akademisk kvarter
academic quarter

Volume 09 • 2014

Explore, Understand, Share and Show How

Four creative ways to use hermeneutic phenomenology to inspire human-centred creativity in engineering design

Dr. Ian Coxon

is currently an Associate Professor of Experience Design in the Department of Technology and Innovation; at the University of Southern Denmark. His research into the structure and epistemology of human experience formed the basis of his doctorate and guides his ongoing research and teaching interests. His current research focuses on a renaissance in the Ecology of Care.

Abstract

At our engineering research centre we have been applying hermeneutic phenomenology in a broad spectrum of projects for understanding everyday human experience. Through our work, we have experimented with and explored creative ways to 'get into' the lives of participants within the health, pharmaceuticals, education, manufacturing and local government sectors. Some of our ideas are a little unorthodox but we are discovering that they work and can provide powerful insights into the everyday 'natural' worlds of ordinary people. Finding new ways to capture lived experiences (as best we can), understanding hidden 'meaning structures' contained within them at the most primordial level, and communicating these insights *experientially* are the goals that drive us. In this paper we will share some examples of how we have combined design thinking with hermeneutic phenomenology in a four stage framework (Exploring, Sharing, Understanding and Showing How); constantly referring back to philosophical first principles to inspire new approaches and 'ways into' the life-world of real people.

Keywords Experience-based Designing; hermeneutic phenomenology; Human-centered design

Introduction

In this paper we describe the way a human science approach inspired by a hermeneutic phenomenological methodology has been incorporated into a structured program of research and teaching practices at the Experience-based Designing Centre (XbDC), within the University of Southern Denmark engineering faculty. We consider the search for meaning in things and in everyday life events to be fundamental to what it means to be human and as designers we are constantly struggling to design products, services, systems and environments that add meaning to people's lives. The internal 'processing' of experience as a rich and valuable source of information and particularly meaning, is an area of interest which design and engineering have pursued for many years (Anolli, 2005), but how to reliably access this strata of meaning has been elusive. The importance of the goal of making things more meaningful and therefore more desirable can be clearly seen in the role that 'ownership' or engendering a stronger bond to an interaction with a product or service has in designing for longevity or customer loyalty (Bate, 2007b; Fuad-Luke, 2002; Schmtt, 1999). This is the central goal that guides all of our activities at the XbDC especially within projects aimed at understanding everyday human experience for design and engineering purposes. A key theme within this paper is the manner in which we are experimenting with ways to more deeply understand the meaning contained in others experiences. In the pages that follow, we will present some of the ways we have 'captured' lived experiences (as best we can); how we make sense of or understand the hidden 'meaning structures' contained within experiences at a primordial level, and how we design ways to communicate our insights 'artistically' and experientially for designing.

The paper is structured around four 'pillars' of Experience-based Designing (XbD) (described below). This is the methodological framework (and design process) guiding our approach to research and teaching within the XbD Centre. Throughout this structure we have woven a discussion of the philosophical/theoretical material relevant to each stage of the process along with supporting empirical material and lessons from the field.

Our four 'pillars'

The Four Pillars of XbD refers to four (non-linear) stages of a methodological process of Experience-based designing that are very focused on the explication and application of *meaning* within a specified experiential field. There is an exploring and data gathering stage (*Explore*); an analysis, synthesis and understanding stage (*Understand*); a validation, collaboration and communication stage (*Share*) and a concept, prototyping, design development stage (*Show How*). These may sound as if they are discrete processes but they are in fact all non-liner, iterative and dynamic processes for developing meaning.

In each of these stages we have developed and are continually refining techniques and methods that enable us to maximize the richness contained in the information that guides our taking action (designing). We are following a clearly articulated agenda – to understand the experience of those for whom we wish to design possible mediations before we act. This means that we are always searching for new ways to get back to the fundamental experiential question – what is it like?

