Victoria W. Thoresen · Robert J. Didham
Jørgen Klein · Declan Doyle *Editors*

Responsible Living

Concepts, Education and Future Perspectives

Springer

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ISBN 978-3-319-15304-9 ISBN 978-3-319-15305-6 (eBook)
DOI 10.1007/978-3-319-15305-6

Library of Congress Control Number: 2015930333

Springer Cham Heidelberg New York Dordrecht London
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Printed on acid-free paper

Springer International Publishing AG Switzerland is part of Springer Science+Business Media (www.springer.com)

The Partnership for Education and Research about Responsible Living (PERL) project has been carried out with the support of the European Community in the framework of the Erasmus Programme. The content of this project does not necessarily reflect the position of the European Community, nor does it involve any responsibility on the part of the European Community.

Further information on PERL can be found here: https://eng.hihm.no/project-sites/responsible-living

Acknowledgments

This book would not have been possible without the valuable support of the reviewer team. Therefore, we would like to thank all the reviewers for their help in reading and commenting on the submitted articles. Each submitted article was reviewed by at least two experts. Please find below the reviewers listed in alphabetical order.

Brummel, Mackteljin—Netherlands Enterprise Agency
Dourado, Alcina—Setubal College of Education
Figueira, Ana Christina—University of Algarve
Gottschau, Jette—University College of Copenhagen
Karlsson-Vinkhuyzen, Sylvia—International Environment Forum
Klabusayova, Nadezda—Technichal University of Ostrava
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McCloat, Amanda—St. Angela's College
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de Silva, Luisa—Institute of Cocial and political Studies, Portugal
Theodoropoulou, Helen—Harokopio University Athens
Zaleskiene, Irena—Lituanian Univeristy of Education Sciences

A special thanks to the Ulf Schrader and Heiko Steffens who assisted the PERL editorial committee in the preparation of this publication.

Hayama, Carlow, Hamar

Victoria W. Thoresen
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> *Once enough people embrace the true nature of adolescence—its promise and potential—Western culture will transform and again become life sustaining. To the extent that we don't know what adolescence is for, we don't know what humans are for.*
>
> (Bill Plotkin, *Nature and the Human Soul*, p. 11)

Arthur Lyon Dahl is President of the International Environment Forum and a retired Deputy Assistant Executive Director of UNEP, with a Ph.D. in Biology and over 40 years experience in sustainable development and its ethical dimension. He teaches Internet and university advanced studies courses, and led a PERL project applying values-based indicators in education. He represented the Baha'i International Community at the 1972 Stockholm Conference, was in the Secretariat of the Rio Earth Summit, and participated in WSSD and Rio+20.

> *Take from this world only to the measure of your needs, and forego that which exceedeth them.*
>
> (Bahá'u'lláh, 1817–1892)

Robert J. Didham is Senior Coordinator for capacity development and knowledge management at the Institute for Global Environmental Strategies. In this role, he manages capacity building and training programmes for target stakeholders across the Asia-Pacific region to implement sustainability policies and practices. He also leads the education team at IGES and conducts research on education for sustainable development, consumption, and lifestyles. His academic focus is interdisciplinary approaches to sustainable development with primary background in sociology, development studies, and educational leadership.

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The rose has thorns only for those who would gather it.

(Chinese Proverb)

Paul Ofei-Manu is a researcher in the Education Team at the Institute for Global Environmental Strategies. He is also a researcher of sustainability at Miyagi National University of Education (since 2010), having served previously as a guest lecturer for 2 years. Concurrent with independent research, he was a language instructor in several elementary, junior high, and high schools in Miyagi Prefecture, Japan. Previously, he was a Senior Research/Teaching Assistant for 2 years at the University of Ghana Agricultural Research Centre.

It is in fact a part of the function of education to help us to escape—not from our own time, for we are bound by that—but from the intellectual and emotional limitations of our own time.

(T.S. Eliot, 1888–1965)

François Jégou is the Founder and Head of Strategic Design Scenarios and has 20 years of experience in strategic design, participative scenario building, and new product-services system definition. He is a professor of strategic design at La Cambre, Brussels and Design Manager of the Lab of Usage and Innovative Practices at the Cité du Design in Saint-Etienne, France. He is Lead expert of URBACT Sustainable Food in Urban Communities network and founding member of the DESIS Design for Social Innovation and Sustainability network.

Christophe Gouache is Project Manager at Strategic Design Scenarios. Christophe studied industrial product design and responsible innovation and received his Masters from The École de Design Nantes Atlantique, Nantes, France. He directed a 6-months long sustainable community project in Davao, Philippines which focused on eco-design projects all stemming from a strong will to carry out educational initiatives meant to spur participative and collective construction efforts. His focus is on sustainable and social innovation, collaborative and participative scenario building, prospective visions, and service design.

We need to know where we are going. We need to have vision. And that vision has to be articulated, it has to be socially shared, and discussed, and formulated.

(Meadows, 1994)

Siri Wieberg Klausen has a Master's degree in Political Science from the University of Oslo. She also has a bachelor's degree in TV journalism and documentary film from Volda University College, Norway. She has been working as a journalist and documentary filmmaker for 10 years. She has also been teaching social studies in upper secondary school for several years. Currently, she is working as a lecturer

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Think wrongly, if you please, but in all cases, think for yourself.

(Doris Lessing)

Jørgen Klein is Vice Dean of Research at Hedmark University College, Norway. He holds a Ph.D. in Geography from the Norwegian University of Science and Technology (NTNU). Dr. Klein has been doing research on deforestation and conservation of nature in East Africa and Madagascar, indigenous knowledge and education in Namibia, and the didactics of global and environmental learning in teacher education.

Anybody who rides a bike is a friend of mine.

(Gary Fisher)

Frans Lenglet is a Senior Advisor at the Swedish International Centre of Education for Sustainable Development (SWEDESD) at Uppsala University, Sweden. SWEDESD supports capacity building for "learning for sustainable change"—empowering individuals, communities, and organizations to act on sustainable choices about the cultural, social, economic, and biophysical conditions affecting their own livelihoods and well-being as well as those of other people and future generations, within planetary boundaries. Frans Lenglet received his Ph.D. in International Development Education from Stanford University.

Not everything that can be counted counts, and not everything that counts can be counted.

(William Bruce Cameron)

Jeppe Læssøe is a Professor at the Department of Education, Aarhus University, Copenhagen, Denmark. His research is focused on social learning, participation, and sociocultural dynamics related to sustainable development issues. He has been involved in a range of interdisciplinary research projects and evaluations, including: (a) change agency and mediators of participative nonformal learning processes, (b) nature, environment, and consumption as related to modern everyday life, (c) the history, knowledge, interests and strategies of the environmental movement, and (d) the development of national policies on Climate Change Education and Education for Sustainable Development. He is chairing a national network on development of learning and education related to sustainable development, which was approved as Regional Centre of Expertise by United Nations University in 2010.

ESD should be approached as a re-orientation of the whole education process not as an individual curriculum or educational content. The whole school initiatives should be encouraged to change the school ethos.

(The Presidential Commission on Sustainable Development of the Republic of Korea, at the opening of the DESD in 2005)

Jonas Andreasen Lysgaard Ph.D., is an Assistant Professor in Environmental Education and education for sustainable development. Part of the Research Programme on Learning for Care, Sustainability and Health at the Department

of Education, Aarhus University, Denmark. Lysgaard focuses on theoretical perspectives on EE and ESD drawing on inspiration from lacanian psychoanalysis and perspectives on materiality.

> *…once the cause of a phenomenon is indicated, we can move on to the question of the significance of this phenomenon.*
>
> (Johan Asplund, 1970)

Carme Martínez-Roca is a Co-founder and Executive Director of the International Foundation for Interdisciplinary Health Promotion. She works to improve social conditions that shape health through education, research, and career development programmes. She has designed and implemented such programmes for municipalities, hospitals, NGOs, and higher, secondary, and adult basic education institutions within the EU and Southern Africa. She has lectured in higher education institutions of Denmark, Germany, Holland, Malta, and Portugal.

> *The discourse around the notion of career guidance can serve to (…) reinvigorate the social contract that does not abandon humanity to the vagaries of the market, but places the dignity and welfare of citizens first.*
>
> (R. Sultana)

Sue L. T. McGregor Ph.D. Professor Emerita, is a Canadian home economist (40 years) with a keen interest in transdisciplinarity, integral studies, moral leadership, and transformative practice. Having worked in higher education for 30 years, she is recently retired from the Faculty of Education at Mount Saint Vincent University, Nova Scotia, Canada. She is a Principal Consultant for *The McGregor Consulting Group* (founded in 1991) http://www.consultmcgregor.com.

> *Ask yourself, 'Can the future trust me?'*
>
> (Margaret Somerville, 15 May 2009)

Marilyn Mehlmann is Head of Development and Training at Global Action Plan International, a network of organizations working for a common goal: empowering people to live and work increasingly sustainably. She was awarded the Rachel Carson Prize 2011 "… for her long-term efforts to involve individuals, companies and NGOs in acting sustainably." Her experience combines psychosynthesis, empowerment, and action research to co-create new methods and tools for personal and professional development, including a "Learning for Change" methodology. Mehlmann is an international speaker (i.a. TEDx), Vice-President of the Union of International Associations (UIA), and a member of several advisory boards.

> *In a time of drastic change, it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists.*
>
> (Eric Hoffer)

Martin Nkosi Ndlela is an Associate Professor at Hedmark University College in Norway. He holds a Ph.D. in Media and Communication from the University of Oslo. His research interests include issues of new information and communication

technologies, (ICTs) and how these can be leveraged for different purposes including issues about consumer empowerment and participation.

If we do not change our direction, we are likely to end up where we are headed.
(Chinese proverb)

Sigurd Solhaug Nielsen is writing his Ph.D. at the Department of Geography at Norwegian University of Science and Technology (NTNU). His main research interest is social responsibilities within the cultural sector and museums in particular. With a constructivist approach, his research focuses on inclusive, open-ended, and participatory exhibition strategies as a means to encourage active and responsible citizens.

Activism takes many forms. One we rarely think about is the popularization of knowledge so that knowledge may be better oriented towards and aligned with popular struggles.
(Don Mitchell)

Suzanne Piscopo is Senior Lecturer in Nutrition, Family, and Consumer Studies at the University of Malta and teaches in the B.Ed, M.Ed, and other courses. She has authored a series of health-related children's storybooks and co-authored various healthy lifestyle and sustainability-related educational resource packs and materials for both primary and secondary level students. Suzanne sits on a number of international and national boards, is active in the local mass media, and is project coordinator for "Home Economists in Action."

Every aspect of our lives is, in a sense, a vote for the kind of world we want to live in.
(Frances Moore Lappé, author of *Diet for a Small Planet*)

Victoria W. Thoresen holds the UNESCO Chair for Education for Sustainable Lifestyles at Hedmark University College, Norway. She is the Director of The Partnership for Education and Research about Responsible Living (PERL). Thoresen has specialized in curriculum development, global education, peace education, value-based education, lifelong learning, and consumer education. In addition to many years as a teacher and teacher trainer, Thoresen has written numerous articles and textbooks and been actively involved in international processes on sustainable human development.

If you want to build a ship, call upon people not to draw up plans and build the ship, but teach them to desire the experience of the wide open seas.
(Antoine de Saint-Exupery, author of *The Little Prince*)

Gregor Torkar has a Ph.D. in Nature Conservation, specializing in conservational education and human–nature relationships. His postgraduate research was done in Ireland in didactical approaches in teaching and learning sciences and home economics. Torkar has been project manager and researcher in several international projects and is an Associate Professor at the Faculty of Education, University of Ljubljana, and at the Faculty of Environmental Sciences, University of Nova Gorica. He is the author and co-author of scientific articles and school textbooks.

Kaija Turkki is a Professor in Home Economics at the University of Helsinki, Finland. Her research and teaching is focused on different qualities and dimensions of home economics, family, and consumer sciences to establish and position them as a fundamental resource and tool to approach our daily life in changing societies. She has strong links to the IFHE and many European networks, and has been invited as an Editorial Board Member on four research Journals. In Finland, Kaija has been an active member of the Parliamentary Support Network for Home Economics since 1993, and a member of the panels processing a national curriculum for home economics under the National Board of Education.

Educating the mind without educating the heart is no education at all.

(Aristotle)

Part I
Introduction

Responsible Living: Concepts, Education and Future Perspectives

Robert J. Didham, Declan Doyle, Jørgen Klein and Victoria W. Thoresen

Would you tell me, please, which way I ought to go from here?
That depends a good deal on where you want to get to.
I don't much care where—
Then it doesn't matter which way you go.
Lewis Carroll, Alice in Wonderland.

Keywords Sustainable development · Sustainable consumption · Education for sustainable lifestyles

1 Introduction

One might well claim, as many do, that in relation to sustainable development the past ten years have been a decade of:

- *ignorance*—the why's and how's of the complex impacts of our modern, highly industrialized, chemically-saturated and electronically driven global society remain largely unanswered,
- *indifference*—individuals, communities and nations continue with "business as usual" despite what we do know about climate change, life-style related illnesses, and widespread social injustice,

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© Springer International Publishing Switzerland 2015

V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_1

- *commercial control*—businesses continue to convince the global masses of the "need" for material affluence and stereotyped, unsustainable futures,
- *egocentrism*—moderation, empathy and cooperation are by no means characteristic of most people today.

While it cannot be denied that much of the above is true, there is also proof that grassroots movements, collaborative networks, innovative local communities, research and the commitments of policy makers have all helped to alter the path towards more sustainable lifestyles. These change-makers, among which The Partnership for Education and Research about Responsible Living (PERL) is proud to be numbered, have, each in their own way contributed to a decade which could be equally characterized by:

- *curiosity*—the search has intensified for a better understanding of what makes us more fully human,
- *concern*—as global citizenship becomes more of a reality than a vague concept, increasingly more individuals and groups are showing greater concern and compassion for the conditions of others elsewhere,
- *innovation*—risk-assessment and new technologies have paved way for creative action on many levels,
- *sharing*—the exchange of ideas, knowledge and experience grows as does the practice of sharing commodities, services and decision making processes.

In light of these contradictory trends, how can we, as researchers, educators and general members of society, examine our values, skills and knowledge and determine how we can better implement these in our daily lives? Perhaps, as PERL partners have discovered in their research and its application in teaching (Schrader et al. 2013), we need to further develop a vocabulary of values, skills and knowledge which can help us articulate what is necessary in order to attain human development for all. But acquiring the words with which to reflect on values and goals is not enough. The process of social learning which involves analysis of how one integrates these into ones actions is equally as important. This must be a process which ensures that the voices of the minorities and the marginalized are heard and taken into consideration.

The tasks which lie ahead, and which this book attempts to address, are numerous. There is no doubt that different environmental and social problems are generated as a result of uneven economic and social development, and that the question of sustainability is defined differently in different parts of the world. In the Western world, consumerism remains the dominant way of life and involves mass consumption of goods and services. This is possible because a minor proportion of the world population consumes a disproportionately large amount of the world's resources and consequently produces a greater proportion of air- and water-pollution, including greenhouse gas emissions (Pearce 2009). And even though there seems to be no clear correlation between income and happiness, when income surpasses a certain level, the culture of consumerism becomes a habit that is extremely difficult to change (Jackson 2009). At the same time, we must acknowledge that many of the problems in the "less developed" part of the world are of a different character. Here the most serious environmental problems are due to the consequences of consumer demands from the developed countries and erratic economic and social

development in the "developing countries" themselves. At the World Summit on Sustainable Development in Johannesburg, 2002, it was recognized that poverty eradication, changing consumption and production patterns, and protecting and managing the natural resource base are essential to obtaining sustainable development. Further it was pointed out that the divide between the rich and the poor countries poses a major threat to global sustainability (United Nations 2002).

One of the most promising global attempts to bridge this gap is found in the Millennium Development Goals initiative (United Nations 2014). The Millennium Development Goals (MDGs) are described as the most widely supported and comprehensive development endeavor the world has ever seen, and they have managed to focus world attention and global political consensus on the needs of the poorest (Lomazzi et al. 2013). A vast majority of researchers, politicians, activists and political observers seem to agree that the fulfillment of these eight goals and 18 targets are a valuable cause, and perhaps the most urgent challenge of humanity. According to the Millennium development report (UNDP 2014), the MDGs have already made a significant difference in many people's lives. For instance, during the course of the MDGs global poverty has been halved, and ninety per cent of children in developing countries now attend primary education. This shows that a combination of concrete measures and collective action is possible, even within some of the most complex problems we face, such as poverty (UNDP 2014).

In the field of responsible living, we see many constructive initiatives towards more sustainable living. A central issue then relates to how these initiatives can be scaled-up and achieve widespread replication. For some initiatives, the saying "Nothing to it but to do it!" explains all that is needed to add to their impact. For other initiatives, a more comprehensive transformation is needed including increased awareness raising and capacity building, while more relevant policies, new infrastructures and incentives are prerequisites for this change. A global effort is needed by politicians and corporate owners to facilitate these changes. During the World Conference on Sustainable Development (Rio+20), held in Rio de Janeiro in 2012, the concept of the Green Economy was also discussed and presented as a way forward towards responsible living. The topic is controversial, as it can be seen as 'greenwashing' for a business as usual attitude, when what is needed is a more fundamental transition to a socially and environmentally sustainable system. However such top-down drivers, initiated by politicians and corporate owners, might complement, reinforce and legitimate activities at the local level (Dahl 2013c). One of the concrete outcomes of the conference was the agreement to develop a set of Sustainable Development Goals (SDGs), which will build upon the Millennium Development Goals and constitute the post 2015 development agenda. Griggs et al. (2013, 305) argues that protecting natural life-support systems and poverty reduction must be the twin priorities for SDGs. It is not enough simply to extend MDGs because humans are transforming the planet in ways that could dramatically undermine achieved human development gains. No longer are global development goals to be seen as the "North" kindly helping the "South" but rather as a collective endeavor by which to achieve human development and sustainable well-being for all.

Another highly important discussion occurring within the PERL network is related to how the concepts which we investigate and expound can become more central to the global discourse. In a globalized world where internet provides the tools for many to be active stakeholders in decision-making processes on all levels, it is essential that we learn how and when to participate. The concept of global citizenship has gained momentum over the past decade and describes a kind of citizenship where our responsibilities as humans and world citizens are for the whole planet, and do not stop at nation-state borders. This way of thinking has been stimulated by the idea that the biggest problems we face, such as enhanced greenhouse effect, are indeed global in nature and must be dealt with at a global scale (Linklater 2002). The growth of global institutions and structures along with communication tools that can link individuals and groups across national borders have also contributed to this development.

Perhaps the most central question of this debate, and a breadcrumb trail in this book, is how education can provide the foundation, the competences and the motivation that will help decision-makers and citizens in general to carry out the transitions towards sustainability. Several initiatives towards more holistic, interdisciplinary, practical and future-oriented education have been developed to address these fundamental questions. The United Nation's world decade on education for sustainable development (UNDESD) (2005–2014) is one of the most prominent initiatives in this respect. The UNDESD has maintained that it is of uttermost importance that sustainability does not become just another issue added to an already overcrowded curriculum. Rather it should be a bridge between subjects in order to promote learning that is transformative in nature (Sterling 2005). A re-orientation of learning practices towards a pedagogy that is critical and emancipatory is needed to make an impact on people's behaviors, in order to build a sustainable future (Kostoulas-Makrakis 2010). Teachers are significant cultural multipliers who are crucial in forming attitudes and values (Maguire et al. 2013), and likewise teacher education should be a main target in order to reach as many future potential decision-makers as possible.

Unlike Alice in Wonderland we know where we want to go and it is high time that the paths we choose to travel down coincide with that knowledge.

2 Structure and Content

2.1 Part 2: Advancing Norms and Policies

This section of the book focuses on norms and policies related to responsible living and the challenges of the "value/action gap". The first three articles are concerned about fundamental transformation of attitudes and behaviour and how to stimulate these through innovative learning practices. The fourth article in this section examines overarching policy approaches to defining and assessing quality

education and, in particular, education for sustainable development. Social media and corporate social responsibility enter the discussion as pathways to greater stakeholder involvement and as means of securing accountability and transparency.

Arthur Lyon Dahl's article, "Ethics for Sustainability Education", addresses the issues of equity and responsibility by using a systems perspective and considering the attempts some educators have made to reflect a set of ethical principles for sustainability in their learning methodologies and materials. Dahl maintains that ethical approaches need to be developed and spread widely in order to motivate people to respond to challenges such as climate change.

