Chapter 6
Transformative Learning

Communication designers and educators have a unique role to play in the creation of sustainable futures, due to our ability to help people develop new cognitive skills for dealing with complexity and to create the social capacity to act on the basis of new knowledge. Transformative learning is a pedagogic practice developed in consciousness-raising and women's education in the 1970s. As such it contributed to the massive shift in power relations for women in the twentieth century. Similar strategies can now be used to confront contemporary challenges in regard to human relations with the natural world. This chapter argues that transformative learning (TL) has the potential to transcend the notorious value/action gap that divides our awareness of environmental threats from our capacity to take appropriate action. Transformational learning engages an ecological view of education that is relational, holistic, participatory and practical. Although transformational learning was not developed explicitly to deal with environmental education, it provides a relevant framework to inform a learning process for ecological literacy. TL informed the design of the learning processes in this thesis (especially the Teach-in – see Figure 6.1 and Praxis No.1 - No.14). Transformative learning involves becoming aware of one's assumptions to address issues from a fresh perspective. Beyond the mere dissemination of information, transformative learning challenges assumptions and facilitates dialogical learning processes. Because the problems concerned with sustainability are both very complex and deeply entrenched into our culture, these processes are essential for the learning associated with ecological literacy. Unfortunately, TL remains a severe challenge due to the fact that individuals are often intensely threatened by the prospect of re-examining accepted norms of beliefs and behaviour (i.e. addressing epistemological error – see 1.5).Transformative learning informs the methodological practices of this thesis and its processes are designed into communication practices.

6.1 Transformative Learning Theory

Transformative Learning Theory (TLT) describes a process of increasing an individual learner's capacity for change. Jack Mezirow first introduced the concept of transformative learning in a 1978 paper titled *Perspective Transformation.* Mezirow was influenced by Thomas Kuhn's work on 'paradigms' (1962), Paulo Freire's concept of 'conscientization' (1970), Habermas' 'domains of learning' (1971) and the women's movement in adult education in the 1970s (Kitchenham 2008; Mezirow 2009). Mezirow describes transformative learning as a process of 'becoming critically aware of one's own tacit assumptions and expectations and those of others and assessing their relevance for making an interpretation' (Mezirow and associates 2000:4). This process is informed by a critical awareness of contextual, biographical, historical and cultural aspects of our collective beliefs and feelings in regard to the problems under examination. Transformative learning 'enables us to recognize, reassess, and modify the structures of assumptions and expectations that frame our tacit points of view and influence our thinking, beliefs, attitudes and actions' (Mezirow 2009:18). Through critical reflection we learn to 'act on our own purposes, values, feelings, and meanings rather than those we uncritically assimilated from others' (Mezirow 2000:8). Transformative learning aims to help learners develop greater agency as they become more emotionally capable of change. The results are evidenced in reflective discourse and ultimately in action.

A goal of transformative learning is perspective transformation. Educational researchers suggest that perspective transformation is often the result of a disorienting dilemma triggered by a life crisis or major life transition (Mezirow 2009). In an exploration of the processes used by Alcoholics Anonymous, Gregory Bateson describes the event of 'hitting rock bottom' that is seen as an essential catalyst for addicts to start a process of change within the AA method (1972:312). Perspective transformation can also result from an accumulation of transformations over a period of time, such as interventions within education. Clark identifies three dimensions to a perspective transformation: psychological (changes in understanding of the self); convictional (revision of belief systems); and behavioural (changes in lifestyle) (Clark 1991). Perspective transformation enables a revision of our taken for granted 'frames of reference'. A frame of reference is the manner in which we make meaning, i.e. how we categorize our experience. Frames of reference are both 'habits of mind' (socio-linguistic, moral, epistemic, philosophical, aesthetic) and the resulting points of view (Mezirow 2000:17). Frames of reference reflect collectively-held cultural paradigms. Perspective transformation aims to provoke shifts in problematic frames of reference through a variety of methods including action learning, conceptual mapping, metaphor analysis, media analysis and other methods. Frames of reference are significant for designers, communicators and educators because they describe the basis on which audiences/learners make sense of communications. Perspective is associated with vision and the way that we visually interpret new information (see 10.2). Perspective transformation is not construed as a purely rational process. Emotional-laden images mediate a relationship with our unconscious (Dirkx and Smith 2009:59). Thus visuals can be useful tools for perspective transformation and can function to facilitate the transformational learning process.