Applying the Four Pillars approach; what we have learned …so far

Exploring

The *Explore* stage really starts with 'finding a way in' but even before that, as Van Manen (1997) has suggested, we need to clearly designate which experience we really want to understand, 'What is the experience of [….] like?' For example, some of the projects we have worked on include the experience of rehabilitation after stroke; visual impairment in the home; disability and sexuality; gaining a university education with severe physical disability; and others. Defining the scope of the experience is important in that its 'unity'[1] as an-experience needs to be understood by the researcher otherwise it can become an unclear mixture of different experiences. Any singularity in experience is already highly complex by its very nature so that restricting its beginning and end to an understandable scale is vital. Later in the analysis stages we will also be asking questions like, how is this fragment of data important to the experience? Without a clear idea of what the experiential focus is,

we would not be able to answer this kind of question nor the substantive question i.e. what is *it* [the experience] like?

The second key aspect of our way of 'finding a way in' involves the researcher undertaking an embodiment exercise. This is not a new concept[2] we realise but perhaps the way we utilise has some new twists. We start by designing an embodiment that will be as productive and authentic as we can manage. Firstly the researcher has an initial conversation with a *lead user* (an 'experiencer') who represents a group of people whose experiences in a particular setting we wish to understand (i.e. the experience of [….]. They glean from this initial contact a rudimentary understanding of the key factors (times of day, events, situations, relationships etc.) that most powerfully influence the nature of the experience being studied. The researcher uses this information to structure (design) their embodiment so that they can begin to experience for themselves the experiential world they wish to research. We refer to this as 'priming' the researcher's subjectivity. Figure 1 below shows images from a number of researcher embodiments.

Figure 1: Embodiment exercises L-R: Visual impairment; Disability and sexuality; Cervical radiculopathy

Some researchers are able to undertake their embodiment for a few hours sometimes days however it inevitably leaves an indelible impression[3] on their subjective view of the experience which they can then use in a number of ways. Firstly, when the researcher approaches subsequent interviews they report that interviewees seem to more readily accept them as 'semi-equals' – in Gadamerian terms they have begun to 'learn the language' of the experience (Gadamer, 1975) and participants are very appreciative of the extra effort that they have put into this work. It helps to more quickly establish rapport and empathy within interviews and observations, with partici-

pants seeing the researcher now as a collaborator who wants to understand them and not simply observe them from a distance.

After completing an embodiment the researcher needs to 'write-up' their experience in a rich phenomenological description (Walcott, 1994) which includes aspects of senses, affect, cognition and context (Coxon, 2005). The subsequent auto-ethnographic 'story' of their experience is then treated as data and included along with participant's narratives, transcripts and other textualisations of the field research. This naturally generates a significant volume of data and again emphasises the importance of the embodiment exercise as a source of 'embodied knowledge' (Varela, 1996; Gallagher, 2005). This way of 'priming' the researchers intersubjective understanding provides a strong foundation for the interpretive decisions that are an essential part of the hermeneutic analysis process that follows as well as within the remaining stages of the XbD process. The process of preparing (priming) our subjectivity, mirrors Gallagher's suggestions for achieving intersubjectivity [sic] (Ibid).

> " Prior to the possibility of knowing another person's mind in either a theoretical or simulation mode, one already requires …an understanding of what it means to be an experiencing subject" (Gallagher, 2005, p.224)

Once the embodiment is completed and the researcher is ready to further explore the life-world of his participants, there are many ways this can be done and most of the techniques used are very familiar to ethnographic researchers. We are particularly interested in seeing how close we can get to understanding the *natural* experience through the eyes of the participants. Of course this form of direct access to the mind of another can never be fully achieved however our credo in XbD is, 'how close can we get?'