Marilyn Mehlmann, Miriam Sannum and Andre Benaim's article: "Learning for sustainability—a systemic approach to behaviour and beliefs" deals with the question of how human capacities and beliefs tend to lead us to construct systems that are inherently unsustainable. To counteract this, a methodology consisting of a workshop format and toolbox have been developed, tested and are presented in this article.

Frans Lenglet looks at the issue of quality education in light of global development agendas and whether or not education can, in fact, assist in the current process of renewing the three agendas. Two examples of effective Education for Sustainable Development-inspired initiatives with teacher educators in Southern Africa and with a multi-stakeholder city team in Southern Asia are presented and their essential transformational features identified in order to highlight what can be done to make educational testing and assessment more inclusive, appropriate and useful.

A recent study, described by *Gregor Torkar* in his article showed empirical evidence and theoretical explanations for a principal idea that by creating meaning of life each individual can perceive the chance for a responsible and sustainable existence. The results support the assumption that experiencing a sense of meaning in daily life to higher degree leads to increased pro-environmental intentions and actual behaviours. The study builds on Viktor Frankl's existential analysis and logotherapy results showed that a meaning of life partly mediate the impact of pro-environmental intentions on pro-environmental behaviours.

Martin Nkosi Ndlela describes how consumers around the world are increasingly harnessing the connective power of social networks to enhance the corporations' sustainable responsible business engagement. He illustrates how consumers and consumer activists can exploit social media in order to impact on corporate social responsibilities on textile companies. Social media keep the spotlight on corporations and provide the consumers with opportunities to demand transparency from corporations. Corporations that behave badly can be named and shamed. The social media also provides opportunities for sharing social innovations that contribute to responsible living. Social media create new opportunities for organizing partnerships and promoting responsible living. Through social media cultures that promote transparency and accountability, corporations are today measured through the critical lens of environmentally conscious consumers.

2.2 Part 3: Transforming Learning Environments and Educational Approaches

The five papers presented in Part 3 explore the role that educators and learning environments play in advancing responsible living. Although taking up different themes and issues in formal education including curriculum, school management, indicators and assessment, there are some important commonalities across all four papers. Holistic education that links learning directly to application in daily lives through responsible choices, practices and behaviours are recommendations from Part 3.

Sue McGregor takes up the challenge of education for responsible living in her paper *Enriching Responsible Living Curricula with Transdisciplinarity* and explores the relevant curriculum needs for advancing such education. A responsible living curriculum would aim to integrate learning into the daily lives of students and would focus on three main components: ethics, decision making for responsible living, and engaged citizenship. A transdisciplinary approach to education is advocated as the key foundation for this type of curriculum and is elaborated in relation to Nicolescu's transdisciplinary approach and its understanding of multiple levels of reality. This paper presents a four dimensional framework for orienting education for responsible living which addresses a complex variety of knowledge, cognitive skills, iterative processes, and learning cycles that encompass the four pillars of education for the 21st century (i.e. learning to know, to do, to live together, and to be). Through a transdisciplinary curriculum for responsible living, it is argued that education can engage students in communication around daily choices, help them to become aware of their connectedness, and support them in negotiating conflict and contradictions.

Gemma Burford, Elona Hoover, Arthur Dahl, and *Marie K. Harder* initiate their discussion based on the existence of the 'value-action gap'—i.e. the well-noted fact that although people may express pro-environmental or pro-sustainability values, they often do not act or behave in manners that correlate with these values—and explore ways in which this gap may be overcome in their paper *Making the Invisible Visible: Designing Values-Based Indicators and Tools for Identifying and Closing 'Value-Action Gaps'*. The specific approach that the authors have been testing and applying in multiple settings that they argue as an effective solution for addressing this gap is the application of values-based indicators. This paper reports on the co-design of such indicators for secondary schools and the development of a toolkit aimed at supporting their application in teaching and learning processes. This approach establishes localized discussions on values related to sustainability goals, and in so doing brings consideration to the associated behaviours for demonstrating these values-based indicators as well as the persistent value-action gaps. Through the co-creation of visions for a sustainable future, the WeValue toolkit developed by the authors and colleagues can help to overcome the common inertia and despair created by education for sustainable and responsible lifestyles which has tended to focus on mobilising action through an

explanation of the dire consequences of non-action and the continuation of unsustainable practices. Interestingly, in applying this work at the secondary school level, the authors found that in several cases a second gap—a value-discourse gap—is also prevalent, where students are demonstrating appropriate behaviours/actions but they do not clearly describe these actions as being linked to a named value.

Jonas Greve Lysgaard, Niels Larsen, and *Jeppe Læssøe* examine the whole school approaches that have developed in both environmental and sustainability education in their paper *Green Flag Eco-Schools and the Challenge of Moving Forward*. They consider how such a model approach can evolve with changing contexts and challenges over time to remain an effective and innovative educational approach. The authors discuss and distinguish different whole school approaches before providing a detailed account of the Danish Green Flag Green School (GFGS) programme which was founded in 1994 as the first national eco-school programme. The study presented in this paper draws on a wider evaluation of this programme and specifically focusses on interviews with teachers and school leaders conducted in four long-standing GFGS schools. Challenges for this programme are identified in relation to two distinct time perspectives; i.e. the internal time sequence in the school where there is difficulty to sustain the same level of involvement and enthusiasm over subsequent years, and the external time sequence that pushes schools to respond to varying trends and agendas while also threatening to overload the education system with so many 'important' concepts that it cannot address any one issue at more than a superficial level. To address these challenges and to connect the GFGS approach to emerging concepts, the authors propose a new integrative approach to responsible and sustainable living for the Green Flag schools through exemplary learning on the inter-related dimensions of sustainability (i.e. ecological, socio-cultural, and economic) and through learning applied to real-world practices and products.

Kaija Turkki examines in her paper *Envisioning Literacy to Promote Sustainable Wellbeing—Home Economics Perspectives* the development of home economics as a distinct field of teaching and study, especially considering the history of its development in Finland. Four dimensions of home economics practices are distinguished, and in combination this creates a holistic characteristic to home economics which aims to discover the core phenomena and processes embedded in our daily lives and guiding us as responsible consumer-citizens. By introducing the concept of 'literacy' and extending this to a more focused concept of 'human ecoliteracy', this can strengthen home economics to address more strongly the relations and processes on how we frame our lives in the real world. This comes at the level of the individual and addresses questions on our choices, responsibilities and action, and also creates interconnectivity across the social level where the importance of values and ethics becomes critical. Human ecoliteracy helps to position us in the world and to serve as a mediation tool between our own being and a sustainable wellbeing for wider society.

Carme Martínez-Roca, *Màrius Martínez* and *Pilar Pineda* presents results from a study of 16–25 years old living in Catalonia (Spain) and the main structural

barriers to socially just employment they encounter; competences to be developed in order to lower them; how educational centers and specifically their career guidance practices can contribute to build-up such competences. Results obtained identify the economic model, the economic crisis, socioeconomic policies, social stereotypes and discrimination, social inequality, the educational system and inappropriate career development practices as main structural barriers to socially just employment. Proposals are made to move towards a social justice career development approach aimed at empowering youth to be agents of socially just employment.

2.3 Part 4: Empowering Youth and Local Communities

The papers presented in Part 5 look at *youth and local communities* in a diversity of settings and the actions they are taking to realise responsible living. Important topics including citizenship, democracy, and empowerment are addressed in these papers, and of course there is also a strong consideration of how education can help advance community and public participation in the transition to responsible and sustainable lifestyles. Several papers examine processes for securing strong public engagement in developing visions and strategies for realising transitions to sustainable lifestyles at individual and collective levels and through these processes engendering citizen ownership and responsibility for creating social change.

The first paper in this section is by *Suzanne Piscopo* and asks the fundamental question: Are Food Convenience and Sustainable Consumption Mutually Exclusive? To answer this question the author reviews the literature on convenience foods as a growing phenomenon within contemporary lifestyles. The most important factors that influence the use of convenience foods are time availability, values related to health and the natural environment, in addition to cooking skills. The paper highlights the importance of education for sustainable food consumption as a key strategy and links this with the concept *Home Economics literacy*. The paper concludes that several Home Economics educational initiatives can facilitate convenience in food preparation, whilst keeping in mind principles of sustainable consumption.

Sigurd Solhaug Nielsen and *Jørgen Klein* examine museums' potential in engaging youth in questions related to global environmental problems and social justice. The paper presents and analyses a travelling exhibition titled *A world at stake*. The exhibition was based on the United Nations' Millennium Development Goals and designed as a full-scale board game, large enough for a class of pupils to take the role of live playing pieces. The exhibition draws on several strategies in order to engage youth in global issues, such as unfair playing rules to illustrate the unjust world-system. The paper critically analyses the exhibition and its embedded pedagogy and question if the exhibition contributes to the promotion of global citizenship and social justice.

Robert J. Didham and *Paul Ofei-Manu* present case studies from five Regional Centres of Expertise (RCEs) on Education for Sustainable Development from Asia in their paper *Social Learning for Sustainability: Advancing Community-based*

Education for Sustainable Lifestyles. This paper specifically examines how the processes of community engagement and public participation helped to stimulate social learning among the group members in these cases. The authors conclude that that type of co-operative inquiry, critical reflexivity and deliberation that occur in these cases aimed at examining opportunities for becoming more sustainable create a strong potential for social learning, and if structured or facilitated accordingly these processes can be an important mechanism for collective, transformative learning that extends thinking beyond current world-views and supports identification of innovative solutions for sustainable lifestyles.

François Jégou and *Christophe Gouache* examine in their paper *Envisioning as an Enabling Tool for Social Empowerment and Sustainable Democracy* a series of nine projects that include participative, sustainable visioning processes to create new scenarios for sustainable futures. The envisioning approaches in these projects vary, but in common they all work through a process of iterative loops where understanding and knowledge is increasingly elaborated through an interplay between creative and practical orientations. Through participation in visioning processes and both formal and informal conversation on future orientations of society, the participants in these processes are able to generate future scenarios that are elaborated in concrete forms and are accessible at the level of daily lives of individuals. By engaging people in the collective formation of scenarios for sustainable lifestyles that are accessible and relevant to individuals, these processes also serve as an important mechanism for promoting education on responsible living, strengthening the competencies and capacities of actors, and empowering democratic participation in social change.

2.4 Part 5: Special Interview

Reflections on A Dedicated Partnership is an interview with Victoria W. Thoresen, founder and director of PERL. This interview describes the creation of the partnership and its evolution to the form it has today in light of the global discourses on sustainable development and on climate change. Some of the main outcomes of the partnership collaboration are explained as are some of the problems which faced those working in this area. Three major lessons have been learned by PERL: the importance of building bridges between disciplines; the necessity of constantly staying updated on the issues related to responsible living; and recognition of the essential role values play in stimulating the transition to responsible living.

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The Route to Responsible Living: Doubting, Discovering, Daring and Doing

Victoria W. Thoresen

Abstract Dramatic changes have characterized many decades, but the transformations of the past thirty years have forced individuals as well as governments and businesses to question many of the choices people make and to revise existing definitions of human prosperity and happiness. Climate change, life-style related illnesses, and environmental degradation are growing concerns which have led to calls for greater collaboration and social justice and have fueled the search for alternative ways of living. "Development", implying unlimited material and economic growth, is no longer the panacea it once was believed to be. "Social responsibility" now encompasses a far wider set of people affected by a person's lifestyle choices than in the past. "Sufficiency", the condition where one's basic needs are met, has yet to become more equitable than minimal survival for many and luxury existence for a select few. There have been many participants in the processes of rethinking and reorienting the path humanity is following. The Partnership for Education and Research about Responsible Living (PERL) has made significant contributions. This article looks at the evolution of concepts related to sustainable development. It reflects on some of the developments within education connected to sustainable development and it examines briefly available evidence of changes in behavior. The results of this limited research and other more extensive investigations indicate that while a paradigm shift appears to be taking place, there is still a continued need for transformation of our inner lives and outer conditions in order to achieve a more dynamic coherence between the material and non-material aspects of life leading to responsible, sustainable living.

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_2

1 Introduction

Creating "a global agenda for change", as the World Commission on Environment and Development was asked to do in (1987), demanded multilateral collaboration and a world-embracing vision. The Commission's report, *Our Common Future*, was a "call for a common endeavour and for new norms of behaviour on all levels and in the interests of all."

How have the concepts focused on in *Our Common Future* evolved? To answer this question, the research behind this paper has examined the progressive elaboration of the concepts of sustainable development, sustainable consumption and production, green growth, sustainable lifestyles, prosperity and well-being. These closely related concepts have all been subject to political formulations, stakeholder definitions and academic reflection. They have been affected by the increasing flow of information about climate change and human development. The concepts have, at times, been modified, in order to be more inclusive, and, at other times, changed in order to elaborate specific aspects of more overarching goals.

How has the focus on responsible, sustainable living influenced research, formal and informal education? There are curricula, courses and materials which focus on these themes. The UN Decade on Education for Sustainable Development is over and a follow-up Global Action Program is being launched. The 10-Year Framework of Programmes on Sustainable Consumption and Production adopted by the international community in 2012 includes a program on sustainable lifestyles and education. Evaluations reviewed in this research indicate some influence some places; however, there remain many areas where these concepts are not yet known or understood.

Has a paradigm shift taken place which provides new frameworks for the emergence of new behaviour? A thorough evaluation of this question is beyond the scope of this article, but it is possible, based on available international reports, to identify partial answers to these questions both on the level of policy making as well as on the level of "bottom-up" local and regional initiatives. The global community has committed itself, as never before, to fostering sustainable development. A wide range of civil society trends and individual consumer actions can be registered. However, significant inroads on the pressing problems which are the result of unsustainable systems and ways of living cannot yet be detected. What remains to be examined in further research are the mechanisms which help new conceptual understandings lead to significant behaviour change.

2 Theoretical Base and Methodology

This article stems from reflections on theories of social development which identify significant changes resulting from a series of cumulative shifts in attitudes and practice. Application of Kuhn's (1996) theory of paradigm shifts to social

sciences has provided a framework for examining the conceptual and behavioral changes of the last three decades. Has there been a paradigm shift in terms of how people understand their role as stewards of nature, co-creators of a global community and guardians of the future? And, if so, has this shift resulted in modified behavior?

This is a qualitative study that examines global strategies of vision-building and central social trends from 1987 to 2013. It includes factual data and anecdotal and empirical evidence collected from a wide range of international and national reports and evaluations. Since this article deals with sustainability, lifestyles and education, it is descriptive and normative.

3 The Evolution of Concepts or "Doubting Business as Usual"

> We are being compelled to rethink totally the social contracts that underpin our societies. (Bindé 2004)

Sustainable development has been a difficult concept for many to grasp and the source of much controversy and debate. Interpreted broadly, it has been considered to encompass fundamental sociological, ecological and economical transitions leading to a completely new world order. Defined more narrowly, it has been seen as a slogan for small adjustments made to enable the existing systems to continue with slightly less negative impacts.

Epistemologically, the very word, sustainable, implies maintaining, upholding and confirming a status quo. This is in direct contradiction to the notion of development which lies at the core of the environmental, social and economic change indicated in existing documents and strategies about the transition to sustainability. Nonetheless, it is this concept which, perhaps for lack of anything better, has been the basis for dialogue and international cooperation for almost three decades. Sustainable development was defined in *Our Common Future* (1987): "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs". It contains within it two key concepts: the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs." This definition has since gained acceptance around the world as representing a new paradigm for dealing with present problems and putting society back on a course where the resource base of civilization is not being undermined and growth is more equally distributed.

Political explanations of the concept of sustainable development were voiced most audibly at the Stockholm Environment Conference of 1972, at the first Rio World Conference on the Environment in 1992, at the Johannesburg World Summit on Sustainable Development in Johannesburg in 2002 and at the World

Conference on Sustainable Development (Rio+20) in 2012. The concept has become an integral part of international implementation plans such as Agenda 21 (1992) and the Marrakech Process (2003–2011). It has entered global assessment processes such as the Human Development Index and the Global Reporting Initiative. The post-2015 agenda for following the Millennium Goals will center on "Sustainable Development Goals".

Already in 1998 the Human Development Report provided this definition of consumption as it is related to development:

> Consumption clearly contributes to human development when it enlarges the capacities and enriches the lives of people without adversely affecting the wellbeing of others. It clearly contributes when it is as fair to the future generations as to the present ones. And it clearly contributes when it encourages lively, creative individuals and communities. But the links are often broken and when they are consumption patterns and trends are inimical to human development… Consumption patterns today must be changed to advance human development tomorrow.

A substantial part of the debate on what constitutes sustainable development has been about sustainable consumption and production. Sustainable consumption and production (SCP) has been defined (UNEP 2010a, b, c) as: "The use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations." SCP has, until recently, been considered as a process of pollution-reduction and increase in energy-efficiency gained through analyzing the life-cycle of the product and "de-coupling or dematerialization" (greening) production, usage and product disposal. It has, to a large extent, been seen as the responsibility of industry and governments.

After the concept of sustainable consumption entered the global discourse, the concept of "green growth" was also introduced. It was supported by the OECD in their Strategy launched in 2011. Green growth was originally defined at the fifth Ministerial Conference on Environment and Development in Asia and the Pacific, as being a means of achieving sustainable development. "Green growth" focuses on synergizing economic growth and environmental protection, building a green economy in which investments in resource savings as well as sustainable management of natural capital are drivers of growth (UNESCAP 2012). Green growth is a concept highlighted more often in documents and plans within Asia than elsewhere for the time being.

Parallel to the emergence of the concepts of SCP and "Green Growth", was the evolution of consumer awareness to encompass not only consumer rights but also consumer responsibilities and sustainable consumption. This process began in the 1970s in the USA. In 1999 the revised U.N. Guidelines for Consumer Protection encouraged U.N. member countries to promote consumer education especially in accordance with education for sustainable development. In 2003 the Consumer Citizenship Network (the predecessor to PERL, the Partnership for Education and Research about Responsible Living,) reintroduced the concept of consumer citizenship which had originated in Canada. Based on the realization of the central

role that individuals have both as consumers and as active citizens, this concept strove to bring an interdisciplinary understanding to the concept of sustainable development in which economic and social dimensions were highlighted as well as environmental ones.

Meanwhile, calls were being heard for redefining "progress" and changing measurement tools used to determine "developing countries", "wealthy nations", or "well-to-do communities". The "Beyond GDP" project initiated in 2007 by the European Union, OECD and World Wildlife Fund questioned whether material income was the best indicator of progress. The Human Development Index Reports (2006–2013) reported that while some countries lacked noticeable monetary growth some were able to provide greatly improved welfare for their citizens; whereas not all countries with increased wealth were able to boast equally advancing social conditions.

The consequences of the imbalances of present consumption patterns, with extreme overconsumption in parts of the world at the expense of those unable to meet their basic needs, has also led to processes redefining concepts of "prosperity" and "well-being". Some critics claimed that the very concept of "sustainable development", fails to advocate reduction in material standards of living (consumerism) or a slow-down of the accumulation dynamics (Selby 2006). Other have emphasized the need for a shift of focus from the concept of "sustainability" to "well-being for all" (Giddings et al. 2002). The Global Happiness Index provided relevant data on life quality and well-being as did the widely published report, *Prosperity Without growth* (Jackson 2009). No longer was sustainable development a concept merely about environmental stewardship. It had evolved to include the issues of equitable distribution of resources, socially responsible production and lifestyles which enable humans to flourish.

Sustainable lifestyles, as a concept, began to be included in the global conversations instead of just sustainable consumption because it was understood to include a wider range of activities than consumption. Lifestyles are the way people (groups and individuals) live their lives—what they do, why, with whom, where, how and what they use to do it. This includes everything from the food they eat and how they interact with others, to the way they get around. Lifestyles define a person or a group's identity; how values, aspirations, social positions, religion, psychological and political preferences are expressed (UNEP 2014). Ways of living based on sufficiency and moderation or "simple living" proved that not consuming, or consuming less could define one's lifestyle as much as how or what one consumed.

4 Research and Education or "Discovering Alternatives"

Already in 2005 over 250 researchers called for a global research agenda (Tukker et al. 2006) which focused on sustainable consumption in order to provide a scientific, evidence-based foundation for the transition to sustainable living.

During the course of the last decade extensive global scientific reports such as UNEP's series of Global Environmental Outlook publications, including the Global Outlook on Sustainable Consumption and Production Policies: Taking Action Together (2012), The State of the World reports, the United Nations Development Program's Human Development Reports, the Human Dimensions of Climate Change reports, etc. have been compiled about sustainable development, many of which have also focused on aspects of sustainable consumption and helped to identify ways forward. Research emerged which analysed consumer behaviour not only from the perspective of market-related interaction but also from ethical, psychological and sociological perspectives. The Partnership for Education and Research about Responsible Living (PERL) contributed to this research with annual publications and conferences as well as with compilations of best practices from around the globe.