Unfortunately, transformative learning is a difficult process because the prospect of re-examining accepted norms of behaviour, beliefs and frames of reference is often fiercely resisted. Mezirow describes transformative learning as 'often an intensely threatening emotional experience in which we have to become aware of both the assumptions under girding our ideas and those supporting our emotional reactions to the need to change' (2000:7). Transformative learning can challenge our sense of self and our identity: 'Who we are and what we value are closed associated. So questions raised regarding one's values are apt to be viewed as a personal attack' (Ibid:18)(see 8.3). These inherent difficulties mean that that most learning 'tends to be narrowly defined as efforts to elaborate our fixed terms of reference' (Ibid:18). The impasse within education for sustainability is found in this deadlock. The result is that we continue to add new theories onto dysfunctional frames of reference rather than do the much harder work of re-examining our problematic basic assumptions. Epistemological error is then perpetuated through communication and education.

Stephen Sterling suggests that transformative learning might only be possible for a minority of learners but even this might be adequate to provoke a transition towards sustainability. Sterling Sterling explains: 'Short of social or ecological catastrophe, transformative learning is unlikely to occur beyond a "significant minority" but this might be sufficient to help generate wider second order learning, a questioning of values, in any particular learning context' (2003:22). Bateson suggests that higher-level learning is 'difficult and rare' but that 'replacement of premises' can occur at lower levels (1972:302). Arguably, if ecological literacy hit a critical mass, less severe and demanding learning could effectively disseminate sustainable practice on a wider level. Bateson's and Sterling's theories of staged learning clarify the nature of learning by describing a process of learning levels (see Figure 1.5 and the next section).

6.2 Levels of Learning and Communication

Developing a better understanding of how communications and learning works is key to addressing problematic frames for reference and epistemological error. Communications theorist and anthropologist Gregory Bateson first described learning levels in *The Logical Categories of Learning and Communication* in 1964 and developed this work further in 1971 (1972: 279). Bateson explains that learning is a communicational phenomenon and that both learning and communication occur at different levels. Bateson's framework for learning distinguishes between levels of abstraction. Stephen Sterling's interpretation of Bateson's work maps the levels of learning in a trajectory from no learning to deep learning. Sterling describes a four-stage process in sustainability education:

Levels of Learning and Communication

No change (no learning: ignorance, denial, tokenism)
Accommodation (1st order learning: adaptation and maintenance)
Reformation (2nd order learning: critically reflective adaptation)
Transformation (3rd order learning: creative re-visioning) (Sterling 2001:78)

Sterling maintains that learning for sustainability must transcend the traditional transmissive learning approach (first order learning) because information alone does not necessarily lead to change. He explains that 'not only does it not work, but too much environmental information (particularly relating to the various global crises) can be disempowering, without a deeper and broader learning processes taking place' (2001:19). Most education aims to replicate current worldviews: 'Mainstream discourse on education, operating within the dominant social paradigm, takes place within certain parameters of validity: that is, within Learning 1' (Sterling 2003:110). Transformative, epistemic learning or third order learning is necessary such that systemic understanding becomes commonplace and the capacity for embedding ecologically positive practices into structurally unsustainable systems becomes possible. This third order learning is necessary to address epistemological error. Epistemic learning occurs in the higher orders of learning where review of basic premises occurs. Environmental communication and education require deeper engagement processes than mere dissemination of information; both communication theorists (Crompton 2010) and educators (Sterling 2001; Kahn 2010) ascribe to this basic precept. The next section explains how transformative learning theory and practice facilitates epistemic learning for ecological literacy and how this informs this thesis.