With this in mind we have been experimenting with various devices that enable participants to record aspects of their own world view without us being present. Reducing the mediation of an experience due to the presence of a researcher is always an aim that is difficult to achieve. In some projects we have asked participants to record a section of their day that is of particular interest to us – say the morning routine of bathing and getting dressed (this can be a difficult process for people with many different physical impair-

ments). Because this is a quite private event, many people are reluctant to discuss it or share with a researcher. By wearing and simply turning on the recording glasses (These are clear glasses with a very small unobtrusive video camera built into the frame: Fig 2 Left) they can capture the everydayness of the event as it happens. This recording has a number of benefits. Participants are very often reluctant to discuss private matters and tend to gloss over them in interviews as being mundane or not important. When participants re-view a video of their previous events it helps them recall details more clearly and to a certain extent, re-live the event and not simply reflect back on their mediated memory of it. The information gained in the embodiment exercise also allows the researcher to participate in a conversation about the event to tease out more depth in the reviewing than would have otherwise been possible.

Figure 2: L-R: Video recording glasses and video playback glasses

In situations where a participant is reluctant to share the video with a researcher or there are additional privacy issues (such as toileting, sexual activities) we can employ video playback glasses (Figure 2 Right). These glasses allow the participant to view and describe the event but do not allow the researcher to participate and probe deeper. It is an interesting tool that can allow us to get closer to socially taboo topics that might otherwise be too difficult to access.

Understanding

After any ethnographic field work large quantities of data need to be analysed and there are many methods of qualitative analysis that might be considered (Creswell. 2007). The essence of the task i.e. to 'make sense' of the material and more importantly, to try to answer the question, *what does it mean?* Often because of time constraints, fine grained detail and 'hidden' material can be overlooked in the pressure to quickly reduce the amount of material and start designing activities. We have attempted to slow this process down and have adapted an approach based on Ricoeur and others foundational notion of *multiplicity* in the meaning in the texts of life (Gadamer, 1975; Geanellos, 2000; Ricoeur, 1978). After gathering field data and turning it into text we then set about exploring the meaning that is contained within them. In the sections that follow, we will present a very concise description of the analysis process we call *SEEing*[4]. Again for brevity's sake, we will begin this discussion at step 4. Steps 1-3 form part of the *Exploring* stage described above and these comprised;

Step 1. Finding a way in (discovery) and embodiment (bodystorming)
Step 2. Gathering field material in the form of audio, video, images, notes and observations
Step 3. Preparing that material (sifting, sorting, turning various media into textual form) for analysis

So, in order to more deeply understand (make sense of) the experiential meaning contained within the field data (now in textual form) we begin at step 4 in the process.

Step 4: Meaning

This step is about explicating meaning; exploring the denoted; what was meant from what was said. This is one of the key moments when the embodiment exercise finds its greatest value. Each line of text, each encapsulated thought or idea is repeatedly asked, what does and could this mean? We are not forcing or looking for meaning that is not there but rather the meaning that is hidden or buried within the metaphors presented in the text. These layers of hidden[5] meaning can only be explicated by someone who knows how to recognise these meanings and that must be either the researcher or the original author. If it is possible for both to be present and to

conduct the analysis together that is optimal however this does not happen often and so the researcher is left to draw on the experiential understanding gained in their embodiment and during interviews/observations as a basis for their interpretive decisions.

Step 4 is an inductive process and the volume of field data becomes multiplied by a factor of four or more through this process. This is a very important step within the *SEEing* process. It is where the real and deeper meanings within the experience can begin to be seen both literally in the meaning text that is generated and hermeneutically within the researcher, who in their wrestling (iterative interactions) with interpretation of the data becomes more open to other meanings as they begin to emerge. It can be (as some researchers have reported) a quite transcendent moment, where strong insights into the nature of the experience begin to emerge.

The remainder of the steps from 4 to 9 are essentially reductive processes and we will discuss these only briefly and mostly in terms of their relationship to phenomenological principles.