The U.N. Decade on Education for Sustainable Development (DESD) recognized the need for education for sustainable consumption as an essential part of education for sustainable development and contributed to developing education for sustainable consumption (ESC). The DESD midway strategy (UNESCO 2009) took up the issue of ESC directly:

> Education for Sustainable Consumption is a core theme of Education for Sustainable Development, and it is essential to train responsible citizens and consumers towards lifestyles based on economic and social justice, food security, ecological integrity, sustainable livelihoods, respect for all life forms and strong values that foster social cohesion, democracy and collective action.

The Consumer Citizenship Network and PERL assisted the Marrakech Task Force on Education for Sustainable Consumption, led by the Italian government, in the production of *Here and Now! Education for Sustainable Consumptions Recommendations and Guidelines* (UNEP 2010a, b, c).

Regional Centres of Expertise, a program run by the UN University as a part of the UN Decade on Education for Sustainable Development, connected citizens in over 127 cities to search for ways to transform their communities into more sustainable ones.

Educational methodologies such as the use of case studies (for example: UNEP/UNESCO's YouthXchange materials) and investigating social innovation in one's neighbourhood (such as LOLA: Looking for Likely Alternatives) have proven to have had positive effects on student's ability to identify new pathways towards sustainable lifestyles. PERL has also developed a popular set of active learning toolkits dealing with the use of images and objects to assist the learning process on these topics. The introduction of interdisciplinary, future-oriented, practical pedagogical approaches to responsible living has reportedly helped some teachers to address the above mentioned problems. The extent to which this has happened, is, however, fully not yet documented as the final reports from around the globe on the UNDESD show.

Educational networks, like PERL, are growing. A 10-Year Framework of Programs about Sustainable Consumption and Production was adopted in 2012 and the program on Sustainable Lifestyles and Education was launched in

November 2014. The follow-up program to the UN DESD, entitled the Global Action Program (GAP), has been started with the intention of promoting education which leads to more sustainable, responsible living.

The GAP program seeks to build on the evaluation of the UN DESD where it was pointed out that, among other things, more holistic, values-based approaches to ESC and ESL must be developed that:

- focus on the quality of life for all;
- stimulate creativity and strength of character;
- increase synergy between relevant actors and conditions which enable ESC and education for sustainable lifestyles;
- foster global citizenship.

Increasing numbers of countries are producing national strategies for education for sustainable development which deal with the topic both as an independent subject area as well as a theme running through many subjects and projects. The number of online courses and documents on the subject has also grown since significantly since 1987 though specific statistics for this are unavailable.

5 Changes in Behavior or "Doing What One Preaches"

> Be the change that you want to see in the world. (Gandhi)

The concepts used by the global community aim at change which involves more than mere statements of purpose, future scenarios and mapping pathways. Are local communities creating infrastructure that facilitates sustainable lifestyles? Is there a new generation taking steps towards sustainable development? Are they becoming active stakeholders demanding more sustainable products and services? Are they searching for alternative lifestyle choices such as "slow food", "slow living", non-shopping days, sharing, etc.? Evidence indicates that young people are leading movements for revision of existing economic systems, and appealing for greater transparency and accountability by governments and business. Changes in knowledge and attitudes are apparent but there are few measurements of the extent of these changes and if any form of "tipping point" is being reached.

The Global Environment Outlook 5 (UNEP 2010a, b, c) report confirms that many cities across the globe have chosen to integrate sustainability into their urban planning and projects. ICLEI (Local governments for Sustainability, a network of 1020 local communities in 86 countries) documents a wide range of initiatives based on policy decisions and implementation on local level. Numerous local governments have joined together with other stakeholders in their communities to consult and identify ways to increase the sustainability of their neighbourhoods. Projects connected to the Marrakech Process on Sustainable Consumption and Production were also a means of recruiting individuals and groups who dared to look in new directions to find and carry out innovative solutions.

Trends have been documented that prove that people are not only talking about sustainable lifestyles but are trying to make their lives more responsible and sustainable. The trends are diverse in character and categorizing them is not an easy task. General trends which have had a positive impact on the transition to sustainable lifestyles can be categorized as follows:

- Identification and reflection on values/future,
- Social learning, community consultation and co-creation,
- Collaborative consumption,
- Voluntary simplicity/self sufficiency,
- Safeguarding sustainable traditional knowledge and lifestyles,
- Policy initiatives,
- Creation of sustainable spaces and innovative technology,
- CSR/Fairtrade,
- Education for Sustainable Consumption/Education for Sustainable Lifestyles,
- Indicators for assessment,
- Public participation in defining/planning community development (UNEP, Pathways to Sustainable Lifestyles 2014).

The Euromonitor International 2013s Top Ten Consumer Trends show, as the above list indicates, the fact that present trends move in different directions, which often appear contradictory. While many consumers seek luxury and instant gratification others "struggle for better work/life balance, the concerns of eco-worriers, an appreciation of frugality and imperfection and a longing for the authenticity of home and community." (Euromonitor International 2014). Social media plays an increasingly important role in how people make their daily lifestyle decisions as the "longing for the warmth of home and local networks" appears to grow. Healthy eating is a top priority for consumers in many parts of the globe as is "the thrifty lifestyle" characterized by shared ownership.

A common factor reflected in reports such as the Euromonitor is that the transition to responsible living is not a linear trail forward. It is a process which moves in many directions simultaneously and is strongly influenced by cultural, natural and technological conditions. It involves many different actors taking a multitude of varied initiatives. Above all, it appears to be strongly tied to a pattern of social learning which includes consultation, implementation, reflection and adaption. To facilitate these processes, international and regional multi-stakeholder platforms have been created.

Civil society organizations have contributed to this process. They have taken on the task of questioning existing systems; informing about impacts of unsustainable consumption and production; and giving visibility to innovative alternative lifestyles. These grass root organizations appear to be a dynamic driving force behind the "common endeavor" leading to new norms and behavior. Through advocacy campaigns online, information apps, advertisement campaigns for alternative lifestyles, they help chart new pathways and encourage the public to "join the movement to sustainability".

Civil society organizations have also contributed to actual shifts towards increased collaborative consumption. "The convergence of social networks, a renewed belief in the importance of community, pressing environmental concerns and cost consciousness are moving us away from top-heavy, centralized and controlled forms of consumerism towards one of sharing, aggregation and openness." (Botsman and Rogers 2010).

Many civil society organizations contributed to the content of the World Conference on Sustainable Development (Rio+20) where it was hoped that the "marriage" of sustainability and development was to take place. Interest organizations have even played a significant role in the drawing up of the contents of the proposed post-2015 agenda Sustainable Development Goals. For the first time in history, input was welcomed online from one and all to identify new pathways.

6 Challenges Along the Way or "Daring to Be Different"

While research indicates that there is evidence of change in behavior towards more sustainable, responsible living, it also shows that there are complex problems related to the change processes (United Nations: Global Energy Assessment 2012). The problems vary from region to region, but they tend to fall under one or more of the following categories:

1. Human development needs and concerns,
2. Environmental concerns,
3. Well-being/health conditions,
4. Concerns around education for sustainable development,
5. Governance issues (community, national and international levels).

Describing the particular problems under each of the above mentioned general categories requires more detail than it is possible to give in this article. However, the following description (UNEP: Pathways to Sustainable Lifestyles 2014) of barriers to the "common endeavour" of creating new norms and behaviour gives a brief overview:

1. Economic and social systems and structures which predominantly continue to replicate unsustainable development pathways and brown economy approaches;
2. The hegemony of globalization and trade in driving development pathways;
3. Lack of shared understanding and limited or non-existent knowledge on alternative development pathways, economic approaches and sustainability solutions;
4. Lack of coherent, integrated and participatory governance structures and systems;
5. Citizens' limited ability to influence wider systems of society that precondition and determine many patterns of development, consumption and production;

6. Systemic lock-ins and inertia for change;
7. Education's continued replication of rational, linear, and disciplinary thinking, as well as its focus on abstract and conceptual knowledge;
8. The prevalence of consumerism as the defining factor of modern socio-cultural norms and values;
9. Media and advertising's continued promotion and idealization of high-consumption lifestyles, as well as their lack of addressing pertinent issues around sustainability and climate change.

A large part of the discussion about the transition to sustainable lifestyles has revolved around the question of who is responsible for the current wasteful, socially unjust and economically unsustainable patterns of consumption and production: is it the rich, industrialized nations that have controlled resources, or the governments that may have failed to create appropriate infrastructures or to regulate unsustainable production and consumption? Is it the producers of unsustainable products; the advertisers who fuel the demand of such products or the consumers who purchases and disposes of such products? Could it be parents and teachers are actually responsible for preparing to live in a sustainable manner? These arguments have in many cases led to the fragmentation of responsibility, each sector blaming the other and expecting the other to "clean up the mess".

But despite these problems, leaders of the world, with the assistance of contributions from individuals and groups across the globe, agreed in 2012 at the World Conference on Sustainable Development (Rio+20) that the major focus of endeavor for the coming years must be to eradicate poverty and create a more equitable, just world in which sustainable consumption and production contribute to human development, social inclusion and environmental stewardship (The Future We Want 2012).

7 Conclusions

The evolution of concepts related to sustainable development can be characterized as a paradigm shift towards a greater focus on the human dimensions of development. In connection with this paradigm shift changes in behaviour towards more sustainable lifestyles have clearly taken place the past thirty years, but the extent and impact of these are not easy to identify. So far, most measurements have been related to CO_2 emission levels of households, to the exclusion of other changes which have to do with human development, health, governance, collaboration, etc. Challenges and barriers to the changes called for in 1987 remain complex and extensive. Education for responsible, sustainable living has expanded and appears to continue to grow.

Seen together, the above developments indicate movement towards a greater collective recognition of our role as members of one human family, interdependent

on each other and on nature. They provide examples of the ability to expand one's vision to be world-embracing. They infer that attitudes of global citizenship and the skills of consultation, flexibility, systems-thinking and change management are maturing. Although far more research is needed, it may be assumed that:

> Broader visions of human purpose and prosperity are moving from the periphery to the center of public discourse. It is becoming clear that the pathway to sustainability will be one of empowerment, collaboration and continual processes of questioning, learning and action in all regions of the world. It will be shaped by the experiences of women, men, children, the rich, the poor, the governors and the governed as each one is enabled to play their rightful role in the construction of a new society. As the sweeping tides of consumerism, unfettered consumption, extreme poverty and marginalization recede, they will reveal the human capacities for justice, reciprocity and happiness. (BIC 2010)

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Part II
Advancing Norms and Policies

Ethics in Sustainability Education

Arthur Lyon Dahl

Abstract Underlying many sustainability challenges are fundamental ethical issues of equity and responsibility concerning the behaviour of individuals, communities, businesses and nations. Resolving these challenges requires changes in human and institutional behaviour at all these levels. Using a systems perspective, it is possible to derive a set of ethical principles for sustainability. An increasing recognition of the importance of this ethical component is reflected in educational materials for responsible living and accompanying values-based indicators and activities. There are still significant obstacles to the incorporation of this dimension into educational systems that need to be addressed with care. Other partners, both religious and secular, can be involved constructively in this process. Given the urgency of responding to challenges such as climate change and the difficulty in motivating people to change their lifestyles, ethical approaches to sustainable living need to be strengthened and diffused widely in the years ahead.

Keywords Education · Ethics · Sustainability · Values

1 Introduction

No civilization has endured for more than a few centuries. The recent rapid expansion of the human population and technological progress has produced environmental impacts transcending planetary boundaries and threatening overshoot and collapse, suggesting that our own civilization is equally at risk. Sustainability has thus become a key issue on the agenda, and it is an open question whether we can avoid a traumatic collapse of civilization and make a more reasonable transition to sustainability. The scientific and technological solutions seem to be available; the problem is human, relating as it does to our behaviour and habits, vested interests,

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_3

resistance to change, preference for least-cost short-term solutions, and lack of political will (Randers 2012). Scientific knowledge alone seems insufficient to lead to the necessary change, in what is often called the knowledge-action gap. Human decision-making operates at deeper levels of emotions, beliefs and values. Education for sustainability also needs to reach these deeper levels, which means directly addressing issues of ethics and values.

2 The Challenges of Sustainability and Their Ethical Implications

All the major challenges of sustainability have a significant ethical dimension, and this can be used to take education about these issues beyond the purely scientific to link them to moral principles and ethical challenges that address each person individually. This can help to overcome the feeling that such problems are so big as to be overwhelming and beyond what any one person can influence.

Climate change and the related problem of our addiction to fossil fuels as the primary energy source for our civilization is an excellent example. The release of greenhouse gases that has precipitated accelerating global warming has largely come from the use of fossil fuels (coal, oil, gas) in the industrialized countries, together with deforestation and land use changes driven largely to supply resources to those same countries. The rich can usually find ways to escape from or adapt to the impacts of climate change. It is the poor who have not caused the problem who suffer the most, which is unjust. Looking to the future, continued inaction to control greenhouse gas emissions is expected to trigger runaway global warming in this century with catastrophic impacts on society around the world (IPCC 2013; World Bank 2012). The remaining capacity of the atmosphere to absorb carbon dioxide without exceeding 2 °C of global warming is 565 gigatonnes of carbon, while the carbon content of conventional fossil fuel reserves already being exploited (not counting unconventional sources like shale gas or tar sands) is 2,795 gigatonnes (McKibbon 2012). To avoid catastrophic climate change, we need to leave 80 % of existing fossil fuel reserves in the ground, which means wiping off 80 % of the share value of fossil fuel companies and slashing the income of fossil-fuel producing countries. This is technically possible (Jacobson and Delucchi 2011) but seems politically impossible. Everyone with a reasonable standard of living is at least partly dependent on fossil fuels, so we are all responsible for climate change. This gap between scientific and political realities is another ethical challenge.

The rich biodiversity of our planet is a significant part of our natural capital and essential to maintain the health and productivity of the biosphere, providing essential ecosystem services. We are already driving species to extinction at a thousand times the nature rate (Pimm et al. 2014) and it is estimated that 2 °C of global warming will exterminate 20 %, and 4 °C up to half of all the species on the planet. Our generation may succeed in destroying all undisturbed natural

areas, leaving a severely impoverished planet to our descendants. What will they think of us?

There are many other environmental challenges linked to our unsustainable exploitation of natural resources, accumulation of wastes and release of dangerous pollutants as consequences of our consumer society, where the lifestyle of the wealthy fifth of the world population is leading to crises in food, water, and other essential requirements for life in the coming decades (Beddington 2009). We are reaching our planet's carrying capacity and overshooting planetary boundaries (Rockstrom et al. 2009), raising fundamental issues of equity in the sharing of the limited ability of the biosphere to support human life, and condemning future generations to life on an impoverished and depleted planet.

This of course leads to the issue of social sustainability. Extremes of wealth and poverty are socially destabilizing and undermine the social cohesion upon which any society is built. Governments have long recognized the reduction of poverty in the world as an absolute priority (WCED 1987), but we are still far from achieving it, and with the increasing concentration of wealth in the super-rich, the gap is widening. This could lead to social chaos in the near future (Turchin 2010) if social inequality is not addressed.

Behind this are the values underlying the economy and financial system. By compartmentalizing our institutional structures and processes into separate functional systems where the economy is the dominant component separate from social and environmental issues, and is only responsible for creating wealth, we have produced a business world for which the ends justify any means, and social and environmental responsibility are externalities. This is combined with a dominant materialistic outlook, and the collapse of traditional moral standards and ethical principles, leading to a society in which selfishness has become a prized commercial resource; falsehood reinvents itself as public information; and greed, lust, indolence, pride, and violence are broadly accepted and have social and economic value. Adam Smith would be shocked. His invisible hand of self-interest was combined with a strong sense of moral purpose, but we have retained the former and forgotten the latter.

All this should make it clear that education for sustainability cannot ignore the ethical dimension, and can only succeed in its educational purpose if ethics are integral to the design of educational programs.

3 Ethical Needs for Individuals and Institutions

It will help to define more clearly what we mean when we refer to ethics, and how and where they should be applied. Moral values state what is good and of primary importance to human civilization. They are often articulated as ideals, and define right from wrong. A capability of moral reasoning starts from abstract general ethical principles to resolve conflicts that arise from moral dilemmas and ethical

problems. Ethical principles are the operational expression of moral values, and provide guidance to decision-making and action (Anello 2008).

A related concept is values, which are qualities on which worth, desirability, or utility depend. They are principles or rules generated by an ethical or spiritual framework. Values are what determine how humans relate to each other. They are the social equivalent of DNA, encoding the information through which society is structured and its relationships regulated. For our society to become more sustainable, its values must also evolve to become more just, equitable and responsible.

We usually consider that ethics and values are a personal matter for each individual. In society, they may be an innate part of culture or religion, where everyone knows what is "right" and "wrong". They usually find formal expression in the adoption of laws and their application through a system of justice. Both law and ethics are concerned with the application of justice. In a system of law, we have institutions for enforcement in a top-down regulation of society, with punishment and the use of force if necessary. This is a costly and negative way of achieving justice. With ethics, based on individual attachment to the principle of justice and its application, good behaviour is self-motivated and bottom-up, founded on reward more than punishment. The stronger the ethical framework and its application, the less need for law. It is a more cost-effective, process-based solution.

One problem with our compartmentalized society is that there is no integration of ethics and values into most institutional structures, so that the institutions themselves are held responsible. Everything now depends on the individuals in positions of responsibility, and enforcement is usually by outside laws, not internal systems of regulation and accountability. This fosters corruption and ethical failures, with politics and business particularly susceptible. More effort is needed to build the ethical needs of society into the very fabric of society and the economy and to add them to the corporate charters of businesses where they can influence management performance.

Different ethical principles come into play at each level of social organization. For example, where an individual might do best to forgive the fault of another, the community may need to apply justice. Justice is in fact the central foundation of sustainable social organization. "Justice is the first virtue of social institutions, as truth is of systems of thought. A theory however elegant and economical must be rejected or revised if it is untrue; likewise laws and institutions no matter how efficient and well-arranged must be reformed or abolished if they are unjust…. Therefore in a just society the liberties of equal citizens are taken as settled; the rights secured by justice are not subject to political bargaining or to the calculus of social interest…. Being first virtues of human activities, truth and justice are uncompromising" (Rawls 1999, pp. 3–4).

At the individual level, ethical principles are first communicated in the family by imitation, and then by education, both through formal education and sometimes through religious instruction. In communities, social pressure becomes an additional factor, as failure to respect social norms can result in criticism or exclusion.

The biggest problem lies at the higher levels of social organization, where the institutional structures are of recent origin and often reflect the values of our present

materialist society but have not yet evolved to incorporate the dimensions of social and environmental responsibility necessary to achieve sustainability. Where those working within these structures have been educated in the ethics of sustainability, this may be sufficient, but too often highly-motivated individuals are trapped in institutional structures that prevent them from living their values in their workplace. We need a multi-level approach to values, from individual to international, incorporating the ethical principles relevant to the social functions of each institution (Dahl 2013b). Ideally, businesses should be designed so that managers are accountable for the ethical performance of the business, and politicians should be responsible for the ethical behaviour of governments. Internationally, there are some codes of conduct such as the Universal Declaration of Human Rights, the various declarations on environment and sustainable development, the many international conventions, and non-governmental initiatives like the Earth Charter, but these are largely voluntary, and mechanisms for enforcement are weak or non-existent.

4 Ethics and Behaviour Change

Achieving sustainability will require significant changes in lifestyle, particularly among the wealthier components of the population and participants in the present consumer society. This is the focus of education for responsible living. Much has been done to prepare educational materials on the scientific dimensions of the sustainability challenge, the environmental implications of lifestyle choices, and the threats to our own well-being and to future generations. Unfortunately it is well known that there is a knowledge-action gap. People know that they are doing something that may be bad for themselves and others, but if the effect is not immediate and only an uncertain probability in some future time, it is easy to ignore or rationalize. We are very good at self-deception, and at preferring immediate pleasure over possible future pain.

There is also the problem that the messages on the environment and our unsustainability are mostly negative. There is lots of bad news, the future looks grim, and we are all guilt of many forms of unsustainable behaviour. Negative messages are demotivating. We either deny the reality, become depressed, or give up, feeling that the problems are too big to do anything about anyway. While we must be realistic about the present, we need to provide some basis for optimism and hope for the future if we want to motivate action.

