sustainability. Students learned of sustainable building practices, born out of necessity, such as the preference for local materials and re-use of materials, including nails that needed to be hammered straight for re-use. Another need was to adapt tools and allow for natural ventilation, as commonly found in the vernacular architecture. The team learned to respect Ghanaian resourcefulness and skills in the traditional methods employed to construct foundations, masonry and window frames without the benefit of power tools. Beaverford (2011) describes 'Service Learning in the Local Community' as '*recognising the need to expand the professions, to become more inclusive in the way we work and more responsive to the communities we serve*' (p.71).

In this project, a number of the attributes outlined in Case study 2 and aspects identified as lacking in housing for remote Aboriginal communities are addressed, including community engagement, social justice, sustainability, understanding function, activity and the associated physical and spatial requirements; understanding the interplay of meaning and purpose for individuals and collectives; and sensitivity to people's needs and ability to communicate.

Case study 3: The redevelopment of a culturally significant site (Midland Railway Workshops)

The final case (Metcalfe, 2011) involves a different scale of practice in a community over a period of time: the conversion of the Midland Railway Workshops by the Midland Redevelopment Authority in Perth, Western Australia. This project focuses on community engagement and cultural identity in relation to the revitalisation of Midland, traditionally a primarily industrial centre east of Perth city centre.

In this project, Metcalfe (2011) reveals two examples of social sustainability:

- the social values that are acknowledged in the retention and ongoing use of culturally significant places and their settings as part of the continuum of human occupation
- the recognition of building-embodied histories and memories that communities value for their past associations and wish to preserve through conservation and, where necessary, adaptation, while recognising that in such cases there is a degree of compromise to the use, fabric and settings of these places.

Metcalfe (2011) explains:

> *The solution [to the site] is its gradual conversion with the express intention of retaining its heritage*

values. The overall industrial nature of the site, particularly through the changes to the open spaces, will inevitably be altered in its character. While this, along with the introduction of new buildings, will have a fundamental impact on the aesthetics of the Workshops from a gritty industrial workplace to a publicly accessible collection of open spaces that allow access to the site and its buildings, it represents the kind of compromise that has to be made to ensure the preservation and ongoing use of the place and thus the retention of its social sustainability, albeit in an altered state (p.166).

The contribution of both architects and interior architects in the conversion of the Midland Railway Workshops is an example of the attributes of socially sustainable design practice previously identified. The site was converted with:

- an understanding of how the environment influences mood and atmosphere
- an understanding of function, activity and the associated physical and spatial requirements
- an understanding of how the environment influences image, identity and sense of community
- an awareness of environment as a facilitator of levels and degree of interaction
- an understanding of the interplay of meaning and purpose for individuals and collectives
- sensitivity to people's needs, and an ability to communicate.

The value of this conversion of a heritage site lies in the community's desire to preserve important buildings, their sites and their interiors, for these speak of the evolution of architectural styles and practice. They also provide evidence of the layers of human modification of the natural environment and contribute to the richness of Western Australia's built and social history. The ongoing use of such sites, either for their originally intended purpose or through adaptation for new use, is evidence of their sustainability, be it social, economic or ecological.

Concluding comments

This paper has explored the potential of interior architects to contribute to projects that have social responsibility as a focus. Practitioners and students have the necessary skills and knowledge to contribute meaningfully—may be as part of a cross-disciplinary team or in their own right. The case studies provide examples of how these contributions may be made.

The wellbeing of individuals and communities depends on shelter, a sense of security and vitality, and the ability to form meaningful relationships and to have some sense of connectedness. The physical environment can sustain or obstruct these benefits, and interior architects can maximise lasting good outcomes through socially responsible design processes.

It must be stressed that although case studies are included to demonstrate principles and to stimulate discussion, the authors do not see this as an endpoint. In the last year alone, new examples and issues that need further work have arisen as a result. What is common to all these projects are the attributes of the interior architect that has enabled them to participate meaningfully, as described briefly below.

Firstly, 'Dis[place]ment: A woman's perspective', is an investigation into how women conceptualise places where they feel safe and those where they feel vulnerable. It is a precursor to a project to design safe-sensitive spaces for them, such as women's refuges (Churchill, Smith, & Lommerse, 2012; Lommerse, Churchill, Smith, Donnachie, & Day, 2012).