Step 5: Importance

This question is answered from a phenomenological perspective in terms of 'the things themselves' – in this case the 'thing' is the experience we wish to understand. So we ask – is this fragment of meaning *essential* to understanding the experience of say, visual impairment in the home? This elevates the stronger fragments of meaning that will ultimately constitute the 'essence' of the experience

Step 6: Physical or Meta-physical

In this step we separate meanings within the experience that were considered *essential* (in step 5) into physical (P) or meta-physical (MP) groupings. This step draws on a denoted separation between those meanings by considering parcels of meaning (words, sentences, paragraphs) that describe a physical characteristic (form, function, materiality) from those which have a meta-physical (meaning *beyond* the physical) flavour. This separation between the physical and meta-physical is useful firstly in the traditional sense of understanding issues related to usability and usage. By addressing the meaning attached to these activities however we are starting to understand aspects of embodied understanding and meaning developing out of the physical engagement. Meta-physical

meaning on the other hand has often been difficult to illuminate and in many cases can be confused with terms such as emotion or affect but can also encompass subtle cognitions such as *sense of* or *feelings about* a situation (Bishop and Scudder, 2009, p.90). In some instances a meaning statement might appear to have both characteristics – in this case it is recorded as a 'both' (B) and becomes a part of both groupings but carries with it the two different denotations described above.

Step 7: Weight

Some of our universe of meaning statements will be much more powerful aspects of the experience than others, so we apply a Likert scale of 1 to 7 (1 is low) that qualifies each piece of essential meaning in terms of its level of intensity in the experience. The scaling for physicality relates to its practical value, usability in form or function, ergonomics or aesthetics of use etc. Again we draw on the researchers embodied understanding of the experience to support their subjective judgements.

Step 8: Categories

This is a classic 'open coding' *categorisation* step where each of the meaning fragments is assigned a category name or theme name (Kelle, 2005). It is a way to cluster similar meanings together and conforms with accepted qualitative data analysis theory relating to categorization and thematisation (Boyatzis, 1998; van Manen, 1997).

Step 9: Summary narratives

Drawing on the phenomenological tradition of writing as giving form to understanding (Willis, nd; Van Manen, 1997), in step 9 we bring the (now clustered) essential and most intense elements of the experience from step 8 and turn them (writing) into expressive narratives - essentially, summaries or stories that we can use to communicate our understanding of the essences of the experience to others.

Sharing

At this point in the XbD process the interpretation phase is largely over and the researcher (and others if available) has developed insights which need to be advanced into action; in designing. The Share stage is a performative process that begins the reification of

experiential understanding. It enables collaboration with participants in a form of sharing 'backwards' - a feedback process for validating the understandings developed via workshops or other participatory methods. It allows for a sharing forwards' with clients or other stakeholders in the research using similar collaborative approaches. And it also allows for a sharing 'sideways' between concurrent projects looking at experiences that come together at a point i.e. the experience of providing therapy and a patients experience of receiving therapy. These usually take place in more extensive workshop formats

(Bate, 2007a; 2007b; Grönvall, 2013). Sharing is also performative in the sense that up until now the earlier processes of exploration and understanding have been largely internalized or phenomenal to the individuals involved, either the researchers or the participants. In this stage we move to an explicatory process where the learning from the earlier stages needs to be shared and given form. The form that this takes can be varied but may include participation in the Explore and Understanding processes as described earlier as well as the Show How stage described below.

In sharing backwards (with our participants – a form of validation process) we are revisiting the original question of 'what is it like?' by now asking participants 'is this what the experience is like …for you?' Assuming we have achieved a close approximation and/or some adjustment is necessary (right, wrong, missing) we have the basis for moving on to sharing forward. This is about working with partners to move the understanding we have developed forward into a doing-something-about-it stage.

Showing how

Showing how begins the product, service or system development cycle. It can involve collaboration between various stakeholders such as original research participants, fellow researchers or external collaborators in workshop and various well documented generative interactions designed to bring experiential understandings to life in new forms (Sanders, 2008; Kaplan, 1998). The nature and success of these interactions is always strongly influenced by the meaning structures developed in the first three stages. From an engineering standpoint we focus our Show How process on productively linking research understandings with industry, government or other 'client'

needs that will enable the products, services or systems to be realised (in humanly sensitive ways) for the benefit of the people 'explored' in the very first stage of the XbD process.

