

Making the Invisible Visible: Designing Values-Based Indicators and Tools for Identifying and Closing ‘Value-Action Gaps’

Gemma Burford, Elona Hoover, Arthur Dahl and Marie K. Harder

Abstract It has often been observed that even when people publicly espouse certain values, they do not inevitably perform the actions or behaviours that one would expect to be associated with these values. This has been termed a ‘value-action gap’. Academic research on the barriers to pro-environmental behaviour has served primarily to highlight the complexity of this area; but a problem-centred approach to learning, led by civil society organizations, has been shown to generate effective solutions. One example is the design and use of values-based indicators—statements that link generic or specific ‘values vocabulary’ to specific real-world referents such as behaviours or perceptions. In this chapter, we discuss the application of values-based indicators for the twofold purpose of reflection (inspiring teaching and learning) and evaluation (guiding organizational development). We first describe the EU-funded project within which values-based indicators were initially developed, and provide an overview of the processes leading to the initial design of a project evaluation toolkit (‘WeValue’) and the evidence of its usefulness for identifying and bridging value-action gaps in civil society organizations providing education for sustainability. The central section of this paper reports on a co-design project to develop a toolkit of values-based indicators for secondary schools, primarily for teaching and learning purposes. Finally, in the discussion section, we suggest a theoretical grounding for the use of values-based indicators to close value-action gaps; identify a new kind of gap that has not previously been described in the literature; and reflect on some of the wider implications of our work.

Keywords Values · Value-action gaps · Education for sustainability · Indicators · Schools

G. Burford (✉) · E. Hoover · A. Dahl · M.K. Harder
University of Brighton, Brighton, UK
e-mail: G.L.Burford@brighton.ac.uk

1 Introduction

'Values' have been adopted by innumerable civil society organizations (CSOs), governments and businesses worldwide as a way of articulating their goals for ethical and sustainable practices. Although there is no universally accepted theoretical definition of values, some of the most influential definitions are those proposed by Kluckhohn, Rokeach and Williams, which describe them respectively as conceptions of 'the desirable' (Kluckhohn 1951); enduring beliefs that a certain behaviour or condition is preferable to its opposite (Rokeach 1973); and "criteria or standards of preference" with cognitive, affective and directional aspects (Williams 1979, p. 16).

In accepting these definitions of values as beliefs about what is desirable or preferable, one might anticipate that an individual's values would invariably be 'enacted', i.e. manifested in their actions on a day-to-day basis (c.f. Meglino and Ravlin 1998). Paradoxically, however, it has often been observed that even when people publicly espouse certain values, they do not inevitably perform the actions or behaviours that one would expect to be associated with these values. This has been termed a 'value-action gap' (Blake 1999), or, in lay terms, a failure to "walk the talk" (Kennedy et al. 2009). The terms 'attitude-action gap' (Kollmuss and Agyeman 2002) and 'environmental values/behaviour gap' (Kennedy et al. 2009) have also been used in academic literature. In this chapter, we use the broader term 'value-action gap' to reflect widespread usage, and in accordance with the observation that the gaps themselves may occur more at the level of specific actions than long-term behavioural trends (Kollmuss and Agyeman 2002).

There is a complex and extensive literature on the factors (other than values) that influence behaviour, and the various barriers that may prevent people from undertaking specific pro-environmental actions even when these are congruent with their values (see, for example, Jackson 2005; Kennedy et al. 2009; Kollmuss and Agyeman 2002; Brown et al. 2014; Patten 2013; Poortinga et al. 2004). Perhaps because of this complexity, which may be virtually impossible to condense into a single framework or model (c.f. Kollmuss and Agyeman 2002), there is a notable absence of empirical studies that present workable solutions to the problem of value-action gaps—especially in a formal education context. In this chapter, we do not attempt the challenge of identifying, and proposing strategies for removing, each separate barrier to pro-environmental behaviour (or, more broadly, to actions that foster sustainable and responsible living). Rather, we present a holistic solution that has already proven helpful for identifying and bridging value-action gaps within the context of civil society organizations (CSOs)—namely, the use of peer-elicited values-based indicators to stimulate collective reflection (Harder et al. 2014b; Burford et al. 2013a, b; Podger et al. 2010, 2013)—and demonstrate that this solution can be adapted for use in schools.

Although a systematic review of barriers to pro-environmental behaviour is beyond the scope of this chapter, we outline some important findings from this literature to set the scene. We then describe the processes leading to the creation

of a toolkit of values-based indicators ('WeValue') through an EU-funded project, and illustrate its usefulness to CSOs providing education for sustainable development (ESD) or education for sustainable and responsible living (EfsRL). The central section of this paper reports on the application of the 'values-based indicators' approach to EfsRL in secondary schools, through the design of modified toolkits for teachers, students and school administrators. Finally, we relate this new work back to the literature on value-action gaps and identify a new type of 'gap' that has not previously been discussed, as well as reflecting on the implications for design literature.

1.1 Value-Action Gaps: Brief Overview of Relevant Literature

In the early days of environmental education, it was assumed that an educator's sole task was to instil knowledge of specific environmental problems, and that desirable pro-environmental behaviours would follow automatically. This assumption has since been demonstrated to be fallacious (Heimlich 2010; Kennedy et al. 2009; Brown et al. 2013). Furthermore, rational-choice theories of decision-making such as the Theory of Planned Behaviour (Ajzen 1991), which suggested that individual actions are the result of conscious cognitive deliberation of values, attitudes and social norms, have been largely discredited.

Criticising the Theory of Planned Behaviour, Jackson (2005) particularly highlights the importance of entrenched habits, routine, instinct and emotion in influencing human behaviour, and notes that situational factors may make specific value orientations more salient than others at certain times (see also Peng et al. 1997). The latter point is significant because personal values, when held at a sub-conscious level, can be mutually contradictory: while acting in accordance with some of their values, individuals may be forced to violate other values (Redclift and Benton 1994; Kennedy et al. 2009). Thus, what appears as a value-action gap could, instead, be attributable to what might be termed 'over-ruling' of one value by another: for example, a person who holds strong pro-environmental values, but also values frugality, might ultimately refuse to purchase expensive organic food (Kennedy et al. 2009). Kollmuss and Agyeman (2002, p. 250) suggest that even when a person's broad lifestyle choices are based on altruistic and social values, their motives for specific actions are often more selective and revolve around immediate needs: comfort, money and time.