PERL has specifically focused on addressing the knowledge-action gap through education. To change behaviour, it is necessary to have an emotional as well as an intellectual commitment, so education must also operate at the level of values and the transmission of ethical principles necessary for sustainability. Recent EU-funded research by some PERL partners has explored values-based indicators of education for sustainable development (http://esdinds.eu) as expressed in the attitudes and behaviours of participants in the activities of relevant civil society organizations (Burford et al. 2012, 2013; Podger et al. 2013; Dahl 2013b). This

work has shown that values, which were previously invisible and considered too subjective to focus on through education, could be made visible, assessed, and developed through educational activities. A PERL project is now adapting these activities and indicators for use in secondary schools through a set of toolkits on activities and indicators for values-based education.

Furthermore, success in applying ethical values in one's own life is positively motivating. The satisfaction that comes from good actions for sustainability, individually or in a group, can show that progress is possible, that many small actions can have a cumulatively significant effect, and that hope for a better future is possible.

Of course, good values are necessary but not sufficient to permit a sustainable lifestyle. There are also institutional enabling factors that can facilitate or block what people can do. A desire to change from a private car to public transport is frustrated if no public transport is available. More sustainable options may simply not exist, or be too expensive for those most in need of them. Communities, businesses and governments must also play roles in facilitating transition to more sustainable living by providing necessary infrastructure, products and services.

5 Systems Approach to Ethical Principles

There is always the challenge of deciding on the appropriate content for values-based education. What moral standards and ethical principles should be included? Most cultures and communities already have some fundamental concepts such as the golden rule: do unto other as you would have them do unto you. They simply need to be placed in the context of more sustainable lifestyles. Others may be more specifically relevant, such as moderation.

From the point of view of systems science (Dahl 1996; Capra and Luisi 2014), we can identify those values that facilitate human relationships and make higher levels of social cohesion and integration possible. Trust and trustworthiness, for example, are essential to everything from governance to business relationships. Just as an individual is a complex system that is growing, building capacities, changing, maturing and acquiring wisdom throughout life, so do all social constructions have their own dynamics as complex and evolving entities, which can achieve higher levels of integration and effectiveness, and demonstrate emergent properties. Computer programmers, faced with a challenge beyond what a human mind can accomplish, can give instructions to many computers in a neural network and let them evolve and select an optimal solution. In the same way, individual people or human institutions, given a set of ethical principles to put into operation, can evolve solutions relevant to their own capacities, environment and situation, that are coherent in their diversity because they are all expressions of commonly-held values. Systems science also shows how efficiency comes from nested systems at multiple scales of integration, just as cells form tissues, organs and functional systems in the body. Sustainability values need to be built into all

the different components of society, each in their appropriate way for their specific functions.

Ultimately, everything should revolve around a common purpose, which can be considered both individually and collectively. For an individual human being, most would consider that human purpose should extend beyond the immediate satisfaction of basic material needs. People are capable of high social, cultural, scientific, artistic and spiritual accomplishments, so individual human purpose might best be defined as enabling each individual to fulfil his or her highest potential in all the domains of human consciousness. Unfortunately much current economic and psychological theory only depicts human beings as slaves to self-interest. "The faculties needed to construct a more just and sustainable social order—moderation, justice, love, reason, sacrifice and service to the common good—have too often been dismissed as naïve ideals. Yet, it is these, and related qualities that must be harnessed to overcome the traits of ego, greed, apathy and violence, which are often rewarded by the market and political forces driving current patterns of unsustainable consumption and production" (BIC 2010).

Human life inevitably involves a tension between the ego and self-interest that are an essential part of building self-identity in childhood, and the altruism and spirit of service that can be the dominant characteristic of a mature adult. Much of education and most cultures and spiritual traditions have emphasized the need to struggle against the former and to cultivate the latter. Pragmatically, most of the problems with our social and political systems today result from people failing to make that transition, and remaining driven by a desire for power and self-gratification. Societies will be much more sustainable if we can design educational processes that assist and accompany young people in this process of maturation. Values-based education can contribute to this.

It is important to acknowledge that religions have been a principal source of ethical guidance in the past, and can be important partners in educating the public for sustainability today. There is a coherence between the values derived from a systems approach and many of those emphasized in various religious traditions that can be a powerful support to the education of believers within those traditions to adopt more sustainable behaviour.

The highest collective human purpose would be that everyone can contribute within their capacity to an ever-advancing civilization. However this needs to look far beyond the narrow view of progress as growth in GDP that has driven present unsustainability (Stiglitz et al. 2009). We need to redefine prosperity in much more than material terms (BIC 2010) to include the many other dimensions of human development and well-being (Dahl 2013a). A sustainable civilization will probably be much more selective in the forms that material development takes in order to remain within planetary boundaries, while emphasizing growth in social capital, science, culture, beauty and spirituality which do not face the same limits (Capra and Luisi 2014).

There are many occupations that can be oriented to support the transition to sustainability, and a proper education should give each person the scientific, practical and ethical knowledge and skills to contribute some service to society while earning their living. A systems approach to the redesign of economic activities

and social functions should be able to identify many new possibilities for employment in activities that meet human needs while respecting environmental limits, in order to replace those sectors of the economy whose activities threaten our future. There are also critical social skills derived from an ethical perspective. "The moral dimensions of just and peaceful human relations include the generation of knowledge, the cultivation of trust and trustworthiness, eradication of racism and violence, promotion of art, beauty, science, and the capacity for collaboration and the peaceful resolution of conflicts" (BIC 2010).

Much recent research is demonstrating the validity and pertinence of values for sustainability from a systems perspective. Karlberg (2004) has explored how a world order characterized by competition, violence, conflict and insecurity can give way to one founded on unity in diversity. A number of lines of research are showing that cooperation rather than competition is the best foundation for social and economic progress (i.e. Nowak and Highfield 2011). Beinhocker (2006), summarizing a long tradition in ecological economics, as reconsidered economics from a systems perspective and defined a whole set of norms for individuals, collective behaviour and innovation in enterprises, accompanied by ethical principles for long-term sustainability.

Since no human being is sustainable as an individual (we are not going to live forever), social sustainability also requires the transmission of knowledge, culture and values from generation to generation, which is the essential purpose of education. With the emergence of modern information technologies, the youth of today are better informed and more effectively networked than any previous generation. If we can instil in them a culture of learning and the ethical principles necessary for sustainability, the youth can become the principal agents of change, and can transform society in a generation.

6 Ethics in Educational Approaches and Materials

It is not possible in a short review to cover all the materials that could support ethical instruction and values-based education. The educational materials produced by the Partnership for Education and research about Responsible Living (PERL, http://perlprojects.org) and its predecessor the Consumer Citizenship Network are all related in a general way to the values required for sustainable lifestyles and responsible living.

A PERL subproject is just completing a set of toolkits for values-based education building on the methodologies developed during the Values-based Indicators of Education for Sustainable Development (esdinds.eu) project. There are three toolkits:

- *Measuring What Matters—Values-based Indicators* This toolkit explains the background and approach to how values are expressed and can be measured, for those who want to create their own indicators adapted to their needs.

- *Discovering What Matters—A journey of thinking and feeling* This toolkit developed with and for students includes both a menu of indicators of values, skills, knowledge, attitudes and personal qualities, and examples of activities ready to use. It can be used directly by student groups.
- *Building a Shared Vision—A toolkit for schools* This toolkit provides tools to assess whether the educational environment a school creates for its students is a vibrant sustainable community with a supportive environment that facilitates acquiring responsible values.

Another initiative that has developed a range of materials for teaching values and virtues is The Virtues Project (http://www.virtuesproject.com/) producing virtues cards and other materials that can be used in families and in more formal educational settings. Materials are available in several languages and adapted to various faith traditions.

An important dimension often overlooked in education for sustainability is direct contact with nature. Being in, understanding and appreciating nature not only provides a foundation for a scientific understanding of the natural world, its contributions and requirements, but also creates an emotional and spiritual resonance that supports a strong environmental ethic. Many people who have chosen environmental careers or shown a strong environmental sensitivity as adults experienced nature as children, although others have been motivated as much by a strong feeling of justice and equity towards those less fortunate then themselves (Howell 2013). Unfortunately, in a world that is rapidly urbanizing, an increasing proportion of children have little or no contact with nature, leaving a vacuum in their life experience that may make it more difficult for them to be motivated towards environmental protection and responsible living in harmony with nature later on.

Where the formal educational system is unable or unwilling to provide ethical instruction, families and communities may need to organize in other ways to give their children a foundation of values and social skills that will orient them towards a more sustainable and fulfilling life. This could be with children's classes providing activities and instruction adapted to each age group. Perhaps the most important time for ethical empowerment is the pre-adolescent years from about 11 to 14 when children are leaving the parental fold and adopting their own values and directions in life. Groups of pre-adolescents can be accompanied as they read stories about the ethical challenges faced by those of their own age who have faced problem of poverty, civil war and lack of opportunities, and plan and implement their own service projects in their communities. If such young people experience the pleasure that comes from altruistic acts of service, and build confidence in their own abilities to communicate, take charge, and organize their own activities, they will be better prepared to face the challenges of life as they grow up in a positive, constructive way. Such activities are often best accompanied by youth not much older than themselves, whom they can relate to and communicate with more freely.

The local community is also an important educational setting. If children grow up in a community with strong social ties, where respect for diversity and solidarity are important values, this will also give them a good start in life. Such communities, like extended families, can compensate to some extent for failings in the immediate family. The more children grow up with models of ethical and responsible living around them, the easier it will be for them to follow this path.

7 Values in the Educational System

Educational systems are some of the most conservative institutions in society, and quite resistant to change. Each generation of teachers is most comfortable with the methods they have learned and practiced in the classroom. In one sense, this is a useful protection against fads and political pressures for change only for the sake of change. But it also means that new social needs such as adapting to a more diverse and globalized world, and learning responsible lifestyles can take a long time to introduce into the curriculum.

In some countries, religion is a regular part of the curriculum, or schools are run by religious institutions, which insures some ethical instruction at least within one doctrinal framework. In other countries, education is completely secular, and religion cannot even be mentioned in the classroom. Neither is ideal, as instruction limited to one faith tradition may exclude some important ethical principles for sustainability, and in a secular system, there may be no mention of ethics and religion at all, leaving young people ignorant of a major dimension of human experience and culture.

A scientific Symposium on Meaning, Values and Spirituality in the Development of Children and Young People, organized by the Centre for Social Paediatrics at the Cantonal Hospital of Winterthur, Switzerland, in collaboration with the Club of Rome on 5–6 December 2013, raised a number of important points about this challenging issue (http://iefworld.org/node/657). Many children today have parents who rejected religion in their youth and transmitted nothing to their offspring. Basic questions of life such as its meaning and purpose have never been addressed. Ignorance of religion is often accompanied by prejudice against people with a religious belief, reinforcing social fractures and violations of human rights. To prevent this, the cantonal government of Zurich has adopted weekly religious instruction for the first nine years of schooling, with a curriculum jointly developed by Catholics, Protestants, Jews, Hindus, Buddhists and Moslems, to present the objective reality of religion as a cultural phenomenon, without sectarian bias. Values and spirituality are important for children. Values are things that are part of a good life, that provide points of reference. Children should have examples of love, and practicing values, with the possibility to fail, stumble, and learn from it. The consumer society is a danger for children, with a globalized and commercialized world of brutal and erotic advertising, with profits for the few, and many losers. Naive inexperienced children cannot resist these pressures and suffer

badly. They become passive consumers, dependent financially and with their motivation undermined. The symposium also noted a decline in social commitment and interest in environmental issues among young people, which is of concern for motivating responsible living. It highlighted the need for an ethical component to education, and the damage that is done to young people when this is deficient.

In the diverse world of today, where schools have students from many faith traditions and no tradition, it is important that ethics and values be presented with neutrality, sensitivity, and respect for each perspective. There should be no pressure either to accept or reject any belief, but an open process of inquiry and independent investigation of truth. This can help to overcome conservatism, and to open each student to the possibility of adapting his or her beliefs to the new requirements of a unified and sustainable world. Some schools have open dialogues, where students can invite representatives of different faiths and ethical perspectives to share their understanding of ethical topics. There can even be partnerships with a range of local traditions and organizations to develop curriculum materials relevant to the local social, cultural and environmental context. At the level of university instruction and advanced studies, the ethics of sustainability has been one of the topics most appreciated (Dahl 2012). It should become a standard part of any curriculum.

8 Priorities for the Future

As the process of globalization continues, driven by new technologies, and the dangers inherent in overshooting planetary limits become increasingly apparent, two processes will be advancing simultaneously. Those institutions, attitudes and values associated with the consumer society and national sovereignty will push society towards repeated crises and collapse. At the same time, those still embryonic institutions and innovative approaches to building unity in diversity and sustainability in a planetary human system, and the ethical principles that must underlie them, will continue to develop. This is the logical next step in the evolution of human civilization towards higher levels of complexity and systems integration. The challenge is to advance the constructive processes fast enough to reduce the human suffering that the collapse of old maladapted structures necessarily entails. An ethical transformation must be at the heart of building a new society.

The United Nations is preparing a new vision beyond 2015, including adopting new Sustainable Development Goals, targets and indicators, and implementing the framework of action on Sustainable Consumption and Production approved at Rio+20 in 2012. This will provide a more specific near-term set of goals towards which action motivated by ethical principles can be directed. Education in ethics to meet concrete targets can be more relevant and effective than if there are only nebulous long-term aims, so educational approaches can build on this.

Climate change is emerging as the most challenging crisis of this century, threatening as it does on the one hand the energetic foundations of the present

economic system, and on the other the safety and well-being of billions of people and the natural systems upon which we all depend. The ethical imperative to respond rapidly to climate change necessitates a major focus in the years ahead.

It is obvious to all who understand the science behind the sustainability challenge and planetary limits that business as usual is leading us to disaster, and a fundamental transformation in the economic system is essential to make a transition towards a better future. It is not so much the mechanisms of the economic system that are at fault, as there will always be a need for industry, trade and commerce, but the values underlying the economy that need to be changed. Sustainability requires new values-based economic models that support a dynamic, just and thriving social order, are strongly altruistic and cooperative in nature, provide meaningful employment, and help to eradicate poverty in the world (BIC 1998).

Times of transition and change are necessarily risky and often painful. The best protection in periods of trouble is strong community solidarity and resilience. The ethical principles for sustainability find their full expression at the community level, and many neighbourhoods and communities are already going in this direction. The community provides the perfect environment for pre-adolescents to perform acts of service, for sustainable forms of transport and sources of energy to be organized, for more effective forms of production and consumption to be explored, for community agriculture to be developed, for culture, art and beauty to be nurtured, for different approaches to spirituality and faith to be shared and appreciated, and for participatory decision making to form the heart of community life.

Another coming challenge requiring an ethical response is the increasing flow of refugees and displaced persons all around the planet. Climate change is expected to displace hundreds of millions of people from low-lying coastal areas and from places where environmental resources such as water and agricultural land become insufficient. Unlike political refugees, these displaced populations may never be able to return to their homes. There are at present no international structures or mechanisms to manage population movements at this scale, and the issue of immigration is too sensitive politically to discuss this openly, not to mention to respond in an ethically appropriate way. Most human rights violations today are against immigrants and minorities. Will immigrants be forced to assimilate into the receiving countries, or can they retain their cultural roots and heritage? Can communities be allowed to migrate together, retaining their cultures and social capital? Since we have all contributed to climate change, we all have a responsibility towards those who have been impacted by our actions and lifestyles. The ethical principles of solidarity, hospitality to guests and strangers, and responsibility towards other members of our human family, must be cultivated in the receiving communities. We must anticipate and respond to this challenge before it becomes a global humanitarian crisis with great suffering (IEF 2010).

Finally, we can counter all the depressing if not overwhelming sustainability challenges facing us with an ethics of hope. The scientific solutions are there, but human stubbornness is preventing their application. We need to recognize our higher human purpose, and consult on collective visions for the society we want to build. We should understand the processes of change at work in society and the

opportunities that change provides for innovation and creative solutions. We can cultivate a culture of learning and adaptive management as we explore new directions together through action, reflection and consultation. Even if the global challenges seem immense, we can always develop our own capacities and improve our own character, and work together to improve our own community or neighbourhood. Together, with the power of ethical principles and conviction as well as science, we can contribute to the constructive forces at work in the world, and build momentum towards a just and sustainable society.

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Learning for Sustainability

A Systemic Approach to Behaviour and Beliefs

Marilyn Mehlmann, Miriam Sannum and Andre Benaim

Abstract Human capacities and beliefs tend to lead us to construct systems that are inherently unsustainable. With the modern capability of humankind to extract more and more resources globally, resources are rapidly depleting and the effects are escalating. The human capacity for reflection and conscious action seems not to have kept pace with the capacity and desire to use more and more resources. Further, the emerging problems appear to be global, not solvable locally. This gives rise to a feeling of disempowerment that is a basic dysfunctional belief system. It may lead either to paralysis of decision-making, or too rushed action in which each stakeholder lobbies for their own solution and competes with others. This is part of the challenge of sustainable development: to bring back the sense that action, especially cooperative action, can bring results, also in the context of the need for transformational rather than marginal change. A second key challenge is to enable much more effective learning from experience. This paper documents an action research journey that took its departure point in this second challenge, expanded to include consideration of dysfunctional belief systems (patterns), and converged to prioritize a key question: how to design a process that will significantly enhance learning from experience, in the short and long term. The resulting methodology—a workshop format and toolbox—are the major focus of this paper. It can be used in any context, though conceived for initiatives for sustainable development. It has been designed to support conscious decisions of where and how to act, including an improved capacity to choose for transformational change.

Keywords Cooperative action · Transformative change · Learning for change

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_4

1 Introduction

Problematique We (humankind) are steadily reducing our available options (Krugman 2014; Leach et al. 2012). Those who recognize this, and try to do something about it, find it difficult to bring about and scale up significant change (Wilcox 2013).

Human decisions are reducing the range of available options. Slowing or stopping the rate of this reduction or changing its direction is partly dependent on our ability to become increasingly conscious of what is happening, also to the planet; and our ability, through awareness, to become more accountable for our actions.

Despite many admirable initiatives, and growing insight on the unsustainable trends and their causes, the world is still becoming less and less sustainable for humans. It seems as though one of two main strategies tend to be adopted by those undertaking work connected with sustainable development: either to start from scratch, inventing a process and methods, on the grounds that each project is unique; or to impose on the new endeavour some formula previously used, and for instance documented as 'best practice' (UN Habitat 2013), a strategy that offers no assurance of choice of most relevant processes and methods. Given the urgent need to be both creative and effective, a less haphazard approach to learning from experience is much to be desired.

Context Most scientific and technical problems associated with sustainable development already have more or less adequate solutions. "All that stands in the way of saving the planet is a combination of ignorance, prejudice and vested interests." [*Quote derived* from the most recent IPCC report (Krugman 2014).] The key question is not how to make the science work, but how to make it work in practice, on a wide scale: it is a political and behavioural problem of how to change mindsets, attitudes, values and behaviours; and a pedagogical challenge of how to bring about faster and more effective learning from experience.

Around 2005, a small group of people engaged in sustainable development asked themselves how to become more effective at learning from experience. The group embraced a specific view of sustainability and sustainable development, with the following defining characteristics:

- It is not about 'saving the planet' but about possible viable futures for humankind;
- It is thus about combining what we want (what are desirable futures) with what is within reach;
- It is of necessity concerned with transformation rather than adjustment (Leach et al. 2012).

This small group evolved over time into a core development team from different countries and different organizations, with a common focus on the question of how to significantly improve learning from experience.

An action research approach Action research is not a single phenomenon but rather a range of methods and approaches. What they have in common is the convergence of researcher and practitioner: researchers participate—in some measure—in the activity being studied, while practitioners contribute—in some measure—to the research.

O'Brien (2001) notes: 'Put simply, action research is "learning by doing"—a group of people identify a problem, do something to resolve it, see how successful their efforts were, and if not satisfied, try again…. What separates this type of research from general professional practices, consulting, or daily problem-solving is the emphasis on scientific study, which is to say the researcher studies the problem systematically and ensures the intervention is informed by theoretical considerations. Much of the researcher's time is spent on refining the methodological tools to suit the exigencies of the situation, and on collecting, analyzing, and presenting data on an on-going, cyclical basis.'

In the context of Learning for Change there is a complex interaction between the action research conducted by and within the core development team; the action research aspects of the interactions between the team and the facilitators of the workshops that have been the most tangible result of the R&D work to date; and the action learning (Inayatullah 2006) and in some cases action research of participants. As Kemmis and McTaggart point out: 'Participatory action research aims to create circumstances in which people can research together collaboratively for more comprehensible, true, authentic, and morally right and appropriate ways of understanding and acting in the world' (McTaggart 1991).