One of the biggest hurdles we face at this stage lies in that experiential understanding is not a directly quantifiable or transferable concept. The qualitative understandings (meanings) uncovered in the EXPLORE and UNDERSTAND stages need to be shared and acted upon with an audience of stakeholders who in many instances may not have taken part in developing the experiential understanding that the researchers (and other sharer's) now know something about. We have been working on ways to accomplish this in line with phenomenological (writing, poetizing) and communications (negotiated meaning) principles. For instance, in realising that we cannot transfer our (as researchers) phenomenal understanding of an experience directly to others we need to develop ways to enable our audience to experience 'something' of what we know that is powerful enough for them to 'get it'; to gain a sense of familiarity[6] that helps them to understand the experience in their own phenomenal way. In order to do that we firstly developed our own understanding of the experience from 'the others' life-world perspective, and now we need to *reconstitute* that understanding in the life-world of another set of *others*. When endeavouring to communicate 'an experience' we duly understand that technically this is not possible. As in the first stage of our project we understood that we could not ever fully 'know' the experience of another - so it is that we now also acknowledge that in the last step of our process, we cannot 'give' a prescribed experience to another. We can however, provide them with an empathic poetization of the experience as we now understand it and from which they might develop their own understanding – ideally, one that is in harmony with ours.

This needs to be done carefully in an inclusive, experiential manner such that the power of what has been uncovered is not lost in translating it for a non-research audience. This process of collaboration and form of communicating (Experiential presentation) is an emerging field of study and practice with many new and exciting development possibilities (Erwin, 2012, 2013) - one that is crucial to the practical success of the research outcomes. At the XbDC we are experimenting with 2D, 3D and 4D communication technologies, forms and media in order to achieve the goals described above.

Figure 3: An audience participating in an experiential presentation

Most of us will be familiar with static 2D and 3D presentation materials in the form of mock-ups, prototypes (low and high fidelity), and various 3D printed ideations. For us the excitement starts when we enter the 4D world (moving beyond the purely visual to the interactive) – this is where the audience becomes engaged or involved in the presentation so that there is a physical embodiment[7] of the experience they encounter during the presentation. This allows an audience to develop individual phenomenal interpretations of the research findings and simultaneously bounce these against their own past experiences. This will be an easier process if they have recently 'shared' in the understanding developed earlier in the research project. We can then ask them to co-participate in developing design solutions that answer the design question; 'based on our new understanding of the experience; how can we improve this experience? '. Experiential presentation is essentially about replacing a passive non-experiential research presentation with one that *speaks the world* not *of the world* as Van Manen suggests (1997, p.13).

Very briefly, some examples of the techniques we have used in this kind of 4D performance are; asking an audience to stand on one leg with their eyes closed to experience the sense of uncertainty that spasmodic paralysis brings; playing a loud and discordant beeping noise to randomly interrupt the presentation that simulates the intrusiveness of monitoring machine noise, blurring the presentations

imagery to replicate visual impairment, re-enacting the moment of a stroke using an animation sequence with the actual patient's emotive voice over. These are a few of the ways we have employed somewhat 'theatrical' methods to add power to the experience of understanding the experience of others. All of these methods and techniques are primarily focussed on maximising the 'buy-in' from our audience, particularly those who we would like to work with in going forward into designing things that will improve the experience of a new generation of experiencers.

Conclusion: Learning and future direction

Throughout this paper we have presented some of the lessons we have learned in applying hermeneutic phenomenological thinking in the projects we have undertaken as part of the XbD research framework. We have learned that a human science inspired approach to engineering and designing for the benefit of people is not only possible but a very powerful tool in envisioning new design opportunities. The design and industrial worlds are beginning to recognise the importance of designing for people and the role that experiences play in shaping their worlds. The work of the Experience-based Designing Centre is exploring new ways in which the experiences of people can be factored into the design process early in the product development cycle. We believe that the examples that we create and the experiential experiments we undertake are an opportunity for us to generate renewed interest in the human sciences and the role that phenomenology might play in improving our various human life-worlds.