Diverse studies reviewed by Jackson (2005) have demonstrated that 'over-ruling' can be manipulated, e.g. by framing situations in a particular way or priming certain values through the use of appropriate images. This is possible because, under normal circumstances, values are "less than totally conscious, somewhat below an individual's level of complete awareness" (Meglino and Ravlin 1998, p. 360; see also Rokeach 1985; Kopelman et al. 2003). They have been described by Goleman (1998) as "intimate credos that we may never quite articulate in

words so much as *feel*". Thus it is possible to strengthen particular values precisely by attempting to articulate them in words, e.g. by reflecting on one's reasons for espousing them, thereby drawing them out from the affective realm into the cognitive realm. As Maio et al. (2001, p. 14) explain: "We believe that...generating reasons for a value provides concrete examples of why behaving consistently with the value is sensible and justified. Thus, when situational forces work against provalue [sic] behaviour, people become able to retrieve concrete information in addition to their vague feelings about the value."

These findings are consistent with observational research conducted in a real-world educational setting more than four decades ago. Dixon (1978) observed that providing 'values clarification' exercises to children, which effectively sensitised them to the values that they already held (c.f. Raths et al. 1978) could reduce confusion and apathy and increase desirable classroom behaviour (see also Schlater and Sontag 1994).

The phenomenon of value-action gaps is not limited to the individual level, but also has important implications for organisational learning and behaviour. It is often informative to take a group (i.e. an organization or project), rather than the individual, as the level of analysis (Agle and Caldwell 1999; Meglino and Ravlin 1998). Bansal (in preparation) has illustrated, for example, that environmentally responsible action is more likely to be taken when it is consistent with both individual concerns and organizational values. Conversely, research into corporate social responsibility and sustainability policy adoption shows that many organizations face discrepancies between formal commitments and actual policy implementation (Wilber 2004). Accountability for adherence to espoused values, through the adoption of measurable indicators, may provide a means for overcoming this disconnect (Gruys et al. 2008). In the next section, we describe a novel approach to values clarification through reflection on 'indicators' that can help EfSRL-promoting schools to create shared understanding around the enactment of their espoused values.

1.2 The ESDinds Project and WeValue Evaluation Toolkit

The ESDinds project, funded from 2009–2011 by the European Commission's Seventh Framework Program, brought together CSOs and academic researchers from five countries to collaboratively develop useful indicators and assessment tools to evaluate the 'presence' and enactment of core values.

The project aimed to establish values-focused evaluation and reflection within a diverse range of businesses and civil society organizations (CSOs), especially those promoting EfSRL (Author et al. 2010, 2014a) (Harder et al. 2014b; Podger et al. 2010). The research design for this process is outlined in Fig. 1.

This iterative and grounded approach to indicator development led initially to the creation of a set of peer-elicited 'indicators' for six specific,

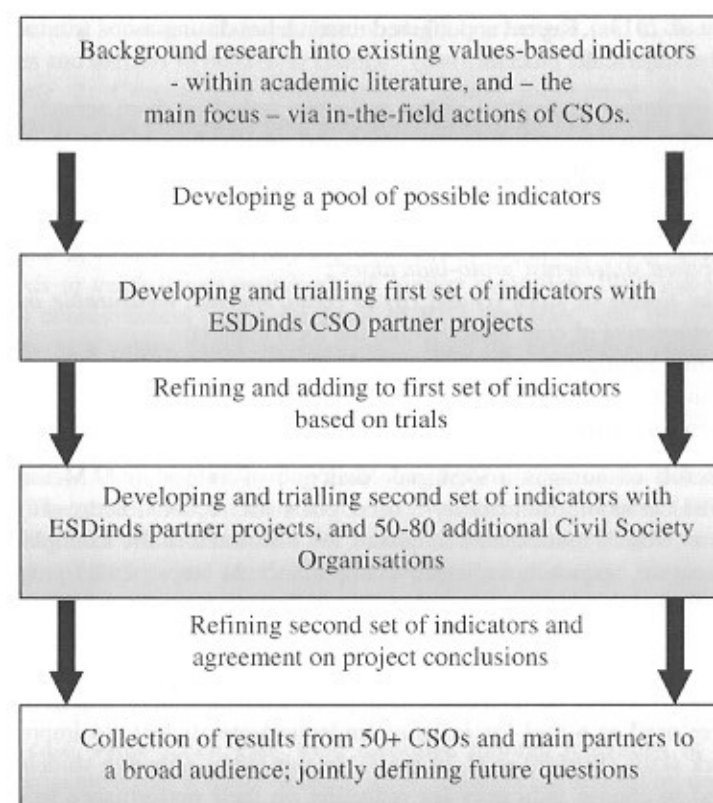


Fig. 1 Process of developing values-based indicators and assessment tools within the ESDinds project

named values that were important to the CSOs—i.e. *trust, integrity, justice, empowerment, unity in diversity, and care and respect for the community of life* (Podger et al. 2010; ESDinds 2011). However, the field testing revealed that the value-indicator relationship was not straightforward, and what had initially been seen as indicators of values were perhaps more accurately described as 'proto-indicators'—statements of ideal realities that may not in themselves be measurable, but can provide starting points for the development of measurable indicators within defined local contexts (Harder et al. 2014b; Burford et al. 2013a). The final phase of field testing led to a more flexible set of values-based proto-indicators, presented as a single list without specific value headings (Burford et al. 2013b).

The ESDinds Project has also led to the co-design and testing of *WeValue*, a toolkit aimed at helping organizations (especially those providing or promoting EfSRL) to clarify shared values and develop context-specific evaluation strategies

(Burford et al. 2013a). Recent unpublished research has distinguished five interlinked and iterative steps in the process:

- *values elicitation* (individual and/or collective reflection from scratch on what participants find meaningful, important and worthwhile within their project or organisation), often with a user-selected or co-created image as the starting point;
- individual and/or collective reflection on a *reference list* or 'menu' of *values-based statements/proto-indicators*;
- using the results of steps (i) and (ii) to create *specific, measurable indicators* for the enactment of core values within the local context;
- identifying appropriate *assessment methods* that can be used to evaluate the project in relation to each of the chosen indicators;
- collecting and analysing relevant *data*.

This approach encourages a localized 'dialogue of values' (c.f. Maturana and Varela 1991) around sustainability-related goals and actions, addressing values discourse as well as associated behaviours. As illustrated in the examples below, the exact nature, sequence and relative importance of steps in this process will differ from one organization to another. The reflective steps (i) and (ii) may take precedence over the evaluative steps (iii) to (v), especially where the primary purpose is *teaching and learning*, rather than evaluation or assessment for its own sake. We have recently described, for example, a study in which values-based indicators were used as a tool for assisting undergraduate students to improve their group work skills (Burford et al. in press). In this study, although student groups were asked to choose indicators for reflecting on their performance in different tasks, there was no formal grading: the key outcome was meta-learning.