2 A Development Process

The story behind L4C The core development team, most of whose meetings were convened jointly by Global Action Plan International and Professor Gunnel Dalhammar the Royal College of Technology in Stockholm, brought very different backgrounds and experience, from academia to business consultants and NGOs. The team used Fleck's Synergy Method to structure meetings, a method which—like Open Space—enables great flexibility and creativity (Fleck 2005; Owen 2008).

The team explored numerous models, theories and metaphors, and ransacked their own experience. One fruitful avenue was the concept of a pattern language (Alexander et al. 1977). The concept needed to be modified to accommodate a growing insight that major obstacles to sustainable development are to be found less in the outer, physical world than in our heads in the form of limiting beliefs—either individual, or collective in the form of social norms and cultures.

The group therefore began to explore and document dysfunctional patterns of thought and belief; both as a key to understanding apparently irrational or dysfunctional behaviour, and as a door to long-term behaviour change. The power of pattern recognition as a door to change is well established in, for instance, psychotherapy (NLP Mentor 2014).

Working with patterns is a way to 'keep complexity, to learn, and to generate transformative actions' (Sannum 2012). A first result of the team's work was an international workshop, in cooperation with SWEDESD, called 'A Pattern Laboratory' (White 2010). As a result of the workshop it became clear that 'naked' pattern descriptions are not an adequate change tool—partly because they are of necessity packaged as 'information'; and information, as is well known, does not

of itself lead to new insights or behaviour (Canadian Institutes of Health Research 2012). This clarification led the group to continue to develop the workshop *process* so that, with only passing reference to patterns as such, it would empower people to step outside their own limiting belief patterns in order to extract more learning from experience, as well as to learn from each other.

The major focus of the team thus shifted from identifying and documenting patterns to experimenting with processes that would have the desired effect of breaking 'pattern moulds' while the actual patterns would remain tacit. The pattern work continued, but as it were behind the scenes, primarily as a post-workshop activity of the development team and the workshop facilitators.

The emerging workshop process builds on a 'toolbox', later renamed Learning for Change (L4C), which is now offered in two major modes: L4C Open workshops, gathering people from different backgrounds, each bringing a real-life example of their own from which all can learn (2–3 days); and L4C Closed workshops, bringing together stakeholders from a single project (1–1.5 days). Some of the models, theories and tools adopted by the team are noted in Sect. 2.

Some contributing theories and models *Patterns*—The seminal book (Alexander et al. 1977) focused on architecture and community planning, contains the following passage: "Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice."

Looked at in this way, "a pattern is an encapsulated story of a successful practice, optimized for rapid location and re-use of knowledge relevant to the type of problems that the practice resolves" (George Pór, paper no longer available).

Change—Many change theories stress similar points in regard to change of or by people:

- Change happens not when or as planned, but when the conditions are right
- Clarity about both current and desired states is a necessary condition
- Another condition is the presence of a belief, individual or collective, that change is possible
- Transformative change can be brought about by embracing rather than rejecting the past and the present

Similar considerations may apply to adaptation to external change.

These points have several implications for change management and leadership; one being that participatory processes are a key element in creating the conditions for significant behaviour change (Fritz 2011; Heath and Heath 2010; Watzlawick et al. 1974; Ziegler 1993).

Personal development—Personal development can be described as the transcending of patterns of thought, belief, emotions, and behaviour that no longer serve their purpose. Some methods encourage explicit pattern recognition, i.e. promoting the ability to recognize and describe one's own recurring patterns (e.g. Ferrucci 2000) while others are less direct. A major contribution to personal development is the role of coaching through judicious questioning (Bandler and Grinder 2014; Henwood and Lister 2007).

Empowerment is a word with many definitions; here we use it to signify a process of liberating personal power through insights into the possibility of bringing about change. "New behaviour is much more likely to be retained when people are supported to make their own informed, conscious decisions, in a supportive environment." (Mehlmann et al. 2010)

Pedagogy—A pedagogy of learning for change cannot but build directly on the experience of learners (Freire 2000). Further, it requires the development of critical thinking, defined as the ability to thoughtfully relate to reality, to identify and objectively evaluate information received, to compare and analyse different points of view, to understand the complexities and contradictions of perceived phenomena (Dewey 1910).

Problem solving—Many models of problem solving are drawn from mathematics or military strategy, and too linear to be helpful in learning from experience (Polya 1957). However some methods and tools developed for implementing discrete steps have proved fruitful, when they are based on a participative approach, for instance Metaplan (CIPAST 1970).

Leadership—It is easy to see the ideal process of sustainable development as so participatory that it is virtually leaderless. But leadership—empowering leadership—is vital for sustainable development. Without leadership, change processes tend to dissipate, disintegrate or stagnate. Leadership, in this context, needs to be seen as 'an episodic affair' (Rost 1993): being a leader is not necessarily or only a job description, but is something done by one or more people as a result of their passionate desire to help a process (Greenleaf 2013; Hallsmith 2003). Or as Anthony Howard puts it describing a new paradigm 'leadership will be exercised in every successful role'; a culture of cooperation and participation opens the possibility for each person to exercise leadership as appropriate (Howard 2010). This view of leadership is supported by the participatory methods and approach of action research in general, and Learning for Change specifically.

Group dynamics—Theories of group dynamics have been used to create an effective, supportive learning space; and to support participants to do the same in their working environments. In particular the 'I, We, It' theory of Tift (1973) has been found helpful.

Models for creative meetings—Methods and tools for effective and creative meetings are many. Learning for Change has particularly drawn on Fleck's Synergy Method (Fleck 2005) and a parallel method for larger groups, Open Space Technology (Owen 2008). Both these methods build on the concept that a meeting agenda is built dynamically by participants, all having an equal opportunity to contribute. Many participants report fruitful use of Fleck's Synergy Method in their workplaces.

How may participants learn? The Learning for Change process was designed to enable participants to move beyond behavioural and mental patterns that are hindering them and choose new, more functional patterns. This implies a process that, among other things,

- Is perceived by participants as non-threatening: they are not being criticized or judged, even by themselves;
- Includes not only analysis but also synthesis;

- Observes a rhythm between plenary, group, and individual work;
- Is seen to be open to co-creation by participants;
- Where information is readily available in response to questions, but knowledge transfer is not the primary focus.

A Learning for Change workshop is ideally preceded by case study preparation. At the workshop a sequence of exercises enables insights concerning similarities and differences, and identification of people and groups with similar or mutually relevant experience. In this sequence, participants are invited to share what they are doing well, before moving to areas they would like to improve. The content that is worked on during the exercises is directly documented, and later transcribed.

All participants also learn and practice elements of peer coaching, as a path to further insights and as a basis for continued learning in the workplace by being either a coach or coached.

Some of the participants' insights are experienced by them as representing a significant shift in perspective or meaning (Aha!), and are captured separately from the direct outcomes of exercises. Such a shift may represent an 'unlocking' of a dysfunctional pattern; this is seldom brought up explicitly in the workshop but may be explored afterwards by the facilitators. 'We need to stand back, and have a perspective (a unique position) to see the patterns before us and around us' (Bussey et al. 2012).

Learning also occurs at the level of the methods used in the workshop. Not only are the individual methods supportive and illustrative of the learning methodology; they are also expected to be useful and indeed used by participants in their future work. Hence, the workshop is permeated by moments of reflection on the ways in which the methods contribute to on-going learning. In this sense the participants not only gain a new understanding of their own past experience, but also build skills for continued learning.

Subsequent use in the workplace of individual methods from the toolbox (as opposed to the full Learning for Change sequence) is thus regarded as one successful outcome. In the case of Open workshops, another is the participants' perception of their own competence to themselves facilitate a Closed workshop in their workplace. This is not a given, and indeed if it is part of the Open workshop objectives it is usually the subject of an extra half-day to review the methods and the differences between Open and Closed workshops.

Experience shows that participants who attend two or more Open workshops are more likely to try the whole process; whereas almost all participants try at least one of the individual tools in their workplace.

A 'dry run' Almost ten years ago we ran the first 'pattern laboratory'. A project called Dagsmeja—Entrepreneurial Leadership for Sustainable Development—had just finished and most of the report was written. Members of the core development team gathered to explore patterns and a pattern process. This situation offered special circumstances: only one person in the group had been involved in the project (as project manager) although several knew something about it. On the other hand everyone had a lot of project experience.

The project manager presented the project, the process and the outcomes, and the rest of the group asked deepening and clarifying questions. There was some confusion about the kind of patterns that were sought. In the Dagsmeja project there were some clear patterns in what the project participants discovered as most unsustainable and dysfunctional in their lives (they were mainly political chairmen in local municipalities and executives) as well as patterns in their envisioned sustainable futures. Many of these patterns were about how to run a local democratic process and invite people to creative spaces where they could expand and learn from each other.

The exercise emphasised project processes and their emerging patterns. There was a discussion about transformative patterns in the shifting from one paradigm to another and whether these patterns are different from others. What seemed very complex and confusing back then is now clearer. For instance, the idea that there would be an almost endless number of patterns has given way to the insight that the number of dysfunctional and functional generic patterns is probably quite small. They can of course be clustered, described in sub-patterns etc. The result from this first workshop was a rough core structure of how to organize such a workshop. Some other conclusions were

- The need for a handbook for process design and support for facilitators
- A need for a format to help explore and describe patterns
- The importance of tools to break up and handle power relations in a firm but gentle way.

Regarding the third point, Gaventa and Cornwall (2001) identify three dimensions required to overcome power relations: knowledge, action and consciousness. All three dimensions are incorporated in a Learning for Change workshop.

Criteria for assessing participants' learning The focus of workshops has so far been in some way related to sustainable development, though with a wide span. The general criteria for success are consistent:

- Each participant gains new insights concerning his/her own example/case study
- Each participant learns from the others
- Most participants learn one or more methods that they will use in their future work
- The facilitators learn how to deliver the workshops (even) more effectively

For Closed workshops there is the additional criterion that the participants, who normally constitute a team or department or stakeholder group, will most likely deepen their relationships and continue to use and deepen their use of the methodology together after the workshop. Questionnaires, in some cases followed by interviews or focus groups, show that these criteria are generally well met (Sect. 5 below).

Initial workshop process and toolbox The ambition was to create a flexible process in order to engage participants in co-creating the workshop: to allow the program to evolve according to participants' needs and concerns at the time.

The initial workshop design was rooted in principles well known in adult education, such as the recommendation to vary pace and group size. Following the early Open workshops the dynamic was more precisely defined as an alternation between satisfaction and concerns, between the individual and the collective, between analysis and synthesis.

- Satisfaction and concerns. Ziegler (1993) says that 'change happens when there is a reasonable balance between dissatisfaction and hope'. L4C creates an environment conducive to change by focusing first on satisfactions, and then homing in on a desire to do better.
- Individual and collective. Engaging the concerns of each individual enhances the likelihood of individual change, and linking those concerns to the collective enhances the likelihood of collective change. The individual exercises are seen to create a respectful context for each participant's perceptions and reflections, while the collective exercises develop a sense of community and connection.
- Analysis and synthesis. This alternation emerges as a key to pattern recognition. Synthesis is essentially a process of recognizing underlying patterns, enabling both problems and solutions to be grouped, understood at a new level, and used as a basis for action.

The process was created by linking methods selected for initial inclusion in the toolbox. In the course of time more methods were added (for instance, risk analysis for Closed workshops).

3 Methods

This paper reflects the preliminary results of action research over a period of 8 years, through:

- Open and Closed workshops,
- Surveys,
- Informal follow up and coaching,
- Reflection meetings to review and refine methods.

A series of Open events Workshops have now been attended by hundreds of people from more than 40 countries.

Examples of Open workshops—International Open workshops have been hosted by NGOs and by universities, with themes including: Education for Sustainable Development (ESD); establishing Regional Centres of Expertise (RCEs); action for sustainable behaviour change.

Some participants who have subsequently trained as facilitators have used the methodology to improve their leadership competence; this includes not only educators and civil society practitioners but also public servants, e.g. at ministries of education.

The events, 2009–2013—Visby (Sweden, global), Ha Long Bay (Vietnam, for SE Asia), Howick (South Africa, for southern Africa), Hanoi (Vietnam, national), Ahmedabad (India, for South Asia), Amsterdam (Netherlands, national), Howick (South Africa, for southern Africa), Stockholm (Sweden; Europe, Africa and Asia), Kuala Lumpur (Malaysia, national, for universities), Hanoi (Vietnam, capital region), Tallinn (Estonia, northern Europe).

Reports are publicly available for most of these events; for example, Malaysia (Urenje 2013).

Iterative development—Since the L4C methodology has been developed with the express purpose of accelerating learning from experience, naturally its further development has been and is based on its own methodology. That is, after most workshops the facilitation and design team have conducted a mini L4C workshop in order to improve their own understanding and delivery.

Among the outcomes of these post-workshop sessions have been improvements to and clarification of program design and facilitator training, as well as input to two other processes: the drafting or refining of pattern descriptions; and production of a book on the methods and tools (Benaim and Mehlmann 2013).

Closed events *Examples of Closed workshops* include project and stakeholder teams in Sweden, Ukraine and Vietnam where the methodology is consistently used to learn and improve, as well as to prepare evaluation reports. In all cases the methodology is seen as a tool for effective leadership, not only through the concrete results but also promoting insight and creativity among all participants.

The program design is adapted to the current situation and needs of the participating group. Several have for instance culminated in risk analysis and re-planning, to accommodate the needs of both the leaders and the clients/funders. One focused on developing a process to define sustainability criteria; another on new avenues for teaching critical thinking in schools. Yet another developed a new approach to whole-school pedagogy.

Such Closed events have (to our knowledge) been held in Malaysia, Spain, Sweden, Turkey, Uganda, Ukraine and Vietnam. Full reports are generally confidential, though some conclusions are publicly available. Action reflection has been undertaken after most workshops, in a similar way as for the Open events, to discern learnings and improvements.

Follow-up *Surveys*—Most workshops have been followed by a survey, either manual (paper-based) or, more recently, online. Some of the results are summarized in diagrams in the next Findings section.

Informal follow up and coaching—An ‘intranet’ has been established to enable those participants who are particularly interested, and particularly trained and trainee facilitators, to exchange experience and ask questions. The site is regularly monitored by the core team, and online coaching is offered where appropriate.

Reflection meetings to review and refine methods: the core development team continues to meet on an ad hoc basis. Its current focus, in addition to reviewing outcomes of events and improving the methodology, is on the research questions in Sect. 5, Conclusions.

Leaders' voices Both managers and informal leaders engaged in the Closed events have given anecdotal evidence that the process has benefited the work and their leadership. For instance:

- A school deputy principal has gradually introduced Learning for Change to staff and pupils, to the extent that the whole school now uses the methodology as its basic pedagogy
- Heads of departments in Ministries of Education in two countries report using the methodology to significantly enhance the work of school supervisors.
- Project directors in two countries report that the methodology provides them with better tools for steering work towards desired outcomes, including making use of unanticipated opportunities; as well as better feedback from funders.
- An IT manager reports that he found the Open workshop 'an eye-opener', despite several decades of prior experience.
- A professor reports that she has changed completely her way of supervising PhD students, with notable improvements.

4 Findings

The findings are based primarily on the Follow-up activities outlined above. Overall the workshop results are very positive. In summary, it can be said that the design works, in that it meets its objectives and criteria. Other findings are concerned with:

- Design of successful workshops,
- New applications that have evolved,
- Role of peer coaching,
- Relevance of facilitator training,
- Training and workshops as patterning,
- The emerging set of pattern descriptions.

The workshop design works This conclusion is based on workshop documentation including the views of participants. With more than 300 participants from over 40 countries of Europe, Africa and Asia, no significant differences have been discerned in results across cultures. In general, participants report gaining:

- Actionable ideas—things they can do to improve the content of their work;
- Insights enabling them to reframe persistent problems; including an understanding of some theories of relevance to reframing;
- Methods and skills enabling them to continue to learn and improve;
- The models and methods are generally seen as useful;
- They are indeed independent from each other and can be used independently;
- Furthermore, as a whole they form a process for accelerating learning, with a potential scope of use beyond the intended.

Participants report they are very satisfied with both the quality of insights and learning points, and the numbers of insights during the workshop. Since many of the reported insights are related to either the perception of a new, more functional pattern or the revealing of a dysfunctional belief, this suggests they recognized patterns of behaviour and beliefs that they intend to change. It is worth mentioning that the insights go beyond understanding or experiencing an old behaviour and normally include possible alternatives, prioritization, and selection of actionable ideas.

Participants report on their intention to change and on the value added to their skills. The remaining question is: did they actually change, improve their work, and continue to do so?

In follow-up conversations and coaching almost all people report they have tried some methods, usually successfully. In relation to trying out the whole process, so far only experienced facilitators, or those who attended more than one workshop, have reported trying it out. There is as yet no statistical data to back up this anecdotal evidence.

Design of successful workshops *High flexibility* has from the beginning been seen as a necessary attribute of the workshops: the pedagogical objective is that the workshop should 'flow', successively engaging participants as co-designers. Thus, the first half-day is relatively standard; thereafter successive exercises support participants to home in on their areas of greatest interest or concern, which always entails revising the original program. This process is in itself a part of the empowerment pedagogy. From the point of view of participants this process of adjustment is only visible when they are invited to prioritize different possible workshop segments.

The book mentioned above (Benaim and Mehlmann 2013) was primarily designed to support workshop replication and contains three sections: Process, Methods, and Theories. Difficulties arose principally with the Process section, where the examples of workshop design were sometimes taken to be templates. Revision and nuances in explanations were added to the manual; but trainees reported that the more they tried to follow the manual the less successful they perceived themselves to be. We attribute this to the high degree of flexibility required in finding what is the appropriate next step in terms of focus on the individual or collective dynamic as well as deciding which focus in terms of content or exercise is the most appropriate for the moment (see Facilitator training).

New applications In addition to the originally envisaged applications, the workshop process is being used for several new purposes, including:

- Closed workshops: mid-term and final assessment events are being used as a basis for report building. Some participants in Ukraine and Vietnam have used the whole process for that purpose with positive results. In one of them the funding agency commented that it was one of the best reports they had received, clear on achievements and strengths as well as risk analysis.
- To some Open workshops participants bring new or future projects. The methodology helps them to learn from earlier experience (their own and other's) to prepare better project plans.

Role of peer coaching Simple techniques for coaching were included in the original workshop design, as a way to give participants significant time (usually 30 min) for individual coaching, even with groups as big as 60 participants.

It quickly became evident that the skills of requesting, giving and receiving feedback were as important to the on-going learning process (also after the workshop) as the skills in using the methods. On the one hand, this led to strengthening the training of peer coaching skills in the workshops; on the other hand, to the insight that under certain circumstances (see New applications, above) this topic could be excluded and the workshop made shorter.

Facilitator training The flexibility of the program places high demands on facilitators; facilitator training can make the difference between successful and unsuccessful workshops. The key competences here are:

- The ability to listen and incorporate needs of participants without losing sight of the overall workshop objectives,
- Confidence in their own ability to improvise or 'flow'.

In other words, the highly skilled role of the facilitator incorporates many elements of successful coaching as well as empowering leadership. It is a skill (or perhaps rather, a set of skills) that is in demand in many workplaces, not only in the context of Learning for Change or indeed any workshop format.

During the extra sessions for facilitator training, concrete questions are elaborated and the future use of Learning for Change can be more easily envisioned. In addition to explanations, methods can be re-experienced as required. Trainee facilitators are invited to act as co-facilitators, and are engaged in assessing their own readiness to take responsibility for leading a Learning for Change workshop.

Emerging set of pattern descriptions When the original focus shifted to designing a workshop process, this in no way invalidated the pattern library concept; on the contrary, the workshops have served as a learning ground also for the core development team, enabling new patterns to be identified and described and their possible uses explored. The patterns and pattern library are still under development, albeit more slowly, and are the expected focus of separate papers.

Further work is needed before the emerging patterns can usefully be made publicly accessible, and still more time before they can be open for public contributions. An interim finding is that similar patterns are seen to recur over different topics and cultures. The workshop results seem to suggest that there is a relatively small number of dysfunctional patterns related to participation, change and leadership that shall be discussed in more detail in a future paper.

5 Conclusions

Applications As experimental use of the methodology and of the individual methods continues to grow, workshop development is increasingly driven from the field. Some current proposals include initiatives to introduce the methodology into business and

other workplace environments; for instance, as an active instrument for implementing ISO 26001, the international standard for Social Responsibility where good tools are still scarce. Other proposals are to use it as a tool for ISO 14001 and even ISO 9001.

Further research and development questions Lines of enquiry continue to open up, each related to patterns of thought and belief:

1. *The nature of learning from experience*, and how such learning may be supported and accelerated
2. *Pattern description*: how relevant patterns may be identified; and how they can be described in ways that contribute to on-going learning
3. *Accessibility*: how descriptions of patterns that hinder or support sustainable development can be made easily accessible and useful
4. *Assessment*: The possibility of following up on projects and processes designed and performed with pattern descriptions as a starting point
5. *Facilitator training*: Given the key role of the workshop facilitators, both the content and the process of facilitator training call for more attention and for longer-term follow-up.