References

Anolli, L. 2005. *The detection of the hidden design of meaning*. *In:* Anolli, L. D., Duncan, S. JR.; Magmussen, M. S.; Riva, G. (ed.) The hidden structure of interaction: From neurons to culture patterns. Amsterdam: IOS Press.

Bate, P. & Robert, G. 2007a. *Toward More User-Centric OD : Lessons From the Field of Experience-Based Design and a Case Study*. Journal of Applied Behavioral Science, 43: 41.

Bate, P. & Robert, G. 2007b. *Bringing User Experience to Healthcare Improvement: The concepts, methods and practices of experience-based designing,* London, Radcliff Publishing.

Bishop, H. A. & Scudder Jr., J. R. 1991. *Nursing: The practice of caring,* New York, National League of Nursing Press.
Boyatzis, R. E. 1998. *Transforming qualitative information: thematic analysis and code development*, Thousand Oaks, CA, Sage Publications.
Coxon, I. 2005. *The universe in a single step: Using phenomenological narrative as data.* In: Scholarship and Community Conference, College of Arts, Education and Social Sciences, University of Western Sydney, Australia.
Coyne, R. 2004. *Wicked problems revisited*. *Design Studies,* 26**,** 5-17.
Creswell, J. W. 2007. *Qualitative inquiry and research design: choosing among five approaches*, Thousand Oaks, Sage Publications.
De Casterlé, B. D., Verhaeghe, S. T., Kars, M. C., Coolbrandt, A., Stevens, M., Stubbe, M., Deweirdt, N., Vincke, J. & Grypdonck, M. 2011. *Researching lived experience in health care: Significance for care ethics*. Nursing Ethics, 18**,** 232-242.
Diller, S., Shedroff, N. & Rhea, D. 2006. *Making meaning : how successful businesses deliver meaningful customer experiences,* Berkeley, Calif., New Riders Press.
Erwin, K. & Matthew, A. P. 2012. What's after the transfer model? Constructed story environments as a new method for communication design. *In:* 8th International Design and Emotion Conference - Out of Control, 11-14 September 2012 Central Saint Martin's College of Arts & Design, London.
Erwin, K. 2013. *Communicating The New: Methods to Shape and Accelerate Innovation*, New Jersey, Wiley Publications
Fuad-Luke, A. 2002. *The eco-design handbook,* London, Thames and Hudson.
Fulton Suri, J. 2003a. *Empathic design: Informed and inspired by other peoples experience*. In: Koskinen, I., Battarbee, K. & Mattelmaaki, T. (eds.) Emphatic design: User experience in product design. Edita, Finland: Edita Publishing.
Fulton Suri, J. 2003b. *The experience evolution: Developments in design practice*. The Design Journal, 6**,** 39-48.
Gadamer, H.-G. 1975. *Truth and method (Wahrheit und Methode),* London, Sheed & Ward and Continuum Publishing Group.
Gallagher, S. 2005. *How the Body Shapes the Mind*, Oxford, Oxford University Press.

Geanellos, R. 1998a. *Hermeneutic philosophy Part I: Implications of its use as methodology in interpretive nursing research*. Nursing Inquiry, 5, 154-163.

Geanellos, R. 2000. *Exploring Ricoeur's hermeneutic theory of interpretation as a method of analysing research texts.* Nursing Inquiry, 7, 112-119.

Grönvall, E. and Kyng, M. 2013 *On participatory design of home-based healthcare*, Cognition, Technology & Work, Nov,15,4, pp 389-401

Hanington, B. M. 2000. *Innovation and Method in Design Research*. In: Design (plus) Research Conference, May 18-20, Politecnico di Milano, Milan, Italy

Heidegger, M. 1962. *Being and Time (Sein und Zeit),* New York, Harper and Row.

Irwin, W. 2002. *The matrix and philosophy: welcome to the desert of the real*, Chicago, Open Court.

Jones, P. H. 2013. *Design for Care,* New York, Rosenfeld Media. LLC.