1.2.1 How Might the WeValue Toolkit Help Users to Close Value-Action Gaps?

The WeValue toolkit has been extensively tested in real evaluation contexts in diverse civil society organizations, spread over three continents (Harder et al. 2014b; Burford et al. 2012, 2013a, b; Burford et al. in press; Podger et al. 2013; ESDinds 2011). Reports produced by researchers and CSO staff participating in these trials suggested that the WeValue toolkit might yield other benefits, beyond the successful achievement of users' self-selected evaluation goals. Some of these benefits can be framed in terms of the identification of value-action gaps, design of possible behaviour change solutions or new actions to close the gaps, and/or implementation of those changes:

- *Example 1: Post-conflict youth project in Sierra Leone*: "Team members organised in groups of 3–4 were asked to enact through role-play, and then to discuss, examples of discrimination and good treatment (non-discrimination) respectively in the wider communities and in their teams. They were also asked to enact ways

in which the situations of discrimination might be changed, and to discuss opportunities and barriers to behaviour change." (Burford et al. 2013b, p. 7)

- *Example 2: Cross-faculty environmental action programme in a Mexican university*: "The content of peer education workshops has moved away from a primary focus on concrete behaviours, such as recycling waste, to a holistic values-centred approach that is anticipated to generate the desired behaviours in a more deep-seated and sustained way." (Burford et al. 2013b, p. 11)
- *Example 3: Small civil society organisation in Germany, using theatre-based methods to teach young people about conflict resolution*: "[WeValue] brought values consciousness to the forefront of PT's activities, and strengthened its identity as a values-based organisation... Both the orientation programme for new volunteers, and the way in which the goals of PT's work are communicated to new schools, have been restructured to centre around values." (Burford et al. 2013b, p. 11)
- *Example 4: Mexican youth group promoting reforestation and arts-based activities*: "The process helped them to identify values in action. Based on what values, they take what decisions? For example, one youth, 'Carlos', was a good example of 'before and after'. He is mid-way through the age range and beginning to participate a lot more. He used to be very unfocused, but after the process and specifically through the exercise, it allowed him to identify where he was. Now he participates, relates more, has more leadership." (Podger et al. 2013, p. 24)

In each case, value-action gaps were identified through individual or collective acknowledgement that a values-related 'ideal' situation (as defined by one or more proto-indicators from the ESDinds Project reference list), was not sufficiently represented within the respective organisation or project. Activities such as role-play and focus groups, designed as methods of collecting evaluative data, created safe spaces in which these gaps could be discussed openly and possible solutions explored. While in Example 1 it is unclear whether this proceeded beyond the discussion and enactment stage, the other case studies provide evidence of observable organizational responses (in the form of the redesign of training activities, communication strategies and resource materials: Examples 2 and 3) as well as individual responses (in the form of spontaneous behaviour change: Example 4).

1.3 Closing Value-Action Gaps in Schools? Towards a Usable Toolkit

Taking the above insights as its starting point, a workgroup supported by the PERL project set out to design a modified version of the WeValue toolkit that might contribute to the identification and closure of value-action gaps within a secondary school context. This was based on the understanding that, as stated in the 2012 PERL work plan, "Throughout the decade, most education about

sustainable lifestyles has centred around explaining the dire consequences of what has been done wrong". Such approaches are, however, often conducive to inertia and despair: in order to stimulate active agency and achieve real change, it is often necessary to frame EfSRL in more positive and constructive terms (Harder et al. 2014a). This may be achieved by co-creating visions of a desirable future, and to "examine and identify the values base from which [these visions] should spring" (PERL 2012; see also Harder et al. 2014a). The design and use of a modified version of the WeValue toolkit was hypothesised to contribute towards stimulating reflection on values, and their enactment in practice, among teachers in secondary schools.

Epistemological and methodological approach In working towards a values-based toolkit appropriate for secondary schools, we adopted a co-design approach, using a 'Research through Design' framing in the first phase. Research through Design can be understood as "making the right things", i.e. creating artefacts that are intended to transform the world from a current state to a preferred state (Frayling 1993; Zimmerman et al. 2007). It can be differentiated from conventional research in both the sciences and the arts by being grounded in the specific epistemology of design described by Cross (1999), which focuses on modelling and synthesis: see Table 1.

In addition to being distinct from other forms of research, Research through Design is also clearly distinguishable from 'normal' design practice, and from the types of research that might be conducted within the course of a commercial design activity—e.g. explorations of user experience as a precursor to the design of marketable products, often termed 'research for design' (Cross 1995; Zimmerman et al. 2007). This distinction can be summarised in the two inter-related concepts of *contribution to knowledge* and *contribution to society*. As explained by Forlizzi (2014, p. 24): "In Research through Design, the designer seeks to understand a problematic situation in the world, and to codify that knowledge, along with a suggestion for an improved future state, in the form of a redesigned thing" (see also Frayling 1993; Zimmerman and Forlizzi 2008). The emphasis is therefore placed on responding to complex or 'wicked' societal problems that have no simple or clear solutions (c.f. Buchanan 1995; Farrell and Hooker 2013) rather than on commercial success (Zimmerman et al. 2007).

The knowledge generated by a successful Research through Design process often extends beyond the theory embodied by the artefact itself, in its particular

Table 1 Epistemology of design research contrasted with those of research in the sciences and arts; adapted from Cross (1999)

	Design	Sciences	Arts
'Things to know' (fields of knowledge)	<i>Artificial world</i>	<i>Natural world</i>	<i>Human experience</i>
'Ways of knowing' (core values)	Imagination and practicality	Rationality and objectivity	Reflection and subjectivity
'Ways of finding out' (intellectual skills)	<i>Modelling and synthesis</i>	<i>Experiment and analysis</i>	<i>Criticism and evaluation</i>