Questions 2 and 3 are intimately linked to the concept of a Pattern Library. Implementing such a library, in a useful and accessible way, would involve developing a sophisticated computer system with strong elements of artificial intelligence. The current understanding is that the most common entry-point into a Pattern Library, for a practitioner, would be via a problem formulation. This formulation would lead to a selection of descriptions of dysfunctional patterns, to look for a match; and thereafter to indications of possible solutions or resolutions.

The question of language would then also come into focus; so far the work has been based on English and, to a lesser extent, Swedish.

Major conclusions Concerning the workshop design and toolbox, it is clear from experience and assessments to date that:

- The workshops do indeed lead to enhanced learning from experience;
- The individual methods included in the toolbox have wide applicability, not only in the workshop context;
- The concept of 'bootstrapping', i.e. using the workshop format to successively improve the quality of the workshop design and toolbox themselves, is also working, though it needs to be applied more systematically;
- Facilitator training needs strengthening.

Concerning the pattern library, the initial pattern descriptions are functioning as a repository for some of the learning gleaned from workshops and other experience, so far only accessible to the core development group and facilitators. The work done to date is no more than an embryo.

The major conclusion is thus that the overall approach, including both patterns and workshop design, while already showing highly interesting effects, is still in its infancy. The scope for further development of both the methodology and its use is large. Like all learning in the context of sustainability it 'is an open-ended and transformative process' (Wals 2010).

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ESD and Assessing the Quality of Education and Learning

Frans Lenglet

Abstract Education is an essential component of three global development agendas, Education for Sustainable Development (ESD), Education for All (EFA) and the forthcoming Sustainable Development Goals (SDGs). It is argued that focus on the quality and relevance of education can assist in the current process of renewing the three agendas. During the last decade, ESD-based approaches and initiatives have shown to be able to produce quality learning outcomes, in formal school systems and other learning settings. Two examples of effective ESD-inspired initiatives with teacher educators in Southern Africa and with multi-stakeholder city team in Southern Asia are described and their essential transformational features identified. Proposals by the Learning Metrics Task Force (LMTF) are an attempt at being more responsive to the quality dimension of education by broadening learning domains. However, high-stakes (international) testing instruments are not necessarily aligned with the needs of relevant and quality education. The transformational ESD features show what can be done to make educational testing and assessment more inclusive, appropriate and useful.

Keywords Education for sustainable development (ESD) · Education for all (EFA) · Sustainable development goals (SDGs) · Education quality · Multi-stakeholder approach · Educational assessment

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_5

1 Introduction: Transformative Education and Strong Sustainability

ESD's three constituent components are education/learning, sustainability and development. The substance of ESD resides in the intimate connection between the content of sustainable development and the methods of education and learning. Sustainable development can be understood and acted upon through an appreciation of the dynamic, complex and systemic relationship between the planetary ecological substrate and human societies in their social, economic and cultural make-up.

Prevailing dominant social, economic and political paradigms, systems, structures, policies and behavior do not necessarily promote social and economic justice. There is often a fundamental mismatch between, on the one hand, those causing the degradation of life-supporting eco-systems and maintaining unjust social and economic structures and, on the other hand, those bearing the brunt of its negative consequences. In many instances social and economic vulnerability and poverty go hand in hand with environmental vulnerability; they feed on each other. Sustainable human societies are characterized by social justice, economic equity and enhanced human capabilities. They allow individuals and groups to act on considered choices for advancing current and future common welfare while maintaining ecological integrity.

Development processes are continuous learning processes. Educational institutions (from pre-school to university, from skills training to adult education) have a critical role to play by enabling learners to actively engage in these processes. But they have no exclusive claim to being places of learning. Wherever people interact, "clash" and explore the conditions of their existence—in families, communities, cities, work places and associations—learning does take place. As a consequence, ESD's transformative content and methods need to be brought to all tables and forums where sustainable development and sustainability are debated and decided upon—not only the strict educational ones (Laessoe and Lenglet 2012).

For ESD to unfold, to enhance its traction and to extend its influence, it should go "transboundary". In other words, the world needs to permeate ESD, while ESD needs to permeate the world. By connecting different agendas and different agents the practice of social and collaborative learning becomes a key to effective ESD. Because of its transformational nature and methods, ESD can help to create and facilitate multi-stakeholder and transboundary collaborative learning and dialogues. Collaborative learning is essential for addressing the common challenges with which citizens are confronted, in their own communities and countries and globally.

ESD and other forms of multidisciplinary and transboundary education, such as environment education, education for sustainable production and consumption, education for responsible living and citizen education, can help to reorient educational concepts, curricula, methods and practices. At the same time, these innovative forms of education and learning can help educational content, curricula

and practices to become more context specific. They can help students and learners to make sense of their own environments, predicaments and challenges. They can empower and enable them to deal with these issues in a sustainable manner.

In this paper I wish first to illustrate how ESD-related education and learning—with enhanced relevance and improved quality—connects with two other global agendas, namely Education for All (EFA) and the Sustainable Development Goals (SDGs). In a second instance, I wish to show that ESD-inspired education and learning can make a difference in educational and learning outcomes that are in tune with the aspirations of the three global development agendas. And finally, I wish to discuss how ESD because of its "quality" characteristics can have a transformational influence on the ways in which learning outcomes are assessed and tested, locally and globally.

2 Three Global Development Agendas

In December 2002, the UN General Assembly proclaimed 2005–2014 as the United Nations Decade of Education for Sustainable Development (UNDESD), with UNESCO as the lead agency. UNDESD's overall goal is to integrate the principles, values and practices of sustainable development into all aspects of education and learning. Education for Sustainable Development means including key sustainable development issues into teaching and learning; for example, climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. It also requires participatory teaching and learning methods that motivate and empower learners to change their behavior and take action for sustainable development. The integrated combination of learning content and learning methods along principles of individual responsibility and collective solidarity space and time is ESD's defining feature. ESD promotes competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way. Education for Sustainable Development requires far-reaching changes in the way education is often practiced today.

But ESD is not the only global agenda related to development or sustainable development issues. There are two other such agendas, namely Education for All (EFA) and the UN Millennium Development Goals (MDGs) 2001–2015 and their successor, the Sustainable Development Goals (SDGs). They are depicted in Fig. 1.

In their own ways the three agendas are responding to the need of ensuring that all (young) people have access to education and learning opportunities. Accordingly, development cannot take place without having a literate population. The agendas also have something to say—though with differing emphasis—about the relevance and utility of education and learning: preparing students and learners to acquire the dispositions, knowledge, tools and skills to prepare for and effectively understanding and shaping their lives, the lives of their communities, at present as well in the future. Therefore, by necessity, the agendas are concerned

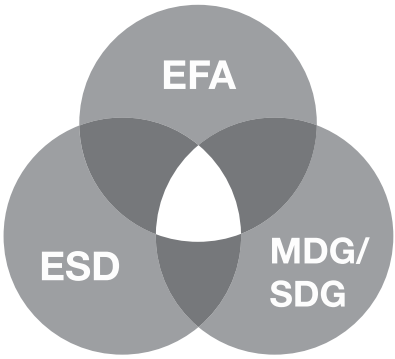

Fig. 1 Three overlapping global development agendas

about how well students and learners acquire and master these competences. In other words, the three agendas cover the aspects of educational quantity (i.e. the degree of access to education and the numbers of students and learners), educational relevance (what is learned) and educational quality (how well things are learned).

As far as ESD is concerned, the UNDESD and its achievements were reviewed at the end-of-decade conference that took place in Aichi-Nagoya, Japan in November 2014. At that conference the successor arrangement for the UNDESD, the Global Action Programme on Education for Sustainable Development (GAP) was launched (UNESCO 2014). Its overall goal is to generate and scale up action in all levels and areas of education and learning to accelerate progress towards sustainable development. As such, it intends to make a substantial contribution to the post-2015 agenda as represented by the SDGs.

The GAP has two objectives:

- to reorient education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development—and make a difference; and
- to strengthen education and learning in all agendas, programmes and activities that promote sustainable development.

The Education for All (EFA) agenda started at the 1990 Conference in Jomtien, Republic of Korea. It is a global commitment to provide quality basic education for all children, youth and adults. At the World Education Forum (Dakar 2000), 164 governments pledged to achieve EFA and identified six goals to be met by 2015. The current debate is focused on aligning EFA's post-2015 goals with the new SDGs.

The period of the UN MDGs will end in 2015. Governments, international development agencies and civil society organisations are being encouraged to make additional efforts to reach the goals. At the Rio+20 conference (July 2012), the process was started to formulate the MDGs' successor goals, the SDGs. They will be adopted by the UN General assembly in 2015.

3 Education Quantity and Quality

Right from the start, ESD has been concerned about what goes on in learning situations in schools and universities and also in informal learning settings. ESD speaks to the relevance of what is being learned for the life practice of the learners and their communities, and to the ways in which this content is learned. Therefore it can be said that ESD is fully oriented towards the qualitative or quality dimension of schooling, instruction and learning (Fig. 2).

Already more than 20 years EFA's aim has been to ensure that all people, young and old, have access to education and learning opportunities and that they actually learn to become more complete human beings and have useful skills for their social, cultural and economic participation in society. Therefore EFA has both a quantitative and a qualitative dimension. But a constant observation throughout the Education for All Global Monitoring Reports is that quantity has been trumping quality.

The UN MDGs have strongly stressed the need for greater access of boys and girls to education. And over the last 15 years, there have been remarkable advances in the numbers of students at all age levels, especially in Asian and Africa countries where enrolments were relatively low before. But increasing the numbers of schools, classrooms and tables and chairs, and even increasing the numbers of teachers or textbooks do not automatically mean that all these students learn or that they learn something useful and well. The numbers of primary school pupils that drop out before the end of the basic cycle (4 years) or the full cycle (6 years) are still too large. Moreover, even the pupils who complete the full cycle often show such low levels of reading, writing and arithmetic that they cannot be regarded as functionally literate; let alone that they have a basic understanding of other subjects, such as physics or biology or that they master higher order skills, such as problem solving and dealing with complexity. What then is the value of school and education when so little is learned?

In comparison with the MDGs the forthcoming SDGs are likely to switch emphasis from more to better and more relevant education. In order to be inclusive, societies cannot afford to leave anyone behind; also not in terms of educational provision. Education is a basic human right, and therefore societies and governments have a duty to provide it. At the same time, education is more than

Fig. 2 The three development agendas and their emphasis on education quantity and quality

mastering the basics of reading, writing and arithmetic: communities should be much more explicit on what people, and especially young people, should know and be able to do if they are to become empowered human beings, engaged citizens and productive members of society.

Can the ESD experience with its focus on the content and relevance of education help EFA to move away from quantity to quality, and can it help to reinforce the quality dimension of education within the SDGs? That question will be addressed in the next section of this paper.

4 Two ESD-Related Programmes in Practice

How beneficial are ESD theory and practice for giving new impetus to the relevance and quality dimension of the EFA agenda and for helping the SDGs to be more than a repetition of the MDG's or EFA's educational goals? In other words, how can EFA goals and the SDGs become truly transformational?

A closer look at two ESD-based programmes, initiated by my organization, the Swedish International Centre of Education for Sustainable Development (SWEDESD), and developed and implemented with partners in Southern Africa and South Asia, may provide elements for answering this question. The experience of the two programs leads to insights about the requirements that must be met for achieving the qualitative objectives (as different from the quantitative objectives) of educational reform.

4.1 Education for Strong Sustainability and Agency (ESSA)

The first programme is called "Education for Strong Sustainability and Agency" or ESSA. It was initiated in 2011 through a partnership of SWEDESD, the SADC Regional Environmental Education Programme (SADC REEP), Jönköping University (Sweden) and a number of Southern African universities and teacher education institutions. The programme has developed a holistic approach to environmental and sustainability education. The teacher educator's manual, "*the Parts and the Whole*", is the first material emanating from the programme. The programme offers strategies, process tools and partnerships for teacher educators to develop and apply methods, approaches and content in their daily practice. Thus enabling future teachers to help their pupils to address the social, economic and environmental challenges they are facing in their daily lives.

The ESSA programme has three mutually reinforcing elements:

- The development of a holistic learning/teaching content and methods.
- A strategy of combining changes in instructional practice together with changes in institutional policies and structures.

- The construction of an internet-based platform, Fundisana Online, which by 2016 is expected to reach more than 4,000 teacher educators and thus more than 120,000 teacher students with innovative ESD-related content and methods.

In 2014 the programme was being implemented with heads of institutions and senior teacher educators in 42 teacher education institutions in Southern Africa. It is scheduled to be rolled out between 2015 and 2016.

In an excellent analysis of a number of ESD approaches, McGregor (2013) concluded that most of them place emphasis on empowering students and learners in order to make choices that will have transformational consequences for their social relations, economic relations and their relations with nature and the environment. Using McGregor's perspective, the ESSA programme reveals the following defining characteristics:

- The primary focus is on what goes on in the classroom, i.e. in the relationship between and among students and teachers. It is responsive to their specific conditions and context. It is experience and situation-based.
- ESD is not treated as a separate subject, but its content and methods are introduced in and connected with other subjects and disciplines.
- Content (related to the dynamic relationship between the three dimensions of sustainability) and learning methods (aimed at "discovering", "sense making", analysis and synthesis) are integrated.
- It encourages and provides skills to teacher educators, and subsequently teachers and their students, to deal with uncertainty and complexity.
- It emphasizes agency, the disposition and capability of learners to take personal responsibility and to actively address sustainability issues and challenges in their own social, economic and ecological environment.
- It encourages the building and maintenance of a community of practice among teacher educators, and subsequently teachers.

Deans of the teacher education institutions participating in the ESSA programme and their teacher educators are showing great enthusiasm for this approach. Currently, they are using it for designing and implementing change projects in their own institutions. The first encouraging results have been showing up in 2014.

4.2 Supporting Urban Sustainability (SUS)

The second programme "Supporting Urban Sustainability" or SUS was initiated in 2011. Six cities in Bangladesh, India, Tanzania, South Africa and Sweden participated in its first edition (2011–2012). The second edition (2013–2014) included eight cities in India, Bhutan, Bangladesh and Vietnam under a partnership between the Centre of Environment Education (CEE, India) and ICLEI, the association of local governments for sustainability (South Asia) and SWEDESD. The programme aims at enhancing the capacity of key public, civic and private

organizations to learn about and take action for Ecosystem Services for Poverty Alleviation (ESPA) in cities.

The SUS programme creates conditions for collaborative learning among a variety of stakeholders, often with differing perspectives and opposing interests. Learning takes place by collectively "making sense" of the complex and dynamic interaction between ecosystem services and poverty alleviation. In the process alternative governance mechanisms and new institutional arrangements between usually asymmetrically connected organisations are being forged.

Again using McGregor's (2013) categorization of "transformative" ESD, the SUS programme displays the following features:

- It addresses complex and messy or "wicked" situations. These cannot be immediately dealt with through traditional, solution-oriented or "linear" approaches. A process of iterative sense making, e.g. through the method of the inquiry-based approach (IBA), is required in order to identify the variety of social, cultural, economic and technical levers with which the situation can be moved and transformed.
- It makes opposing interests and controversies visible and debatable.
- It allows for exploring multiple dimensions (ecological, social and economic) from multiple perspectives.
- It encourages a continuous process of collaborative analysis, reflection and learning.
- It is geared to finding common solutions, i.e. solutions with which the multiple stakeholders can live and which include governance mechanisms for dealing with changing circumstances and possible controversies in the future.
- It is a platform for empowering those who usually have little or no power.

So far, the SUS programme methods and processes have been actively applied across 14 cities in Africa, Asia and Europe. The members of the participating multi-stakeholder city teams have expressed great satisfaction about their own learning: substantive learning around multidimensional sustainability issues and process learning through the strategic enquiry they have been involved in Westin et al. (2013). The SUS programme has given a variety of civil society organizations the opportunity to interact with municipal officials on a level playing field. Government officials appreciate the opportunity to learn from and about "grassroots" needs and perspectives. Through their participation, universities are able to operationalize their third function of community engagement—in addition to their two functions of education and research.

In 2014, a training programme for facilitators of city-based stakeholder initiatives was launched at CEPT University, Ahmedabad, India, under the auspices of the UNESCO Chair on Education for Sustainable Development and Human Habitat. In response to the massive need for making Asia's burgeoning cities more livable and sustainable, a scaled-up version of the SUS programme in South Asia is being considered for 2015 and beyond.

4.3 Common ESD Features

In terms of what transformational ESD is supposed to be, the ESSA and SUS programmes have a number of essential characteristics in common:

- They address issues of sustainability and sustainable development from a holistic perspective. They stress the dynamic interconnectedness between the three sustainability dimensions of nature/environment/ecology (including planetary boundaries and ecosystem services), society (including power and inequality, governance, livelihoods and empowerment) and economy (including the management of natural and social resources, employment and equity).
- They empower students and learners. They create conditions for learners to gain understanding of natural, social and economic processes. While making sense of them, learners and students develop their agency—the dispositions and skills required for making choices and undertaking action that advance sustainability.
- They combine content, methods and process.
- They encourage situated and context-based learning.
- They aim at learning outcomes that go beyond the generally accepted subject-based learning outcomes in schools or the awareness creation outcomes common to non-formal and out-of-school educational programmes. The learning "outcomes" are a dynamic combination of knowledge, skills, participation, action, and transformation.
- They encourage learners to see sustainability issues and challenges from both a local and global perspective.
- They emphasize social and collaborative learning modes that go beyond traditional group-based and individual instruction and learning.

5 Leaving the Comfort Zone

The two examples show that ESD-based learning programmes, in school and non-school settings, have a lot of promise and—according the first research evidence—actually produce the desired learning outcomes. This is good, but not good enough. As the 2012 "The Power of ESD" conference (Laessoe and Lenglet 2012) observed, there is the risk that ESD could remain isolated and disconnected from mainstream education. In order to avoid this risk, ESD and similar types of education, such as Environmental Education, Citizenship Education, Education for Sustainable Production and Consumption and Education for Responsible Living, should actively move from their comfort zone and cross (sectoral, geographic and professional) boundaries. By doing so, they can exert stronger influence on the debate and practice of quality education and educational reform. If ESD is going to make a real difference, its communities of practitioners, researchers and policy makers should sit at the tables where the decisions are made that will determine the shape of schooling and educational practice for generations to come. The table of educational testing and assessment is one of them.

6 Assessing Learning Outcomes

6.1 ESD and Assessing Learning Outcomes

A common observation in educational reform theory and practice is that the chances of success for altering and reforming educational content, methods, format, technology etc. will increase to the extent that they are accompanied and reflected in the instruments that are used for assessing the learning outcomes that are meant to result from the interventions. Some experts even argue that desirable learning outcomes, i.e. the knowledge, attitudes, dispositions, skills and behaviour of learners and students, will only occur if corresponding test instruments and protocols are in place. The basis for their argument is that teachers teach to the test and students learn for the test. Any learning outcome that is not tested or assessed does not receive sufficient teaching or learning time and effort.

To the extent that local and national authorities—and increasingly the international community—expect schools, universities education as well as non-formal educational provisions to be responsive to today's social, political, economic, technological and environmental changes, the demand for testing and assessments will only grow. There are many local and national initiatives in the respect. However, here I will in particular focus on international and global learning assessment initiatives and how ESD thinking and experience can influence them in order to enlarge the scope and depth of desirable educational and learning outcomes.

6.2 Testing and Assessment

Whatever the causal relationship between testing and learning performance, the fact is that tests and testing are central to any educational reform effort, whether viewed from a school, community, national, international or global perspective. Irrespective of the way in which they are conceived and organized, assessments in general and tests in particular help in determining whether the teaching and instruction have a discernible effect on the cognitive, emotive, intellectual and creative status of the learners (students). Parents, students, teachers, schools and governments rely on assessments and tests to find out whether learning has taken place.

The usual argument for using student tests and learning assessments is that they help to improve students' or learners' learning as well as the performance by teachers and instructors. Therefore, while having, hopefully, a positive effect on learning outcomes, tests and assessments are also expected to have a beneficial influence on the accountability of teachers and educational administrators and their institutions. Moreover, test results, their ranking and their comparison across schools, communities, cities, countries and continents can encourage competition; although this does not always necessarily need to be healthy. But, healthy competition may help to improve educational performance (of teachers and students)

over time. Thus properly conceived and administered tests and their results may help in shaping educational reform.