Kaplan, R. S. 1998. *Innovation Action Research: Creating New Management Theory and Practice. Journal of management accounting research,* 10, 89-118.

Kelle, U. 2005. *Emergence vs. Forcing of Empirical Data? A Crucial Problem of "Grounded Theory" Reconsidered*. Qualitative Social Research [On-line], 6, 2.

Koskinen, I., Zimmerman, J., Binder, T., Redström, J. & Wensveen, S. 2012. *Design research through practice : from the lab, field, and showroom,* Waltham, MA, Morgan Kaufmann/Elsevier.

Latour, B. 2004. *Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern.* Critical Inquiry, 30.

P@H, 2013 What is Patient@home?, accessed 6-08-2013, URL <http://www.en.patientathome.dk/about-patient@home.aspx>

Redstrom, J. 2006. *Towards user design? On the shift from object to user as the subject of design*. Design studies, 27, 123-139.

Ricoeur, P. 1978. *The rule of metaphor: Multi-disciplinary studies of the creation of meaning in language,* London, Routledge & Kegan Paul.

Sanders, E. & Stappers, P. J. 2008. *Co-creation and the new landscapes of design*. CoDesign: International Journal of CoCreation in Design and the Arts, 4, 5–18.

Schmitt, B. 1999. *Experiential marketing : how to get customers to sense, feel, think, act, and relate to your company and brands*, New York, The Free Press

Searle, J. R. 1979. *Expression and meaning : studies in the theory of speech acts,* Cambridge, Cambridge University Press.

Titchen, A. & Mcintyre, D. 1993. *A phenomenological approach to qualitative data analysis in nursing research*. In*:* Titchen, A. (ed.) Changing nursing practice through action research. Oxford: National Institute for Nursing, Centre for practice Development and Research.

Ulrich, K. T. 2005. *Design: Creation of artefacts in society*, University of Pennsylvania.

Van Manen, M. 1997. *Researching lived experience: human science for an action sensitive pedagogy,* London, Ontario, Althouse Press.

Varela, F. J. 1996. *Neurophenomenology: a methodological remedy for the hard problem*. Journal of Consciousness Studies, 3**,** 330-349.

Willis, P. nd. *Expressive voice in education research: Showing what it's like*, University of South Australia - Adult and Vocational Education, School of Education.

Wolcott, H. F. 1994. *Transforming qualitative data: Description, analysis and interpretation*. Thousand Oaks, CA: Sage.

NOTES

1 We take unity to mean the identification of differentiating factors that help to define an experience's uniqueness. Husserl, Heidegger and many and others referred to focussing attention on the 'things themselves' and so we draw parameters around an experience (its unity) from the nature of the experience itself – what factors make the experience what it is? – How do we frame the experience (in time and space) so it becomes manageable?

2 Jones 2013 describes various body storming techniques that help researchers to embody an understanding of the other.

3 This reflects Gallagher's views on the neurophysiology of inter-subjectivity including the way that neural links produced in performing an activity create embodied memory of the activity as well as the debatable effects on embodied memory that mirror neurons can produce in having observed the activity.

4 *SEEing* is a proprietary process of qualitative data analysis developed through empirical trials by the author. A full demonstration can be seen at http://youtu.be/Bm1HOxabgG0

5 The concept of 'hidden' meaning has been much debated by a number of authors both in terms of its semiotic and psychological value (Aniolli, 2005; Gallagher, 2005; Geanellos, 1998; Searle, 1979) . Coyne (2004) balances these arguments with Deleuze and Guattari's objection, that there is no meaning greater than the parts, no higher or deeper level of meaning in the structures of language.

6 Having the appearance of truth. Willis (nd) refers to the 'phenomenological aha' - the moment when a researcher says to himself 'yes that is what it is really like'

7 This form of embodiment is referred to by Gallagher in regard to its effect on mirror neurons and the neurons governing shared representations "Such neural activations correspond to meaning that is intersubjective in the literal sense" (Gallagher, 2005, p.127).