Table 2 Propositions underlying this study

Problematic situation (at start)	Preferred future situation
1A: Teaching of EfSRL in schools typically focuses on examining current global problems (e.g. climate change) and their likely consequences: may contribute to apathy and despondency	1B: Teaching of EfSRL in schools focuses on developing values and skills necessary for envisioning and co-creating better futures; contributes towards a sense of power to effect change
2A: Even when students and teachers do envision 'better futures', they may not recognise where their current actions and behaviours are incongruent with these futures, or take appropriate and effective steps to modify them (i.e. value-action gaps are not identified and closed)	2B: Students and teachers understand where their current actions or behaviours are incongruent with their envisioned 'better futures' (i.e. identify value-action gaps) and take appropriate and effective steps to modify them (i.e. begin to close these gaps)
3A: Although evidence suggests that a values-based indicators toolkit may be helpful in ameliorating problematic situations 1A and 2A, the available toolkit (WeValue) is not fit for purpose because it was developed with and by CSOs in a project evaluation context and its vocabulary reflects the values and priorities of CSOs, albeit with an interest in EfSRL	3B: A values-based indicators toolkit is developed with and by teachers and students in a secondary school context, such that its vocabulary reflects values and priorities of a positive approach to EfSRL within formal education. The toolkit is effective in transforming problematic situations 1A and 1B into preferred situations 2A and 2B, respectively

framing of the 'preferred' versus the 'current' situation (Cross 1999; Zimmerman and Forlizzi 2008; Zimmerman et al. 2007) to encompass other knowledge outcomes. These may include, for example, the development of novel design processes and methods; the emergence of future research agendas, often in the form of a "nascent theory of the near future"; and the application of design to new areas (Zimmerman and Forlizzi 2008, p. 44).

The starting point for the project described in this chapter can be summed up in the following three pairs of propositions, which collectively constituted a statement of the problematic situations prior to the start of the project and the preferred future situations (Table 2).

Developing a new 'menu' of values-based proto-indicators In accordance with the observation that the ESDinds Project indicators reflected the values and priorities of CSOs, the purpose of the research phase was to create a new reference list of values-based proto-indicators, relevant for EfSRL teaching in secondary schools. To do this, we conducted a new analysis of several datasets that we had previously collected during our explorations of values in educational contexts:

- field notes from participant observation and survey questionnaires completed by participants in an education conference in Ireland, as part of the ESDinds project;
- transcripts of semi-structured interviews with eight lecturers at the University of Brighton, including some in the School of Education;
- transcripts of semi-structured interviews with secondary school teachers in Tanzania.

Consent had been previously given by the participants, at the time of data collection, for the data to be used for the development of values-based indicators.

The datasets were analysed using qualitative content analysis to identify *value-labels* and *referents*. We defined 'value-labels' as words or phrases that appeared to signify an abstract concept that was valued by the respondents, e.g. 'fun' or 'engagement'. 'Referents' were understood as direct quotes from the transcripts that referred to actions or affective states which the respondents associated, explicitly or implicitly with the enactment of these values, e.g. "see the funny or ridiculous side of the subject area", or "[students have] thought about what you've said". The value-labels were then aggregated into broader categories or themes which can be understood as clusters of values (e.g. "fun/humour/silliness" or "engagement/initiative/responsibility"). The analytical process was cumulative, generating a total of 31 value clusters across the four datasets, as shown in Table 3.

Table 3 Overview of the 31 value clusters identified from the four datasets, organised in alphabetical order

THEME (value cluster)	UK: lecturer interviews	IRELAND: education conference fieldnotes	IRELAND: education conference surveys	TANZANIA: school teacher interviews
Academic excellence/examination performance			Yes (new)	Yes
Challenge/risk-taking	Yes	Yes	Yes	No
Community action/connection/'real world'	Yes	Yes	Yes	Yes
Compassion/caring	Yes	Yes	Yes	Yes
Creativity	Yes	Yes	No	No
Dialogue/collaboration	Yes	Yes	Yes	No
Discipline/behaviour				Yes (new)
Enabling/empowering	Yes	Yes	Yes	No
Engagement/initiative/responsibility	Yes	Yes	Yes	No
Extra-curricular			Yes (new)	No
Financial benefits				Yes (new)
Flexibility/inclusivity	Yes	Yes	Yes	Yes
Fun/humour/silliness	Yes	Yes	No	No
Integration/holism	Yes	Yes	Yes	No
Leadership/facilitation	Yes	No	Yes	No
Learning environment			Yes (new)	Yes
Love/friendship/closeness				Yes (new)
'Parenting' role				Yes (new)
Personal goals/employment/progress				Yes (new)

(continued)

Table 3 (continued)

THEME (value cluster)	UK: lecturer interviews	IRELAND: education conference fieldnotes	IRELAND: education conference surveys	TANZANIA: school teacher interviews
Peer support			Yes (new)	Yes
Positivity/happiness	Yes	No	Yes	Yes
Preparation/resources				Yes (new)
Professional development			Yes (new)	Yes
Reflection/criticality	Yes	Yes	Yes	No
Relationships with parents			Yes (new)	No
Respect	Yes	No	Yes	Yes
Rights			Yes (new)	No
Sacredness			Yes (new)	No
Safety/security	Yes	Yes	Yes	Yes
Self-knowledge				Yes (new)
Sense of place/roots		Yes (new)	No	No
Service/giving				Yes (new)
Student-centredness			Yes (new)	No
Transformation	Yes	No	No	No
Understanding				Yes (new)
Total themes in dataset	16	13 (1 new)	22 (9 new)	20 (9 new)

Following this analysis, the referents for each theme were aggregated across the four datasets and examined as a complete set, removing duplicates and refining wording to create an initial list of proto-indicators. The criteria for defining a proto-indicator were, first, that it represents a statement of an ideal or valued reality; second, that it contains a subject, even a vague one such as 'people', and a verb; and third, that it is seen by the researcher as potentially 'measurable' or at least pointing towards something that can be evaluated, e.g. through observation, surveys, and/or qualitative methods such as interviews and focus groups. The definition of proto-indicators is a highly subjective process, but in accordance with the underlying design epistemology, we adopted a pragmatic approach to creating a usable proto-indicator 'menu' rather than attempting to represent every nuance.

The full reference list of over 300 proto-indicators was reviewed by the PERL project workgroup, consisting of seven members with a diverse range of professional roles and experiences in EfSRL. Through an iterative process of selection, clustering and discussion, it was reduced to a shortlist of 38 that were felt to be useful for evaluating schools and 15 that were felt to be helpful for supporting teaching and learning at the classroom level.