Politicians and central education administrators love and fear this reasoning. For them, educational test results, for example expressed in international ranking tables, can show that their schools or their national educational systems are doing better or worse than others. For them, the results of standard tests can justify the continuation of their policies—provided the results are positive. If they are negative, they can be used for claiming additional funds. But politicians and education systems administrators are not alone in their love-hate relationships with tests. Also parents and their children are more often than not strongly focused on test results. These are often decisive in influencing a student's school or educational career and therefore determining the chances and opportunities for further education and employment. Increasingly, they are becoming essential indicators of the quality and therefore the prestige of (prospective) educational institutions.

There are two additional drivers for the increased attention to educational testing and assessment. The first is to be found in the increasing "popularity" of the results of international educational assessments, such as represented by the PISA, TIMMS and others. Over the last years their prominence in national and international debates about and media attention to educational quality has grown. Any self-respecting country wishes to participate in these standardized tests. Major efforts are underway to enlarge the group of participating countries, regions and even cities. Their participation signals that they are taking education seriously and wish to "compete" in the international testing "sweepstakes". A second driver is the universally subscribed notion that education is both a human right and a central instrument for advancing "development", as expressed in the MDGs and in the forthcoming SDGs (see also Sect. 2 above). This ambition is reinforced by the universally subscribed need to measure the results of the actions for reaching this ambition, under the adagio that "what is important must be measured and that what is measured must be important".

The Learning Metrics Task Force (LMTF) and its work is an expression of this second driver. In comparison with traditional tests and assessments, LMTF is an explicit attempt at broadening the number and nature of learning outcomes to be measured, going beyond the usual categories of reading, writing, mathematics or physics. In this respect, LMTF's work joins or is at least comparable with the concepts and practice of ESD and similar concepts and initiatives such as Education for Sustainable Living (ESL) and Education for Sustainable Consumption and Production (ESCP).

7 The Learning Metrics Task Force

The LMTF was initiated in 2102 by the Brookings Institution (Washington D.C.), the UNESCO Institute of Statistics (Montreal) and UNICEF (New York). It has received adherence from most international "education and development" players

including the World Bank, the OECD and international private and public testing services. The support of these powerful organisations and agencies makes the LMTF an influential force in legitimizing centrally organized standardized testing. For this reason alone, its recommendations cannot be ignored.

LMTF's recommendations, published in September 2013 (LMTF 2013), are based on the argument that the EFA and the MDGs have not been effective enough in altering the amount and quality of learning that is taking place in schools worldwide. It also makes the point, generally speaking, that schooling and education (and therefore politicians and educators) have focused too much on a limited set of learning outcomes (reading, writing and arithmetic) that do not prepare young people for the complexities, demands and challenges of contemporary and future society. In order to remedy this situation the LMTF invites the international community to agree on a (wider) set of educational and learning arguments that can be measured by common and standardized testing instruments the world over, such as PISA and TIMMS.

The LMTF has identified a "holistic framework of seven learning domains, with various competencies in each, as the aspiration for all children and youth across the globe" (LMTF 2013: 6ff). They are:

- Physical well-being,
- Social and emotional,
- Culture and the arts,
- Literacy and communication,
- Learning approaches and cognition,
- Numeracy and mathematics,
- Science and technology.

The seven domains, while cutting across early childhood level, primary and post-primary education, allow for a much wider range of possible learning outcomes than is usually the case. In that sense, the LMTF proposals have taken on board some of ESD's aspirations. This impression is reinforced by LMTF's own expressed concern that selecting just a few domains for global measurement might signal to policy makers and education systems that the other domains are less important. This might in turn have the unintended consequence of limiting diversity in national curricula or driving donor funding toward a smaller set of narrower learning goals than is desirable; and this at a time that the intricate challenges facing humanity only demand a wider scope, a greater depth and a more holistic approach to learning goals and outcomes.

8 Concerns

There are other concerns about and criticisms of LMTF's work and recommendations. For example, Draxler (2013) has pointed out that the Task Force and its associates do not just represent disinterested experts. Rather the opposite. Many of

them, including commercial testing companies, have a significant stake in expanding the scope and practice of educational testing, nationally and internationally. For that reason alone, the LMTF proposals need serious scrutiny with respect to the unintended or hidden consequences of high-stakes testing. (A high-stakes test is any test used to make important decisions about students, educators, schools or educational governance institutions, most commonly for the purpose of accountability. Low-stakes test are used to measure academic achievement, identify learning problems, or inform instructional adjustments, among other purposes. What distinguishes a high-stakes test from a low-stakes test is not its form, i.e. how the test is designed, but its function, i.e. how the results are used.

An important concern is that international high-stakes test—irrespective of whether they are holistic or not—and the resulting ranking of countries do not immediately help in isolating the national, local or other contextual factors that are amenable to reform. Testing as such does not improve learning. By relying on tests alone, one does not really know how actual learning takes place or does not take place, even if one would know how to measure it.

Another concern is that the indicators used for constructing a test usually cover only a limited segment of the learning outcomes that are being assessed and often not the most important and salient features. Moreover, learning is influenced by many factors and variables; what goes on in school is only one of them. Therefore, test results can only give an incomplete picture of learning outcomes. Moreover, by definition, they do not say much if anything at all about the actual and future behavior of the learners.

There is also concern about the representativeness, reliability and validity of the test results. The comparability of the test results is affected by whether the "test takers" are representative for all students of the same age group and school type in their country or territory and by how serious the students are in completing it. Reports on the a-typical characteristics of the Shanghai test takers during the last PISA edition, for example, show that representativeness can be compromised (Loveless 2013). Also, press reports on the less than serious way in which Swedish students participated in the most recent PISA test (Dagens Nyheter 2014) cast doubt on the results' reliability and validity.

That testing, more often than not, can distort the curriculum is another serious concern. Preparing students and learners for taking the test takes precious time and attention away from covering the many other components and dimensions of the official or informal curriculum. And therefore, teaching becomes teaching for tests. In the process, testing disempowers the teachers. Rather than becoming stimulators of a learning process in interaction with their students, teachers become test administrators. Objectively, testing diverts scarce resources. The money and time required for high-stakes testing is not available for improving teacher's competencies, improving the school environment, involving the parents and the community, or developing appropriate (locally "owned) learning objectives—practices that are central to an ESD-inspired approach of empowering learners, students and parents. Therefore, by participating in high-stakes testing, an education system may weaken rather than strengthen itself.

9 ESD Joining the High-Stakes Testing Discussion

There is enough evidence that ESD in school settings and non-schools settings can achieve its objectives. But the ESD-community must get out of its corner to make its experience and practice work in such a way that they become truly transformational. Does the follow-up process to the LMTF recommendations offer the opportunity for doing so?

The LMTF says that its recommendations require a "much more decentralized approach", and therefore it "will serve as a network on improving learning with multiple stakeholders engaged." That sounds positive. However, the LMTF also considers that "the overall goal (of the period 2014 and 2015) should be to help countries improve learning levels, and that it should focus its activities on how to support better assessment systems and better use of assessment data to do just that" (LMTF 2014). Without significantly altering the *modus operandi* this approach seems to limit the playing field to those stakeholders already within the LMTF, in addition to some invited governments. Stakeholders that so far have been excluded from the debate—and one can think for example of teachers, parents and students—are likely to remain excluded. Unless they and their supporters in the ESD community manage to obtain a place at the national and international tables where the issues are debated, the stakeholders with vested interests will continue to propose narrow technical solutions for what is essential a debate on the quality and relevance of education for society as a whole.

Can the experience from ESD-related experience, such the ESSA and SUS programmes described above, be used for (a) making the playing field more inclusive, and (b) addressing the issues that are raised by the concerns about and weaknesses of high-stakes testing expressed above?

10 Using ESSA and SUS Insights

The experience of the SUS and ESSA programmes suggests that inviting a multitude of stakeholders to engage in a structured and well-facilitated process of collaborative learning around a contested (social, economic, political or environmental) issue can work and can provide lasting outcomes. Such an approach can also be applied when it comes to defining transformational education goals at the local, national, regional and international level and in formulating the appropriate assessment instruments, while creating democratic control about its content and administration. It would require that at local and national levels—but why not also at international levels—a diversity of education stakeholders get together and go through a process of defining educational goals that are relevant for their context while leading to learning outcomes which will place the learners in good positions to meet local and global sustainability challenges. The implementation of the Global Action Programme on ESD (2015–2019) may just be the appropriate framework for starting such a process.

The ESSA and SUS experience may also be able to suggest how national and international educational assessment can better fulfill their diagnostic role, while retaining their function and utility of helping to shape the educational development goals, to be included in the SDGs and the successor arrangements of the ESD and EFA agendas. First, the two programmes demonstrate that the curriculum, i.e. what is presented as learning content and the processes that go on inside the classroom (in the case of ESSA) or in the city-context (in the case of SUS) are central to the educational and learning enterprise. Testing, assessment, self-evaluation and reflection on both learning process and content are a means towards an end, but not the end itself. They can be helpful diagnostic tools, on the condition that the learners and instructors are involved in their development and thus "own" them.

Second, teachers (in schools) and facilitators (in the case of multi-stakeholder city teams) are essential for guaranteeing the quality of the learning process as well as ensuring that the learners stay focused on the learning outcomes, which are simultaneously specific and holistic. Test results, or in more general terms, continuous feedback on the process of learning and its outcomes, are useful for optimizing learning conditions.

Third, the strength, utility and durability of learning is a function of the extent to which it is situation-based, placed-based and context-based and the extent to which the learners consider themselves engaged and in charge, while being challenged and having fun.

Fourth, and closely related to the third insight, transformational forms of education and learning can become a reality to the extent that there is capacity and governance arrangements—in schools, in the community, at the municipal level, in NGOs and universities—for determining ambitious though appropriate and reachable educational and learning outcomes, and for encouraging and facilitating the associated transformational learning processes and content.

Currently, these four elements are not present in high-stakes educational assessments such as PISA and TIMMS. They also do not feature in the LMTF proposals. So if school systems in countries or territories wish to contemplate participating in such international exercises, they would be well-advised to think twice. Can the announced promises of improving educational outcomes be realized in the absence of an infrastructure that even some richer countries have great difficulty in establishing and maintaining? And, if they intend to spend time and resources on improving the quality of their education systems, should they privilege investment in one or some of the four suggested features described above rather than in participating in international assessment over which they have limited or no control?

11 Conclusion

ESD and ESD-related approaches and programmes have been shown to work. The theory and practice of ESD as developed over the last 10 years are having a positive effect on the content, the methods, the process and the learning outcomes in

formal and non-formal settings. In other words, through ESD the quality and relevance of education and learning is enhanced and can be enhanced further.

ESD can have a positive influence on the practice of (international) educational testing. By focusing on the curriculum and what goes on in the learning process, by empowering teachers, students and parents and by building local (and perhaps also international) capacity for properly measuring educational outcomes, tests—whether high-stakes or low-stakes—can become more appropriate and useful. In this way, ESD's transformational power can energize the Global Action Programme on ESD (2015–2019), can help in revitalizing the EFA agenda in 2015 and can strengthen the formulation of the SDGs in 2015 and their subsequent implementation.

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Creating Meaningful Life for a Responsible and Sustainable Future

Gregor Torkar

Abstract Major environmental problems at the present time can readily generate many unpleasant feelings in anyone digging into the roots of the current world situation. However, this paper tries to emphasize an alternative way. Humans are subject to determinism but retain a capacity to choose an attitude against their situation in life and themselves. The paper builds on Viktor Frankl's existential analysis and logotherapy. Frankl states that life itself posses a question concerning the meaning of life and each of us has to individually answer to life by answering for life; he or she has to respond by being responsible. The study showed empirical evidence and theoretical explanations for a principal idea that by creating meaning of life each individual can perceive the chance for a responsible and sustainable existence. The results supported our assumption that experiencing a sense of meaning in daily life to higher degree leads to increased pro-environmental intentions and actual behaviours. Results showed that a meaning of life partly mediate the impact of pro-environmental intentions on pro-environmental behaviours. The study not only provided new important data for closing the value-action gap, but it also illuminated some possible pathways toward developing education for responsible and sustainable living.

Keywords Environment · Existential analysis · Meaning of life · Intentions · Behaviour · Teacher

1 Introduction

Human survival is directly tied to our relationship with the natural environment therefore, it is essential to establish a sustainable lifestyle that depends on a balance between the consumption by individuals and the capacity of the natural

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_6

environment for renewal (Schultz 2002). Environmental changes in the present time can easily generate significant unpleasant feelings in anyone digging into the roots of the current world situation. Surveys indicate that a high percentage of people in the European Union and other parts of the world, know about, and express concern for environmental issues (e.g. Dunlap et al. 1993; Eurostat 2008, 2011). Unfortunately, people frequently profess pro-environmental attitudes but fail to engage in appropriate behaviour. Numerous theoretical frameworks have been developed to explain this gap (e.g. Kollmuss and Agyeman 2002). The present study aims to show empirical evidence and theoretical explanations for a principal idea that by creating a meaningful life each individual see the chance for fulfilment, for a responsible and sustainable existence. Humans are subject to determinism, but are still capable of choose in an attitude against life situations and themselves.

Before summarizing the previous research on the meaning of life, it is useful to offer some definitions for the terms "attitudes", "intentions" and "behaviour" that will be used in the sections that follow. Attitude refers to a person's evaluative judgment about a particular entity (Eagly and Chaiken 1993). It is an evaluative reaction to an object or behaviour that is based on beliefs about that object or behaviour (Clayton and Myers 2009). *Pro-environmental intentions* are attitudes a person holds regarding environmentally related activities (Schultz et al. 2004). Behaviour is regarded as any action of an organism that changes its relationship to its environment (Dusenbery 2009). Clayton and Myers (2009) identified individual (private) and collective (public) *pro-environmental behaviours*. Three identified categories for individual behaviours were curtailment behaviour, behavioural choices and technology choices (Clayton and Myers 2009; Stern 2000). Curtailment behaviour is a reduction in consumption. A second category of behaviours comprises behavioural choices which are not decisions about whether or not to do something, but how to do it. The third category is decision concerning buying or using technological innovations. Collective behaviour occurs at a broader level by linking together individual into group actions. Such behaviour Stern et al. (1999) identified as active citizenship and activism. It includes actions like signing petitions, boycotting products and joining environmental organizations.

2 Meaning of Life

Mascaro and Rosen (2008) define meaning of a life as a "possession of a coherent framework for viewing life that provides a sense of purpose or direction, which, if lived within accord, can bring about a sense of fulfilment" (p. 579). According to Frankl (2004), each individual possesses a "will to meaning" which is a primary motivation in one's life. Ideally, most reasonable people will want to live a life of pleasure, positive engagement, and meaning (Peterson and Seligman 2004). However, throughout life people often have to make tough choices. These tough choices people make are more likely to reveal their core values and basic life

orientation (Wong 2012). Frankl (2004) wrote, "man's main concern is not to gain pleasure or to avoid pain but rather to see a meaning in his life" (p. 136).

Frankl's existential analysis and logotherapy are based on three principles: the freedom of will, will to meaning and meaning in life (Frankl 2004). Existential analysis interprets human existence for which the central essence is responsibility (Frankl 2000). Frankl (2000) explained that being a human means being responsible. Person's life itself posses a question about the meaning of life and (s)he has to answer to life by answering for life; (s)he has to respond by being responsible. (S)he always responds in his or her own concreteness and concreteness of the situation (s)he is involved. "Thus our responsibility is always responsibility *ad personam* plus *ad situationem*" (Frankl 2000: 29). Existential analysis, in the form of logotherapy, is a psychotherapeutic method helping a person—a neurotic, in particular—to an awareness of his or her responsibility (Frankl 1988, 2000, 2004).

According to Frankl (1969), a person has freedom of will in order to take a stand on whatever conditions might confront them. He brings a positivistic view of life and provides us with a way of recognizing that there is the potential for finding meaning of life in an apparently hopeless situation. This insight may help overcome motivational dead ends that are often in the field of environmental concern (Clayton and Myers 2009). Frankl teaches us to believe in our strengths in order to take a stand, to engage in an active role in decision making concerning our future and future of our children (Torkar 2006). Sterling (2001), author of the book "Sustainable Education", wrote that each individual must be capable of thinking critically and live with compassion, energy and ultimate purpose. Current, challenging world conditions concerning environmental problems are placing on us a responsibility to act; to create meaning of life under present conditions and not to avoid this demand for responsibility. Avoidance of responsibility can lead to person's "existential vacuum" and "existential frustration"—a sense of meaninglessness and emptiness that is currently resulting in an increased number of suicides, crime and addiction (Frankl 1988). It is through repeatedly exercising freedom of will that the individual creates their own character and meaning of life (Frankl 1973). Throughout the paper the words "creating" and "discovering" meaning of life were used, because each individual creates or discovers their own response to important life situations.

Surveys are the most common assessment tool for the study of meaning. Bronk (2014), and Frankl (2004) developed the first psychological survey of meaning in life in 1959. The Purpose in Life (PIL) scale which was developed by Crumbaugh and Maholick (1964) to measure the degree to which a person experiences a sense of meaning and purpose in his/her daily life, is the most commonly used instrument for the study of meaning. The PIL appears to be valid measure of Frankl's will to meaning concept (Crumbaugh 1968; Crumbaugh and Henrion 2001; Crumbaugh and Maholick 1964; Reker 1977). The PIL assesses the degree to which individuals strive to make meaning of their conscious experiences and the degree to which that meaning leaves individuals feeling as though their lives are worthwhile and significant (Crumbaugh and Henrion 2001). Low PIL scores are significantly associated with suicide ideation, psychopathology, depression and

anxiety, and drug use, while high PIL scores predict positive self-concept, self-esteem, internal locus of control, life satisfaction, and planning (for review see Bronk 2014).

3 Research Questions

The presented background gives rise to the question of whether the types of pro-environmental intentions and behaviours a person develops are associated with the extent to which they experience a sense of meaning (purpose) in their daily life. Subsequently, we are interested in whether meaning of life may help in closing the gap between the possessed pro-environmental attitudes and displayed pro-environmental behaviours.

4 Methods

Sample The sample of this study consisted of 106 preschool, 111 primary school and 100 biology teachers working in preschools and compulsory basic schools in Slovenia. The sample included three male and 314 female teachers; all males were biology teachers. Gender proportions in the sample are normal for Slovenian schools. In the school year 2010/2011 only 1.9 % of care and educational staff in Slovenian preschools were males (Statistical Yearbook 2012). Slovenia is also one of the leading EU countries with a high proportion of women among elementary teachers, 97.5 % (Eurostat 2013).

Instruments Teachers were given a paper-and-pencil questionnaire requiring them to answer basic demographic questions (gender, age, and teaching profession), behavioural intentions and behaviours towards the environment. Ten statements scored on a five-point scale (1 = strongly disagree; 5 = strongly agree) were used in order to measure pro-environmental intentions. Cronbach's alpha coefficient was 0.77. And ten questions scored on a five-point scale (1 = never, 2.5 = always; or 1 = zero; 5 = four times or more) were used to measure pro-environmental behaviour. Cronbach's alpha coefficient was 0.62.

Subjects completed the Purpose in Life (PIL) scale which was developed by developed by Crumbaugh and Maholick (1964) in order to measure the degree to which a person experiences a sense of meaning and purpose in their daily life. The self-administering scale is based on Frankle's thesis that when meaning of life is not found, the result is existential frustration. The PIL scale is a 20 item seven point Likert-type scale extending from one extreme of feelings to its opposite kind of feelings. The subjects were asked to read each item carefully and then give their responses on the seven point scale. The total scores, therefore, ranged from 20 (low PIL) to 140 (high PIL). Numerically higher scores indicated increased purposefulness.

There was no time limit to completion. In the present study, subjects took approximately 30 min to complete the questionnaire.

Procedure Eleven schools and preschools were randomly selected from the list of Slovenian basic schools and preschools provided at the webpage of Ministry of Education, Science and Sports (http://www.mizs.gov.si/en/). First, the administration of selected schools and kindergartens were contacted by phone in order to confirm or refuse their participation in the survey. In the selection process only one school refused to participate. Respondents completed the questionnaire during regular staff meetings in their preschools or schools. Some respondents completed the questionnaire during regional staff meetings and workshops for those teaching specific professional subjects (e.g. biology and natural science). These teachers meet occasionally to exchange their professional experiences. The author was present at all meetings in order to provide introductory remarks concerning the purpose of the study. On some occasions, teachers completed the questionnaire at home and then mailed it to the author's address. A stamped, self addressed envelope was provided. Seventy four point four percent of teachers returned the questionnaire before a predetermined date.