Secondly, a student multicultural community engagement project involved designing an interior (a community service centre) for a rural community. It included the compilation of a brief, through client involvement, that includes people 'on the street' as well as government and other strategic stakeholders (Parnell & Smith, 2012).

Thirdly, an international cross-disciplinary project based in India offers other modes of engagement, including: dwelling studies by students from Curtin University to understand the issues for the locals within a rural village; gender studies by staff to explore how the built environment positioned the female within the village, as well as village mapping of infrastructure and its implications; and an on-site survey and planning of future restoration of a building of cultural heritage significance.

> "Interior architects can maximise lasting good outcomes through socially responsible design processes"

What does the discipline of Interior Architecture contribute to these projects? It brings a deep-seated interest in people and how they occupy space. In addition, a desire to extend and enrich the theory of the person–environment relation provides a solid basis upon which to build further projects that contribute positively to people's everyday lives. And finally, creative thinking and problem conceptualisation, as well as representation that interrogates situations in new ways, enables interior architects to bring information from other disciplines together in ways that innovate new ways of 'seeing' the

situation. This includes nonverbal means to communicate with and to other participants.

The examples in this paper are complemented by projects by academics and students in other universities in Australia (Attiwill, 2012), New Zealand and beyond. Many interior scholars and practitioners are seeking to be involved in this way, and it is hoped that through collectively communicating our experiences, the value of interior architecture in socially sustainable practice can reach its full potential.

> "A desire to extend and enrich the theory of the person–environment relation provides a solid basis upon which to build further projects that contribute positively to people's everyday lives"

Future research may include mapping of projects and their impact, and further exploration of modes of engagement and the attributes of the associated processes, as well as of new ways of engaging in the creative practices of design thinking, designing and construction. All these thrusts will have the aim of making positive change for people. Community engagement through design and collaborative design are additional areas for further investigation. Within design education, another area for development is socially responsible design as a means to develop authentic learning. It is through such studies that the premises of socially responsible design that we have researched, taught and practised, will be further developed and firmly established.

To conclude, as noted by Smith, Metcalfe and Lommerse (2011): '*The field of Interior Architecture is defined by the way we act, and the opportunities for a shift in, and challenge to, perception*' (p.6).

References

Attiwill, S. (2012). Beyond building: Interior designs. IDEA Symposium Proceedings: *Interior: A state of becoming,* Book 1 (p.17). Perth.

Beaverford, K. (2011). More than bricks and mortar: Lessons in design and world citizenship. In D. Smith, M. Lommerse, & P. Metcalfe (Eds.), *Life from the inside: Perspectives on social sustainability and interior architecture* (pp.58–73). Perth: Paper and Pencil Press.

Beeck, S., Smith, D., Lommerse, M., & Metcalfe, P. (2011). An introduction to social sustainability and interior architecture. In D. Smith, M. Lommerse, & P. Metcalfe (Eds.), *Life from the inside: Perspectives on social sustainability and interior architecture* (pp.9–21). Perth: Paper and Pencil Press.

Churchill, L., Smith, D., & Lommerse, M. (2012). Empowering through design: A case of becoming. IDEA Symposium Proceedings: *Interior: A state of becoming,* Book 1 (p.48). Perth.

Dijkstra, K. (2009). *Understanding healing environments: Effects of physical environmental stimuli on patients' health and well-being.* (Dissertation). Retrieved from http://doc.utwente.nl/60753/1/thesis_K_Dijkstra.pdf

Dillard, J., Dujon, V., & King, M. C. (Eds.). (2009). *Understanding the social dimension of sustainability*. New York: Routledge.

Evans, G. W. (2003). The built environment and mental health. *Journal of Urban Health, 80*(4), 536–555.

Galvin, M. (2010). *Understanding and designing wellbeing in relation to our material environment.* Retrieved from http://di.ncl.ac.uk/designwellbeing/files/2011/10/Galvin.pdf

Jarvis, H., Pratt, A., & Cheng-Chong Wu, P. (2010). Understanding social sustainability: Key concepts and developments in theory and practice. In T. Manzi, K. Lucas, T. Lloyd Jones, & J. Allen (Eds.), *Social sustainability in urban areas: Communities, connectivity and the urban fabric* (pp. 1–28). London: Earthscan.