Reflection on the latter shortlist highlighted, however, that it was still not fit for purpose, in that the key proto-indicator "Students acquire values and competencies different from those of materialistic, technocratic societies" did not provide

sufficient detail about what the desired competencies might actually be. To remedy this, the researchers identified an established ecopsychology text providing detailed information on values and skills underpinning the creation of sustainable communities, based on more than 25 years of research in diverse Indigenous societies, namely *Nature and the Human Soul* by Plotkin (2009). A content analysis of selected chapters of this text was conducted to generate new indicators for review by the workgroup, and 37 of these were added to the 'teaching and learning' shortlist. Additional proto-indicators were also contributed by PERL workgroup members: some directly, and others through a written survey (modelled on the 'Educate Together' questionnaire described above, but with a stronger EfSRL focus). After further revisions by workgroup members and three UK secondary school teachers, the final shortlists consisted of 32 proto-indicators for whole-school evaluation and 42 for supporting teaching and learning.

Following informal feedback from colleagues, teachers and young people, it became clear that while it might in principle be possible to engage teachers in reflecting on values-based indicators within their in-service training, a more immediate and appealing design prospect was a toolkit that could be used with students in the classroom. At this point, some of the indicators were reworded to make them more accessible to youth. We also realised that since the focus of the toolkit had shifted towards reflection and learning rather than formal evaluation, it would be more useful to refer to the statements as 'skills for sustainable and responsible living' (SRL) than as 'proto-indicators'.

Having shifted focus from teachers to students, the design of the actual activities that would constitute the toolkit itself was heavily influenced by Kim Sabo Flores's pioneering work on 'Youth Participatory Evaluation' (Flores 2008; Hochachka 2005; Seamon and Zajonc 1998). Drawing on Vygotsky's theory that children develop and learn by "performing a head taller than they are" (Torbert 2001, p. 102), Flores highlights the importance of play and performance in youth participatory evaluation, and advocates relating to young people "as evaluators, not merely as if they were evaluators" (Flores 2008, p. 23; Seamon and Zajonc 1998) (this subtle but crucial distinction can be understood through the analogy of watching actors in a theatre 'as' their characters, rather than 'as if' they were their characters). We modified some of the workshop activities proposed by Flores (2008) to make them suitable for values elicitation in schools:

- 'The First Thing You Think Of': asking students to write down the first thing that came into their minds when the facilitator mentioned certain words, i.e. 'participation', 'community', 'sustainability', and the name of the school itself (c.f. Flores 2008, p. 52).
- 'The 'Yes, And...' Game': encouraging students to create a 'collective story' about the type of future they would like to see for their school, in which each new participant had to acknowledge the preceding contribution by saying "Yes, and..." (c.f. Flores 2008, p. 56).
- 'Human survey' to assess the extent to which the students felt that key skills were already being put into practice in the school, by asking them to arrange themselves

along an imaginary line across the room that represented a scale from 0 to 100 % (Flores 2008, p. 50). This has parallels with the 'spatial survey' method that we had previously tested during the ESDinds Project, in which participants were required to move into one of three different physical spaces to represent their choice from three possible answers to a question (Burford et al. 2013b).

These new activities were included in the prototype toolkit alongside a number of established activities from the ESDinds Project, such as reflecting individually and collectively on the reference list of statements; selecting those that stand out as particularly relevant or important; grouping and prioritising the chosen statements; and reflecting on them through spatial surveys and other non-cognitive methods such as role-play (Fig. 2).

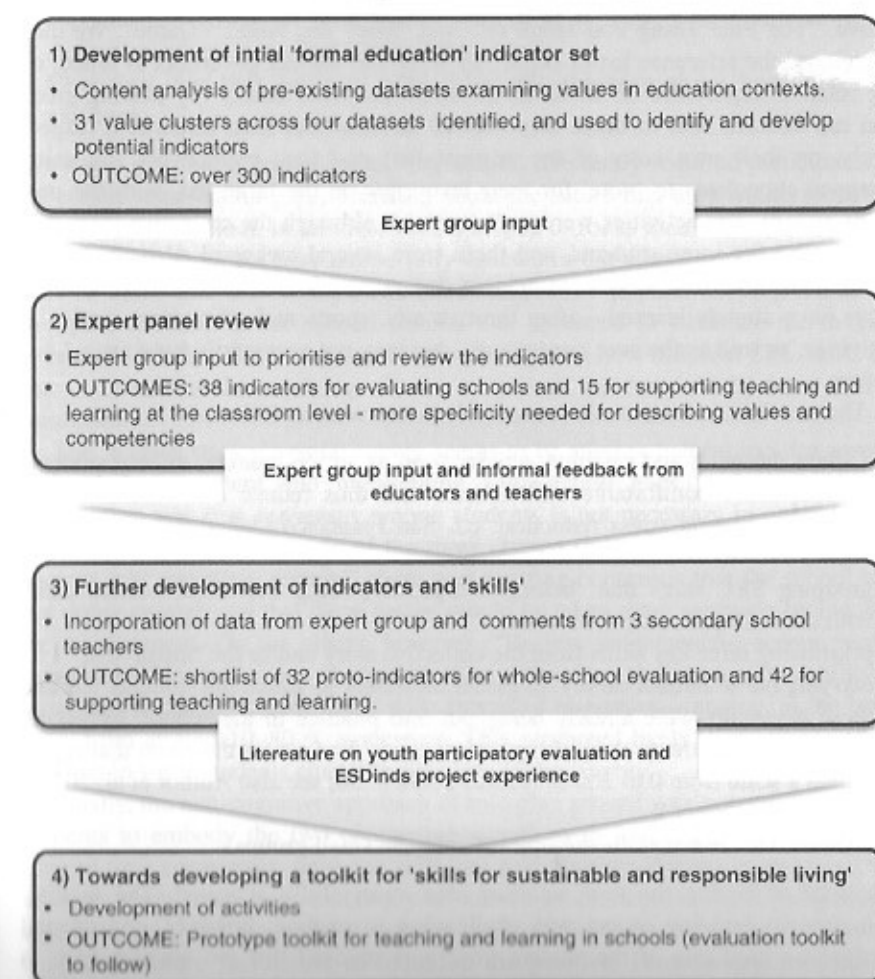


Fig. 2 Overview of the research through design process

1.4 Capacity Building in an English Secondary School

Following the 'Research through Design' phase of the project, we set out to train teachers and students in using the toolkit. We worked through the toolkit activities with nine 'student governors' (i.e. students who had been elected by their peers as members of the school council) aged between 14 and 17, in two separate sessions at an English secondary school. The sessions with the student governors had two separate aims: testing the newly designed activities, and training these youth as peer facilitators with a view to having them subsequently facilitate activities for younger students (aged 12–13). These exercises also highlighted some new SRL skills, which we added to the provisional 'menu' (see Sect. 2).