6.3 Ten Phases of Transformational Learning

Endeavours to create conditions that will develop an awareness of context, power, political consciousness and the potential for social action have at least a fifty-year trajectory in adult education. Transformative learning involves becoming aware of one's assumptions in order to address issues from a critical perspective and take action on the basis of new knowledge. It involves a process of increasing an individual learner's capacity for change. While attempts to design processes of transformative learning might not always succeed, there is evidence of progress in over 150 doctoral dissertations and hundreds of scholarly papers that map the territory (Kitchenham 2008:120). Jack Mezirow's transformative learning theory is based on extensive research in a 1975 American nationwide study of consciousness-raising in women's education, a study that sought to explain the unprecedented presence of women in higher education (Mezirow 2009:19). Mezirow identified phases most often encountered during the learning processes women experienced as part of their empowerment process. These experiences resulted in profound shifts in women's capacity to take action on the basis of new beliefs.

Mezirow's *Ten Phases of Transformational Learning* (1978) identified the following phases as most often encountered during transformative learning processes:

Mezirow's Ten Phases of Transformative Learning (Mezirow 2009:19)[1]

1. A disorienting dilemma
2. Self-examination
3. A critical assessment of assumptions
4. Recognition of a connection between one's discontent and the process of transformation
5. Exploration of options for new roles, relationships and actions
6. Planning a course of action
7. Acquiring knowledge and skills for implementing one's plans
8. Provisional trying of new roles
9. Building competence and self-confidence in new roles and relationships
10. A reintegration into one's life on the basis of conditions dictated by one's new perspective

Within my practice-based research I have used these phases as a guide to design transformative learning processes. Modified for the purposes of sustainable design education, the ten steps are described below:

Ten Phases of TL in Sustainable Design Education

1. Confrontation with information regarding the environmental crisis.
2. Self-examination of personal attitudes in regards to environmental crises.
3. A critical assessment of assumptions and basic premises.
4. Recognition of discontent and possibilities for transformation.
5. Exploration of sustainability in a social learning context.
6. Plan a learning process for sustainable education and ecological literacy.
7. Acquire new knowledge and skills needed in sustainable industries.
8. Develop sustainable methods of working and living.
9. Build confidence to actively embed ecological literacy into one's life.
10. Integration of ecological literacy to life in all spheres (personal, professional and political).

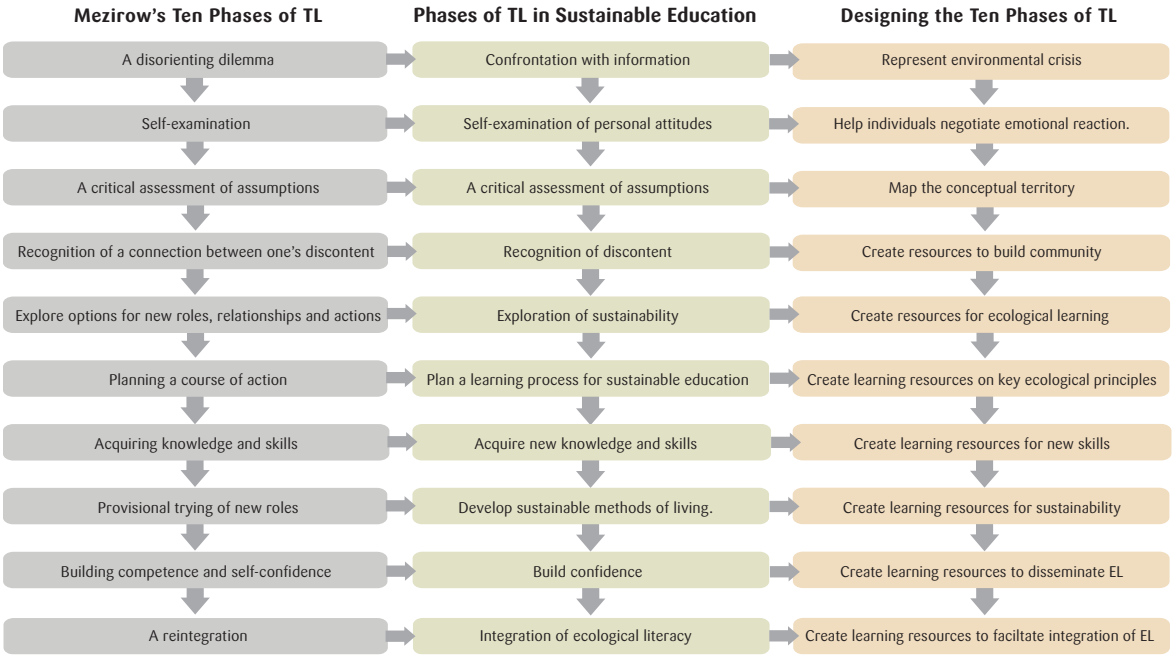
Designers and educators can work to strategically design this learning process by creating resources to provoke the various stages:

Designing the Ten Phases of TL in Sustainable Design Education

1. Create visual resources representing environmental crises.
2. Design processes to help individuals negotiate emotional reaction.
3. Map the conceptual territory of epistemological premises and cultural assumptions.
4. Create resources to help individuals understand that they are not alone.
5. Create resources for ecological learning in a social learning context.
6. Create learning resources on key ecological principles and concepts.
7. Create learning resources for new skills in new sustainable design.
8. Create learning resources for new methods of working and living in a sustainable way.
9. Create learning resources to disseminate ecological literacy within workplaces & communities.
10. Create learning resources to integrate EL into everyday life.

I designed transformative learning processes within cycles of action research. The first experiment was the Teach-in (see Praxis). While the Teach-in itself, or any one event, is unlikely to transform design education, repetitive and sustained attempts at transformative learning just

1 An eleventh phase was added in 1991 stressing the importance of altering present relationships and forging new relationships.



Figures 6.2 - *Ten Phases of TL for Sustainable Design Education.* Graphic displaying the TL process developed from Mezirow's Ten Phases as listed on the previous page. **Source: J.Boehnert 2011**

might. Although the event failed to catalyze the required action in design education, it is possible that seeds have been sown for deeper explorations and transformations. Other visual resources were also conceived as part of transformative learning processes. Based on these experiments, four principles of transformative learning for ecological and sustainability literacy were developed: interdisciplinarity, participation, values and action. Recognizing that within environmental communication and education, practice is constrained by the systems within which it is embedded (these being the broader educational system and this within the larger social system) communicators and educators need to work towards transforming institutions and communities while facilitating personal learning experiences. These TL processes are designed to facilitate learning on multiple levels, i.e. personal, institutional and within the wider social order.

6.4 Conclusion

Transformative learning aims to help learners develop the capacity to put new ideas into practice. This focus on action addresses the value action/gap in sustainable education and provokes deep, third order learning (Sterling 2003). This thesis proposes that transformative learning has the potential to address both epistemological errors (thereby creating a foundation for systemic understanding) and the development of new social capacities for action. Gregory and Catherine Bateson called for 'a shift in our way of seeing... to affirm complexities and mutual integration' (1988:176). Communication designers and educators can help with this shift by developing learning tools to challenge frames of reference, provoke ecological perception (see 10.2) and new cognition capacities. Communication design is uniquely placed at the intersection of disciplines to help facilitate transformative learning processes for ecological literacy. Informed by TL theory, learning situations can be designed to build new social capacities to act on the basis of new insights and values. This learning is complete when an individual is able to act according to beliefs he or she

has validated through critical reflection. While the journey to a place of agency is by no means an assured outcome, as the consequences of not addressing basic premises become more obvious (i.e. as the ecological crisis continues to become more severe) perhaps the journey through TL will start to appear like the more benign option. Bridging the value / action gap is a challenge for sustainability communicators, designers and educators alike and there remains a great distance between accepting something as an intellectual truth and perceiving, thinking and acting according to this position. The good news is that transformative learning was instrumental to facilitating the liberation of women and the transformation of social relations in the late 20th century. As such transformative learning has a great deal to offer environmental communications and education.