Lommerse M., Churchill, L., Smith D., Donnachie, K., & Day, J. (2012). Dis[place]ed: A woman's perspective. IDEA exhibition catalogue: *An interior affair: A state of becoming,* Book 2. (pp. 46–48). Perth.

Memmott, P. (2011). Inside the remote-area Aboriginal house. In D. Smith, M. Lommerse, & P. Metcalfe (Eds.), *Life from the inside: Perspectives on social sustainability and interior architecture* (pp.124–131). Perth: Paper and Pencil Press.

Metcalfe, P. (2011). Cultural heritage practice through socially sustainable adaptive re-use of industrial buildings: A Western Australian narrative. In D. Smith, M. Lommerse, & P. Metcalfe (Eds.), *Life from the inside: Perspectives on social sustainability and interior architecture* (pp.143–169). Perth: Paper and Pencil Press.

National Accounts of Wellbeing. (n.d.). What is wellbeing? Retrieved from http://www.nationalaccountsofwellbeing.org/learn/what-is-wellbeing.html

Northwest Policy Institute, University of Washington Graduate School. (n.d.) *Sustainable measures workbook.* Retrieved from http://sustainablemeasures.com/Training/Indicators/Def-NWPI.html

Parnell, R., & Smith D. (2012). Navigating the unexpected: Regional community engagement with authentic learning outcomes. Learning and Teaching Conference, Murdoch University, Perth.

Rapoport, A. (1990). *The meaning of the built environment: A nonverbal communication approach*. Tucson, AZ: University of Arizona Press.

Rashid, M., & Zimring C. (2008). A review of the empirical literature on the relationships between indoor environment and stress in health care and office settings: Problems and prospects of sharing evidence. *Environment and Behavior, 42,* 524–545.

Smith, D. (2008). Color-person-environment relationships. *Color Research & Application, 33*(4), 312–319.

Smith, D. (2011). Interiors can address social justice: Fact or fiction?. In D. Smith, M. Lommerse, & P. Metcalfe (Eds.), *Life from the inside: Perspectives on social sustainability and interior architecture* (pp.77–109). Perth: Paper and Pencil Press.

Smith, D., Lommerse, M., & Metcalfe, P. (Eds.). (2011). *Life from the inside: Perspectives on social sustainability and interior architecture.* Perth: Paper and Pencil Press.

Ulrich R., Zimring, C., Xiaobo, Q., Joseph A., & Choudhary R. (2004). Role of the physical environment in the hospital of the 21st century: A once-in-a-lifetime opportunity. *Report to The Center for Health Design for the Designing the 21st Century Hospital Project.* Retrieved from http://www.healthdesign.org/chd/research/role-physical-environment-hospital-21st-century

Victorian Government Department of Sustainability and Environment. (2005). *Effective engagement: Building relationships with community and other stakeholders, book 1: An introduction to engagement.* Version 3. Retrieved from http://www.dse.vic.gov.au/__data/assets/pdf_file/0019/105823/Book_1_-_An_Introduction_to_Engagement.pdf

Vienne, V. (2003). In a continuous state of becoming: Design responsibility tomorrow. In S. Heller, & V. Vienne (Eds.), *Citizen designer: Perspectives on design responsibility* (pp.244–246). New York: Allworth Press.

Wilson, M. A., & Mackenzie, N. E. (2000). Social attributions based on domestic interiors. *Journal of Environmental Psychology, 20*(4), 343–354. Retrieved from http://dx.doi.org/10.1006/jevp.2000.0181,

Woolner, P. (2010). *The design of learning spaces.* London: Continuum.

Woolner, P., & Hall, H. (2010). Noise in schools: A holistic approach to the issue. *International Journal of Environmental Research and Public Health, 7*(8), 3255–3269. doi: 10.3390/ijerph7083255

World Commission on Environment and Development. (1987). *The Bruntland Report: Our common future.* Oxford University Press (p.240, Item 27). Retrieved from <http://www.worldinbalance.net/ pdf/1987-brundtland.php>

Zeisel, J. (2006) *Inquiry by design: Environment/behavior/neuroscience in architecture, interiors, landscape, and planning.* New York: Norton.