In the first session, we began with the two values elicitation exercises described above, 'The First Thing You Think Of' and 'The 'Yes, And...' Game'. We then introduced the reference list of skills and asked the student governors to reflect on the relative importance of the skills to them, first individually (by placing green and red stickers next to those they viewed as most and least important, respectively, on their own copy of the original list) and then collectively (by using wrapped chocolates to 'vote' for their favourites on the large list, with the new skills added). The activities were well received, although the collective story was challenging for some students, and there were several awkward silences. In discussing the skills list, it became evident that many of these are skills which students have already learned—often through arts, sports and other extra-curricular activities, as well as the core curriculum—but may not necessarily have articulated before.

The activities carried out in the second session were as follows:

- a silent throwing and catching activity used as an ice-breaker, to help students become more comfortable with silence and thus reduce awkwardness (also useful for general stress reduction: c.f. San Francisco United School District, 2014);
- grouping SRL skills that 'belonged together', using individual printed cards with one skill per card;
- prioritising three key skills from the collective story and/or the 'menu' list;
- carrying out a 'human survey' to assess the extent to which the students felt that these key skills were already being put into practice in the school, by asking them to arrange themselves along an imaginary line across the room that represented a scale from 0 to 100 % (Flores 2008, p. 50; see also Author et al. 2013a, on 'spatial surveys');
- enacting the chosen skills through role-play, in small groups.

The goal of testing the new activities was successfully achieved. The facilitation capacity-building aspect was challenging to explain, however, and created confusion—until one of the student governors realised that we wanted them to 'be us'—i.e. take on our own roles. In retrospect, it might have been helpful to work through all the activities once first, before separately focusing on the elements of good facilitation and allowing the students to practice facilitating each other.

2 Identification and Closure of Value-Action Gaps: Some Preliminary Reflections

The toolkit activities were well received by the student governors during the capacity building sessions, and generated some lively, and generally positive, discussions. In the first session, the collective story of 'the future we want' generated a number of new SRL skill statements that were not present in either the original WeValue list or the education reference list. These included, among others:

- Evaluating what's important to us and what isn't,
- Looking after ourselves and our families,
- Not being so dependent on technology that we lose the ability to write and socialise (communicating face to face; spending quality time with people),
- Accepting others instead of judging them,
- Choosing jobs that we love instead of only thinking about how much we can earn.

We noted that this exercise, by its very nature, inherently required participants to reflect on value-action gaps. Thinking about the future that they would most like to see for their school, in an ideal world, helped to focus their attention on things that matter to them but may not be fully enacted in the school at present. We also noticed that while the 'voting' with chocolates was a popular activity, it was the grouping exercise in the second session that appeared to stimulate the deepest reflection. It led to some important realisations about how different SRL skills are interconnected, and a revaluing of some statements that had initially been seen as unimportant.

The 'human survey'/spatial survey seems to be another helpful tool for assessing values enactment and highlighting value-action gaps, and an important observation was that consensus among students is not necessary in order for the exercise to be useful. On one of the three chosen skills, "Maintain a sustainable society, e.g. recycling, energy", there was a strong consensus that the school was not doing enough and that these issues should be taken more seriously by the senior management. On the others, however ("Be less judgemental—accept people more" and "Not to become so dependent on technology that we lose the ability to write and socialise"), there was a wide spread of responses—ranging, in the latter case, from around 10–80 % agreement. This prompted lively discussions, which resulted in some students changing positions in the 'survey'.

Finally, the non-cognitive approach of role-play proved very powerful, enabling students to embody the two contrasting situations of judgement and acceptance (due to time constraints, only one skill was role-played). Perhaps understandably, students spent more time enacting well-known problems than envisioning workable solutions, and we realised that the activity guidelines could be reworded to encourage future facilitators to focus on the positive. Nonetheless, participants understood the point of the exercise and contributed meaningfully to a follow-up discussion about what could be done differently. While some suggested that the

senior management should take a tougher stance on bullying, others acknowledged that they themselves—as peer leaders—could play a role in helping to create a climate where everyone feels accepted and valued.

We envisage that these processes of identifying and closing value-action gaps could be taken further, e.g. by asking students to reflect on their chosen SRL skills through arts-based activities (painting, poetry, music, dance, monologue, etc.) and then to identify specific, measurable actions that they can take themselves and/or request the senior management team to implement. The senior management, in return, might pledge to implement a minimum number (e.g. three) of the viable suggestions made by the youth for building a better future at the school. These new activities have not yet been tested at the time of writing.

3 Discussion

Although this project is still ongoing, it has already demonstrated its utility at several levels. First, we have shown that each of the ‘problematic situations’ outlined in Table 3 is beginning to shift towards its respective ‘preferred situation’—albeit to a limited extent, in the light of resource constraints. We have demonstrated that it is possible, on a small scale and with an amenable group of students, to (1) adopt a positive and constructive approach to the teaching of EfSRL, which focuses on developing values and skills necessary for envisioning and co-creating better futures; (2) identify value-action gaps, and at least begin to understand how they might be closed; and (3) design a toolkit of values-based indicators suitable for a school context. It is important to note, however, that we were working with peer-elected student governors, who might be more engaged, positive and proactive than the general population in their age group.

We have not yet established whether students aged 14–16 can be trained to work effectively as facilitators for a younger age group, as this has not yet been carried out due to examination schedules. In addition, we have not yet explored the full potential of the toolkit activities for *closing*, rather than merely identifying, value-action gaps. We anticipate, however, that arts-based reflection may be valuable for helping students to identify specific action points—both for themselves and for the senior management team. In this respect, the willingness of senior management to listen to students and implement their viable suggestions is crucial, as it could be profoundly empowering for the youth to see their work leading to observable changes within the school (the ‘school evaluation toolkit’, still in construction, could potentially be useful at this point). The potential role of class teachers also needs closer attention, as in our work with student governors the teaching staff were only minimally involved, although we have since demonstrated some of the activities to a Year 8 PSHE teacher and his students within a classroom context.

3.1 How Does This Work Contribute to Values Literature?

Relating our findings to literature, we suggest that our work links Maio et al. (2001) hypothesis—that the attempt to articulate ethical or pro-social values in words can reinforce and strengthen those values, where they might otherwise be ‘over-ruled’ by more urgent needs such as money, comfort or time—to the field of EfSRL. We have extended the nascent literature on values-focused evaluation: (Harder et al. 2014b; Burford et al. 2013a, b; Podger et al. 2013;) by illustrating that in principle this approach can be modified for formal education settings. However, congruent with the work of Flores (2008) on Youth Participatory Evaluation, we suggest that it is also important to elicit values statements from young people in their own words, as a process based on analysis of what is important to teachers may not capture everything that matters to students. The combination of an explicit values elicitation step with reflection on a pre-existing ‘menu’ can ensure that participants are both empowered to express whatever is already important to them, and challenged with new ideas that they might not previously have thought about.