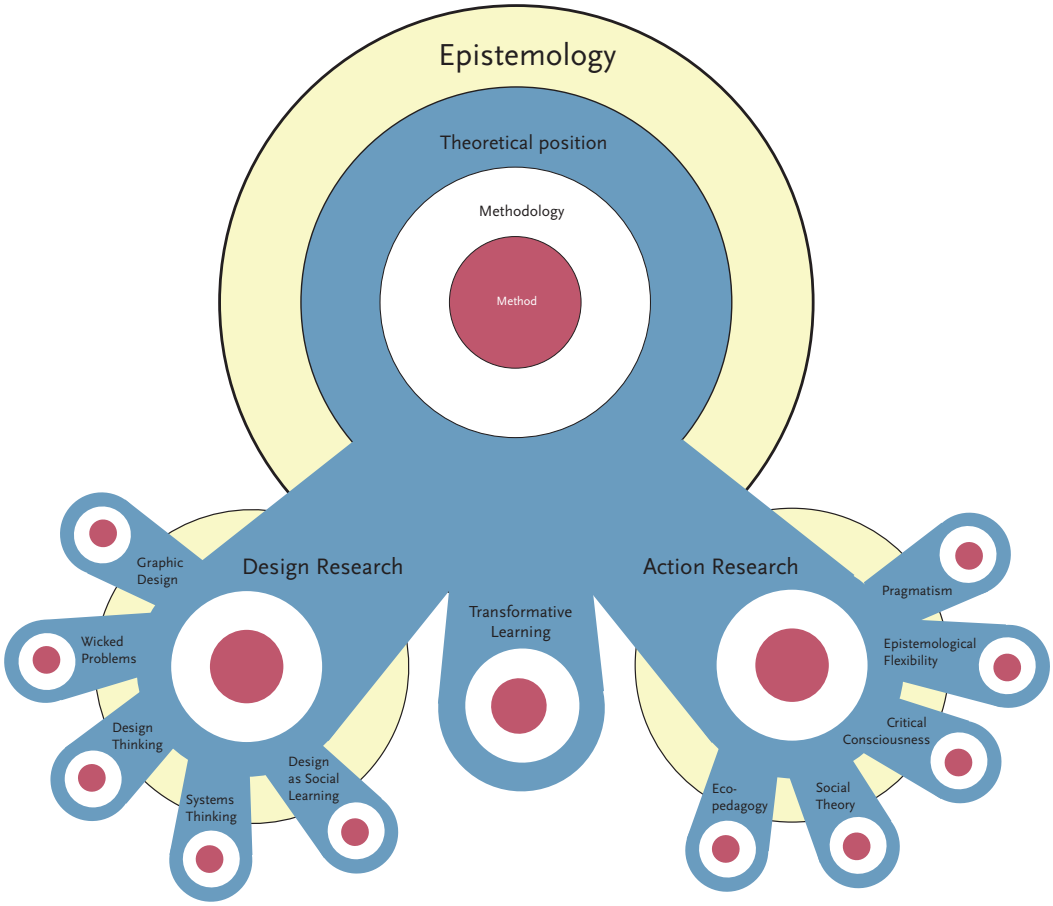


Figure 7.1 - *Methodology Diagram No.2: Embedded Systems in Research Design*. Praxis No.22: Graphic displaying the relationship between theory and method in this thesis. **Source: J.Boehnert 2011**