An observation made during the first capacity building session with student governors has important implications for the conceptualisation of values, and may point to a second, hitherto unreported, type of ‘gap’. We learned that the students felt they were *already* practising many of the skills described in the list, often outside the core curriculum; but they had neither articulated them in words, nor previously thought of them as ‘skills for sustainable and responsible living’. This observation echoes a statement by Rescher (1982) that value subscription can manifest itself both through *discourse* (what people say) and through overt *action* (what they do), but the critical test of value presence is consistency between the two. Citing Rescher’s work, Schlater and Sontag (1994, p. 5) offer two contrasting examples of inconsistency: “A person may ‘talk’ the value but not implement it in action, or a person may act in accordance with a value but not subscribe to it verbally.”

By analogy with value-action gaps, the second inconsistency described by Schlater and Sontag (1994), i.e. a situation in which people are known or hypothesized to hold certain values but do not talk about them, might be termed a *value-discourse gap*. This can be related to comments by teachers that several of the skills in the reference list were barely covered in (or even, in a few cases, were entirely absent from) the UK national secondary curriculum. Merely by introducing them as topics of conversation, and linking them explicitly to SRL, the toolkit has already contributed towards the closure of value-discourse gaps.

3.2 How Does This Work Contribute to Design Literature?

While still in its early stages, this work underscores the importance of involving all relevant stakeholders in sustainable design processes (Blizzard and Klotz 2012) and in particular, highlights the need for meaningful involvement of youth.

While there is a vast literature on different aspects of co-design and participatory design, very little of this work refers directly to the participation of children and young people, with some notable exceptions in the fields of architecture (Driskell 2002; Spencer and Blades 2006) and information systems (Druin 2005). It can be assumed that most 'participatory' design—even in school contexts—remains dominated by adults, with the participation of children and youth primarily at a tokenistic level (c.f. Hart 1992). This is analogous to the situation in the field of evaluation prior to the seminal work of Kim Sabo Flores (Hochachka 2005; Seamon and Zajonc 1998; Flores 2008), and it can therefore be assumed that there may be a productive crossover between Youth Participatory Evaluation and Participatory Design—not only in terms of specific methods and strategies, but also underlying assumptions about youth and their capacities. We will explore these ideas in greater depth in our future work with the toolkit.

4 Conclusions

In this chapter, we have presented preliminary findings from an ongoing project aimed at creating a values-based EfSRL toolkit for secondary schools. We have illustrated that, even at this early stage, the project has achieved some progress towards creating artefacts that can transform problematic social situations into preferred future situations. The framing of the designed artefact—the toolkit text—embeds within it an emergent body of knowledge about what is valued by teachers in specific settings in the UK, Ireland and Tanzania, and (to a limited extent) by 14–16 year old students attending a secondary school in southern England. In addition, through the nature of the designed artefact and users' experiences with it, this study has contributed to the development of theory about values: confirming the applicability of earlier work on value-action gaps to the new context of schools, and identifying a new type of 'gap'—the *value-discourse gap*—that has previously been overlooked. Finally, within the field of design research, we have drawn attention to the importance of participation by children and youth and highlighted a potentially useful overlap with Youth Participatory Evaluation.

Acknowledgments The authors acknowledge the valuable contributions of Tiina Jaatinen, Firooz Firoozmand, Ismael Velasco and all the members of PERL Workgroup 1 to the work described in this chapter.

References

- Agle BR, Caldwell CB (1999) Understanding research on values in business: A level of analysis framework. *Business & Society* 38 (3):326–387.
- Ajzen I (1991) The theory of planned behavior. *Organizational Behavior and Human Decision Processes* 50 (2):179–211.

- Blake J (1999) Overcoming the 'value-action gap' in environmental policy: Tensions between national policy and local experience. *Local Environment* 4 (3):257–278.
- Blizzard JL, Klotz LE (2012) A framework for sustainable whole systems design. *Design Studies* 33:456–479.
- Brown B, Buchanan R, DiSalvo C, Margolin V (2013) Introduction. *Design Issues* 29 (2):1–3.
- Brown B, Buchanan R, DiSalvo C, Margolin V (2014) Introduction. *Design Issues* 30 (2):1–3.
- Buchanan R (1995) Wicked problems in design thinking. In: Margolin V, Buchanan R (eds) *The Idea of Design*. The MIT Press, Cambridge, MA, p 14.
- Burford G, Hoover E, Harder MK (in preparation) The design of interfaces between 'informal' and 'formal' ways of knowing: preliminary evaluation of a meta-process template.
- Burford G, Hoover E, Jarvis D, Harder MK Assessing group learning processes: reflections on using values-based indicators as assessment criteria with final-year undergraduates In: *Evolving Experiences: Proceedings of the University of Brighton Learning and Teaching Conference 2013*, Falmer, UK, in press. University of Brighton.
- Burford G, Hoover E, Velasco I, Janouskova S, Jimenez A, Piggot G, Podger D, Harder MK (2013a) Bringing the 'missing pillar' into Sustainable Development Goals: towards intersubjective values-based indicators. *Sustainability* 5:3035–3059.
- Burford G, Kissmann S, Rosado-May FJ, Alvarado Dzul SH, Harder MK (2012) Indigenous participation in intercultural education: learning from Mexico and Tanzania. *Ecology and Society* 17 (4):33.
- Burford G, Velasco I, Janouskova S, Zahradnik M, Hak T, Podger D, Piggot G, Harder MK (2013b) Field trials of a novel toolkit for evaluating 'intangible' values-related dimensions of projects. *Evaluation and Program Planning* 36 (1):1–14. doi:<http://dx.doi.org/10.1016/j.evalpr.2012.04.005>.
- Cross N (1995) Editorial. *Design Studies* 16:2–3.
- Cross N (1999) Design research: a disciplined conversation. *Design Issues* 15 (2):5–10.
- Dixon BR (1978) An investigation into the use of Rath's values clarification strategies with grade eight pupils (Doctoral dissertation, Michigan State University, 1978). *Dissertation Abstracts International* 39:5987A.
- Driskell D (2002) *Creating Better Cities with Children and Youth: A Manual for Participation*. ERIC.
- Druin A (2005) What Children Can Teach Us: Developing Digital Libraries for Children with Children1. *The Library* 75 (1).
- ESDinds (2011) ESDinds: The development of values-based indicators and assessment tools for civil society organizations promoting education for sustainable development. Deliverable 17: final project report to European Commission Seventh Framework Programme (FP7/2007–2013): www.esdinds.eu. ESDinds Project Consortium led by University of Brighton.
- Farrell R, Hooker C (2013) Design, science and wicked problems. *Design Studies* 34:681–705.
- Forlizzi J (2014) Research through design: a method for interaction design research in the field of human-computer interaction. *Design for All* 9 (4):24–25.
- Frayling C (1993) Research in art and design. *Royal College of Art Research Papers* 1 (1):1–5.
- Goleman D (1998) *Working with emotional intelligence*. Bloomsbury, London.
- Gruys ML, Stewart SM, Goodstein J, Bing MN, Wicks AC (2008) Values enactment in organizations: A multi-level examination. *Journal of Management* 34 (4):806–843. doi:[10.1177/0149206308318610](https://doi.org/10.1177/0149206308318610).
- Harder MK, Burford G, Hoover E From 'sustainable production' to 'production as sustainability': the emergence of values-focused evaluation. In: *Global Research Forum on Sustainable Production and Consumption*, Shanghai, China, 2014a. Fudan University, Shanghai.
- Harder MK, Velasco I, Burford G, Podger D, Janouskova S, Piggot G, Hoover E (2014b) Reconceptualizing 'effectiveness' in environmental projects: can we measure values-related achievements? *Journal of Environmental Management* 139:120–134.
- Hart R (1992) *Children's participation: from tokenism to citizenship*. UNICEF and International Child Development Centre, Florence, Italy.

- Heimlich JE (2010) Environmental education evaluation: Reinterpreting education as a strategy for meeting mission. *Evaluation and Program Planning* 33:180-185.
- Hochachka G (2005) Developing sustainability, developing the self: an integral approach to individual and community development. Polis Project, Victoria, Canada.
- Jackson TJ (2005) A report to Sustainable Development Research Network. Motivating Sustainable Consumption: a review of evidence on consumer behavior and behavioral change. University of Surrey.
- Kennedy EH, Beckley TM, McFarlane BL, Nadeau S (2009) Why we don't 'walk the talk': Understanding the environmental values/behaviour gap in Canada. *Research in Human Ecology* 16:151-160.
- Kluckhohn C (1951) Values and value-orientations in the theory of action. In: Parsons T, Shils E (eds) *Toward a general theory of action*. Harvard University Press, Cambridge, MA, pp 388-433.
- Kollmuss A, Agyeman J (2002) Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research* 8 (3):239-260.
- Kopelman RE, Rovenpor JL, Guan M (2003) The Study of Values: Construction of the fourth edition. *Journal of Vocational Behavior* 62:203-220.
- Maio GR, Olson JM, Allen L, Bernard MM (2001) Addressing discrepancies between values and behavior: The motivating effect of reasons. *Journal of Experimental Social Psychology* 37 (2):104-117.
- Maturana H, Varela FJ (1991) *Autopoiesis and cognition: The realization of the living*. D. Reidel Publishing Company, Dordrecht, The Netherlands.
- Meglino BM, Ravlin EC (1998) Individual values in organizations: Concepts, controversies, and research. *Journal of Management* 24 (3):351-389.
- Patten T (2013) Enacting an integral revolution: how can we have truly radical conversations at a time of global crisis? Paper presented at the Integral Theory Conference.
- Peng KP, Nisbett RE, Wong NYC (1997) Validity problems comparing values across cultures and possible solutions. *Psychological Methods* 2 (4):329-344.
- Plotkin B (2009) *Nature and the human soul: cultivating wholeness and community in a fragmented world*. New World Library, Novato, CA.
- Podger D, Piggot G, Zahradnik M, Janouskova S, Velasco I, Hak T, Dahl A, Jimenez A, Harder MK (2010) The Earth Charter and the ESDinds initiative: developing indicators and assessment tools for civil society organisations to examine the values dimensions of sustainability projects. *Journal of Education for Sustainable Development* 4 (2):297-305.
- Podger D, Velasco I, Amezcua Luna C, Burford G, Harder MK (2013) Can values be measured? Significant contributions from a small civil society organisation through action research evaluation. *Action Research* 11 (1):8-30.
- Poortinga W, Steg L, Vlek C (2004) Values, environmental concern, and environmental behavior: a study into household energy use. *Environment and Behavior* 36 (1):70-93.
- Raths LE, Harmin M, Simon SB (1978) *Values and teaching*. 2nd edn. C. E. Merrill, Columbus, OH, USA.
- Redclift M, Benton T (1994) Introduction. In: *Social Theory and the Global Environment*. Routledge, London.
- Rescher N (1982) *Introduction to Value Theory*. University Press of America, Lanham, MD.
- Rokeach M (1973) *The Nature of Human Values*. The Free Press, New York.
- Rokeach M (1985) inducing change and stability in belief systems and personality structures. *Journal of Social Issues* 41 (1):153-171.
- Sabo Flores K (2008) *Youth participatory evaluation*. Jossey-Bass, San Francisco, CA, USA.
- Schlater JD, Sontag M (1994) Toward the measurement of human values. *Family and Consumer Science Research Journal* 23 (1):4-25.
- Seamon D, Zajonc A (1998) *Goethe's way of science: a phenomenology of nature*. SUNY, Albany, NY.

- Spencer C, Blades M (2006) *Children and their environments: Learning, using and designing spaces*. Cambridge University Press.
- Torbert W (2001) The practice of action inquiry. In: Reason P, Bradbury H (eds) *Handbook of action research*. Sage, London, pp 250-260.
- Wilber K (2004) The integral vision of healing. In: Schlitz M, Amorok T, Micozzi M (eds) *Consciousness and healing: integral approaches to mind-body medicine*. C. V. Mosby, St Louis, MO.
- Williams RM (1979) Changes and stability in values and value systems, a sociological perspective. In: Rokeach M (ed) *Understanding human values*. The Free Press, New York, pp 15-46.
- Zimmerman J, Forlizzi J (2008) The role of design artifacts in design theory construction. *Artifact* 2 (1):41-45.
- Zimmerman J, Forlizzi J, Evenson S Research through design as a method for interaction design in human-computer interaction. In: *Conference on Human Factors in Computing Systems*, New York, 2007. ACM Press, pp 493-502.