Data analysis Data entry and analysis was conducted using the Statistical Package for the Social Sciences (SPSS). Spearman's rank correlation coefficient was calculated in order to examine correlations between pro-environmental intentions and behaviours, and PIL test scores. Multiple regression analyses and mediation analyses using the bootstrapping method were used in order to define the mediation role of the PIL test result in the relationship between pro-environmental intentions and behaviours.

5 Results

The behavioural intentions are indicators of an individual's assertiveness or orientation toward the realization of a given act in the near future. In the context of this study, intentions are important because they indicate potential changes in teachers' behaviour. Spearman's rank correlation coefficient was calculated in order to explain correlations between intentions and the PIL test score. Overall, there is a weak positive correlation between the average score of pro-environmental intentions and the PIL test score ($\sigma = 0.27$). Results showed that participants with high PIL test scores had a more negative attitude toward a statement that individually cannot contribute much to protecting the environment. Results showed that participants with high PIL test scores were more oriented toward realization of all given pro-environmental acts except donating money (i.e. proportion of the income) for environmental protection. It is also interesting that participants who strongly supported a statement that an individual cannot contribute much to protecting the environment were also less prepared to commit themselves for individual pro-environmental actions such as recycling, conserving power, using public

transport and bicycle, and were also less prepared for participation in environmental activities. Participants who were willing to participate in environmental activities were also strongly committed to joining an environmental organization.

Results show a weak positive correlation between the average score of self-reported pro-environmental behaviours and the PIL test score ($\sigma = 0.27$). Participants with high PIL test scores more frequently choose public transport or bicycles over their car, purchase energy-saving light bulbs, conserve power, contribute to environmental protection through volunteer work, recycle household waste and pay attention to product labels in order to establish their environmental friendliness. Correlations between different pro-environmental behaviours also revealed that if a participant practiced one individual (private) pro-environmental behaviour, for example recycling household waste, they probably also practiced other pro-environmental behaviours such as conserving power or purchasing energy-saving light bulbs. However, donation of money for environmental protection and signing a petition advocating environmental protection were two behaviours that did not consistently correlate with other given pro-environmental behaviours.

Multiple regression analyses were conducted in order to assess each component of the proposed mediation model. First, it was found that pro-environmental behavioural intentions were positively associated with self-reported pro-environmental behaviours ($B = 0.404$, $t(308) = 8.494$, $p < 0.001$). Secondly, it was also found that pro-environmental behavioural intentions were positively related to purpose in life (PIL) ($B = 6.938$, $t(308) = 4.820$, $p < 0.001$). Lastly, results indicated that the mediator, purpose in life, was positively associated with self-reported pro-environmental behaviours ($B = 0.006$, $t(308) = 3.254$, $p < 0.01$). Because both the a-path and the b-path were significant, mediation analyses were tested using the bootstrapping method with bias-corrected confidence estimates (MacKinnon et al. 2004; Preacher and Hayes 2004). In the present study, the 95 % confidence interval of the indirect effects was obtained with 5,000 bootstrap samples (Preacher and Hayes 2008). Results of the mediation analysis confirmed the mediation role of ultimate purpose in life resulted in the relationship between pro-environmental behavioural intentions and self-reported behaviours ($B = 0.362$, CI = 0.016 and 0.078). In addition, results indicated that the direct effect of pro-environmental behavioural intentions on behaviours is still significant ($B = 0.362$, $t(308) = 7.456$,

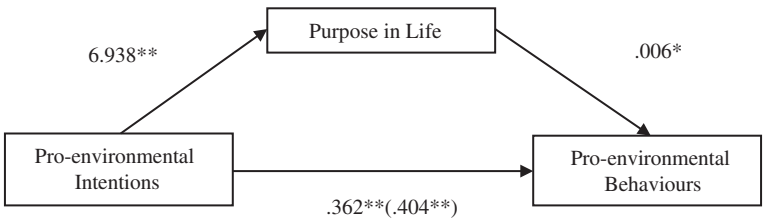

Fig. 1 Indirect effect of pro-environmental intentions on pro-environmental behaviours through purpose in life (mediator) (*Note* *$p < 0.01$; **$p < 0.001$)

$p < 0.001$) when controlling for purpose in life, thus suggesting partial mediation. Figure 1 displays the results.

6 Discussion and Implications

The results of the present study support our assumption that experiencing a sense of meaning in daily life to higher degree leads to increased pro-environmental intentions and actual behaviours. Nevertheless, as described statistically, significant correlations per se do not prove a causal relationship between variables; it is only a hint to look for possible credible explanations.

A sensible explanation of the results could be found in existential analysis which aims to facilitate authentic decisions and to bring about a truly responsible way of dealing with life and the world (Frankl 1988). Significant positive correlations between pro-environmental intentions and behaviours, and the PIL test score could be perceived as reciprocal relationships. Experiencing meaning in daily life positively influenced pro-environmental intentions; positive correlation with intentions to take public and private conservational actions were confirmed (Torkar 2010). But concurrently, practicing pro-environmental behaviour effects on the degree to which a person experiences a sense of meaning in his/her daily life.

The individual is not waiting for an answer, but actively discovering and creating one in accordance with their unique values and worldview. According to Frankl, a meaning of life can be created or discovered in three different ways: (1) by creating a work or doing a deed (i.e. being creative, hardworking, persistent), (2) by experiencing something or encountering someone (i.e. experiencing love for nature, art, history, itself, and in a particular fellow human being), and (3) by the attitude we take toward unavoidable suffering (i.e. tragic life situations, such as suffering, serious illness, death of a family member) (Frankl 1988, 2004). Description indicates that by implementing pro-environmental behaviours a person can expect positive feedback by experiencing life as more meaningful. We can assume this result in particular when pro-environmental behaviours have tangible results in the local environment or within a local community.

These findings and interpretations need further empirical evidence. However, studies that investigate the significant life experiences in raising environmental awareness highlight the importance of (1) frequent interaction with natural and rural environments; followed by (2) the influential experiences that occurred during childhood, involving events within the natural environment and countryside; (3) role models, particularly family members and teachers; and (4) educational emphasis (e.g. Tanner 1980; Chawla 1998; Palmer et al. 1998; Torkar 2014). Additionally, Torkar (2014) noted that negative experiences such as experiencing environmental pollution, disasters and radiation, or severe illness and personal crisis (e.g. death of a loved one, alcoholism in the family) changed a lifestyle. Similarly, Dahl (2012) notes that family, formal and informal education, media,

role models and peers contribute to the development of a personal lifestyle while growing to adulthood. He also stressed that lifestyles become more rigid with age as the individual becomes locked into occupation, family responsibilities and community, although there can be moments of reconsideration, particularly at times of transition such as unemployment, retirement, widowhood, etc.

It is noteworthy that the results provide confirmation of the "foot-in-the-door" effect suggesting that one pro-environmental behaviour may lead to further behaviours for the same cause, due to self-perception, conformity, a desire to appear consistent, and commitment (Burger 1999). Results also showed that a participant who took one step (e.g., recycling household waste) took also other stated pro-environmental actions and behaviours.

Although many hundreds of studies have been conducted to explain the gap between the possession of environmental knowledge and environmental awareness, and displaying pro-environmental behaviour, no definitive answers have been found (Kollmuss and Agyeman 2002). We were interested whether a person's meaning in life may help in closing the gap between the possessed pro-environmental attitudes and displayed pro-environmental behaviours. Results show that a meaning of life partly mediate the impact of pro-environmental intentions on pro-environmental behaviours. Similarly, the studies by Fritsche et al. (2010), which is based on terror management theory (Solomon et al. 2004) and norm focus theory (Cialdini et al. 1991), provides an empirical explanation on how presence of threats to individual or social conditions catalyzes the impact of environmental norms on actual behaviour. Combining the evidence of the present study with recent findings by Fritsche et al. (2010) leads to the conclusion that being aware of environmental threats to our existence (i.e. environmental issues) can arouse in us a basic striving for self-preservation, promoting a responsible and sustainable lifestyle in order to buffer existential threat.

The present research not only provided new important data for closing the value-action gap, but it also illuminated some possible paths of developing education for responsible and sustainable living. Learning involves a change in knowledge, understanding, skills, beliefs, attitudes and/or values. Jean Piaget's constructivism claims that humans learn information when they construct it themselves. He suggested that children actively make meaning for themselves and that conceptual understanding is actively constructed (Liversidge et al. 2009). Piaget uses words *assimilation* and *accommodation* to describe the process that constructs learning and creates transformation in learner. He described a cognitive conflict as mismatch between learner's existing and new experiences which are forcing them to readjust the framework (Liversidge et al. 2009). However, learners' transformation is not guaranteed per se. It is, according to existential analysis, a matter of personal choice to respond or act meaningfully. Frankl (2000) explained that a person responds to life 'in action' and also responding in the 'here and now'. This makes person's daily learning meaningful for life. Described generate the need for active (transformative) learning, significantly taking into consideration the three different ways of creating and discovering meaning of life as

described by Frankl (1988, 2004) and repeated research on significant life experiences that testify them as relevant.

Acknowledgments I am deeply grateful to my late professor, Dr. Boštjan Anko, for all his encouragement and intellectual discussions, late into the night, the results of which is also in this paper. I remember him as a man of big words, strong intuition and wisdom.

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Corporate Social Responsibility and Sustainable Living

Harnessing Social Media

Martin Nkosi Ndlela

1 Introduction

The UN Decade of Education for Sustainable Development (DESD) (2005–2014), sought to promote a more sustainable world through different forms of education, training and public awareness activities with four overarching goals, that is, to promote and improve the quality of education, to reorient the existing education programmes and to raise public awareness and understanding of the concept of sustainable development (UNESCO 2012). This chapter focuses mainly on public awareness activities, and in particular harnessing of new information and communication platforms such as social media, for the purposes of developing 'an enlightened, active and responsible citizenship locally, nationally and internationally' as envisaged in the objectives of Agenda 21 (United Nations 1992). Agenda 21 specifies that action is needed to meet two broad objectives, firstly, to promote patterns of consumption and production that reduce environmental stress and meets the basic needs of humanity and secondly, to develop a better understanding of the role of consumption and how to bring about more sustainable consumption patterns. These principles are further expounded in the Global Action Programme. This chapter seeks to examine the linkages between sustainable production and sustainable consumption in the textile sector and how social media communication platforms can be/has been leveraged to expose and create awareness on sustainable living. The textile industry is one of the industry sectors that produce major social and environmental impact. The chapter adopts a critical system reflection in identifying the problems and challenges to sustainable development from a communication perspective.

In an attempt to crystalize the debates and controversies around the concept of sustainable development, the United Nations Environment Programme (UNEP) identifies four interlocked challenges for sustainable development,

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_7

namely the environmental challenges, economic challenges, social challenges and *communication challenges* (UNEP). The communication challenges in sustainable development are in this chapter examined from two broad perspectives. Firstly from the consumer empowerment perspective, that is, how consumers are harnessing available social media communication tools in giving feedback to companies in the case of breaches to stated CSRs and secondly, from the Corporate Social Responsibility (CSR) perspective as shown in the company's corporate communications—that is what companies *communicate* about their activities and implications on sustainability.

2 Responsible and Sustainable Living

Consumers and corporations are mutually dependent on each other and together, their activities, consciously or unconsciously, can impact negatively or positively on the environment. The concept of sustainable living envisages a situation in which individuals (consumers) and corporations interact positively with the environment in which they derive their existence. Contemporary researchers in the field of sustainability stress the need for sustainable production and sustainable consumption patterns. For producers sustainability is encapsulated under the concept of sustainable responsible business (SRB), itself a part of corporate social responsibility (CSR). For consumers, several concepts have been used and these include sustainable lifestyles, responsible living and consumer citizenship. Social responsibility is a concept applicable to individuals and corporations. CSR is as defined by the European Commission as "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" and thereby minimise the negative impacts their activities can have on the environment and its resources (Commission of the European Communities 2001). The CSR principles assert that companies should strive to provide their customers with products and services that take sustainability into account. Issues of accountability, transparency regarding the economic, social and environmental impacts of business activities are also included.

'The act of consumption enables citizens to shape, through choices and preferences, larger environmental, political, cultural, social and economic practices' (Marchand and Walker 2008, p. 1164). Marchand and Walker (2008) further argue that through the act of responsible consumption people become eco-citizens. While sustainability is a concept widely used in CSR as well as other disciplines it is difficult to characterise definitively, and in practice is difficult to operationalize in a unified way. Based on the different ways in which sustainability have been described, discussed and analysed it is difficult to reach a definition that encapsulated all of the aspects of sustainability. Key elements that have been central in the different uses of sustainability are issues of the environment, the social and the economic. Jacobs (1991) uses the sustainability concept in relation to environmental management and protection, which takes place over time, and therefore over generations (Jallow 2008). His analysis relates to the ability of human beings to limit their own

environmental consumption so that future generations can enjoy the same levels of environmental consumption (Jallow 2008). In his analysis, Jallow asks a pertinent question on the role of corporate citizenship in determining the role of business in playing their part in delivering sustainable development. In order to answer these questions one has to look at the role of corporations in society and their involvement in a society. A rise in ethical consumerism may compel companies to thrive for sustainability and social responsibility. A socially conscious consumer is defined as "a consumer who takes into account the public consequences of his or her private consumption or who attempts to use his or her purchasing power to bring about socialchange" (Webster 1975, p.188). Webster argues that the socially conscious consumer must be aware of social problems, must believe that s/he has the power to make a difference, and must be active in the community (Webb et al. 2008).

3 Social Media and Consumer Empowerment

The communication challenges to sustainability hinges on consumer perspectives, drawing on concepts like consumer society, consumer citizenship and consumer empowerment. Discussions of empowerment invariably encounter problems associated with the illusive concept of power. Depending on the school of thought consumer power has been perceived differently with divergent formulations. As Tiu Wright et al. (2006a) correctly point out, 'it is problematic for any research agenda seeking to understand consumer empowerment, because observations linked to whether or not consumers are empowered are irrevocably wedded to the starting definition of power supporting such claims". Conceptualizations of power are divergent, representing the different disciplinary approaches. Traditionally the notion of power has been used to explain the nature and origin of consumer demand and to justify the role of marketing in satisfying it (Smith 1987 quoted in Tiu Wright et al. 2006a). The Frankfurt school, represented by Adorno, Marcuse and Horkheimer, for example sought to expose the powerless nature of consumers seduced by the pleasures of consumption. For Marcuse, technical progress extended to a whole system of domination and coordination (Marcuse 1964). Technology is thus incorporated into the systems of domination together with the mass media. Consumption becomes a strategy of power (Hardt 1992). While the Frankfurt School saw consumers as weak and entrapped in the system of domination, postmodern researchers tend to theorize consumption as a site of resistance and emancipation (Fiske 1989). Consumer empowerment takes on many different guises depending on the intellectual tradition and conceptual lens used to identify, delimit and measure power. Tiu Wright et al. (2006a) delineates three theoretical perspectives based on political and social theory and existing concepts in consumer and marketing research. These perspectives are the consumer sovereignty model; the cultural power model; and the discursive power model. These models of consumer power are appropriate for explaining consumer empowerment in the light of DESD consumer awareness initiatives and in the context of textile industry.

From the perspective of the sovereign consumer model, the consumer is empowered when he or she is free to act as a rational and self-interested agent and grows from the combination of consumers' resources and skills in order to compel producers to produce more efficiently, offer better and cheaper products, and increase social welfare (Penz 2007). An example of such consumer sovereignty is consumer boycotts organized via media initiatives included social media networks. Consumer boycotts are active forms of resistance with explicit causes, such as affecting corporate policies and damaging the company's stock (Penz 2007). From the perspective of the cultural model of power, consumer empowerment is manifested in the creative adaptations and manipulations of the marketer-intended meanings and uses of products and advertisings (Tiu Wright et al. 2006a). In this perspective consumers manage the disciplinary power of the market by expressing resistance in consumption (Penz 2007), and they are viewed as active, creative, and agentic (Firat and Dholakia 1998). Consumer power consists of the creative adaptations and manipulations of the producers' intended meanings and use. From the perspective of the discursive power model power is defined as the ability to construct discourse as a system in which certain knowledge is possible, while other knowledge is not (Tiu Wright et al. 2006a). Hence empowerment in the discursive model is conceptualized as the ability of the consumer to mobilize discursive strategies to determine what can be known and what action can be undertaken in any particular field of action (Tiu Wright et al. 2006a, p. 963). Thus the discursive model builds on the interactions and exchanges between producers and consumers (Penz 2007). The interaction is less confrontational but rather more inclusive and facilitates the creation of knowledge. This perspective draws from Michel Foucault's conception of power and knowledge.

Empowerment should also be understood as a process or an outcome or both. As a process, "empowerment requires mechanisms for individuals to gain control over issues that concern them, including opportunities to develop and practice skills necessary to exert control over their decision making". Empowerment as an outcome is a subjective view where empowered individuals would be expected to feel a sense of control, understand their socio-political environment, and become active in efforts to exert control (Tiu Wright et al. 2006b, p. 938). The questions that need to be addressed in order to understand consumer empowerment as a process or outcome would therefore be how consumers are or can harness the power of new social media technologies.

Digital technologies, especially the Internet-centered technologies, have been described as communication enabling and conversational technologies. The intensity and global scale of connectivity generated by the widespread adoption of information and communication technologies by suppliers and consumers alike is reconfiguring the relations of power between the consumers and suppliers, thereby adding new dimensions on consumer empowerment. Even though general claims that consumers are empowered by the Internet are difficult to measure due to inadequacies in conceptual and analytical tools (Tiu Wright et al. 2006a), it is still possible to extrapolate areas where consumer empowerment is evident. The increasing use of information and communication technologies (ICT), especially

the Internet is shifting market power from suppliers to consumers (Tiu Wright et al. 2006b). ICTs enable accessibility to vast amounts of information stored in the globally networked computer databases. From a consumer perspective access to information about the market is significant as it widens the available choices. As Morrissey (2005) has argued,

> access to more information about the market is complemented by larger choice sets due to the global reach of the Internet, by the ability to exchange information and opinion with peers, to change their own perceptions and behavior in a rapid and largely unchecked manner, and to define brands on their own (Quoted in Tiu Wright et al. 2006b, p. 937).

Access to information is a prerequisite to knowledge acquisition and consumers with more information will feel more powerful (Foucault 1972). Because knowledge is power, 'customer empowerment' reflects consumers' enhanced ability to access, understand and share information (Tiu Wright et al. 2006b, p. 937). Empowerment through knowledge has implications on the discussions. Discussion forums have a significant presents on the social media, a medium which facilitates vertical and horizontal communications, permits dialogue and provide feedback mechanisms. Thoresen (2006) notes the increased 'use of discursive public spaces (open debates), Internet, blogs, conferences, meetings, demonstration, and hearings', as an arena for sharing innovative approaches (Thoresen 2006). YouTube, blogging, Wikipedia, Twitter, Facebook and other social media are impacting on just about every aspect of modern society.

The social media enable citizens to participate directly on issues of interest, interact with producers, public offices and other consumers with similar concerns. However, since "consumer empowerment derives substantially from the knowledge that consumers appropriate from the Internet and from other sources, the extent of empowerment will depend on their ability to discern potentially useful information for evaluating competing service-products on offer, and satisfy their needs with the least waste of time and effort (Tiu Wright et al. 2006b). The social media presents genuine opportunities for consumer empowerment process. Constructivists learning theorists such as Vygotsky argue that 'social interaction plays a fundamental role in the process of cognitive development' (Moll 2014). Peer collaboration and the process of expressing knowledge and conversations increase the possibilities for the refinement of knowledge. Knowledge constitutes a prerequisite competence for sustained engagement in consumer-related issues, hence the ability to make informed consumer choices as well as engaging corporations whose practices are in conflict with sustainability.

4 Corporate Social Responsibility: Rhetoric and Practice

The UN programs on sustainability put particular emphasis on the activities of corporations. As noted by D'Amato et al. (2009) corporations worldwide are being called upon to take responsibility for the ways in which their operations impact societies and the natural environment. This approach requires corporations to do

their business in a sustainable and socially responsible manner. van Marrewijk and Verre (2003), define corporate sustainability, and also CSR, as "a company's activities,—voluntary by definition—demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders" (van Marrewijk and Werre 2003, p. 107). As noted by Schultz (2013), corporations initiate and bind themselves to mission statements, visions, ethic codices, or behaviour guidelines, based on which they change products, services, processes.

CSR has in recent years gained much momentum in the public discourses and the last decade witnessed an increased demand on companies to integrate Corporate Social Responsibility (CSR) into their business practices, taking cognisant of the impact of their activities on the social, economic and physical environment. There is a marked increase on expectations by society that corporation utilize natural resources in an efficient and sustainable manner. In an increasingly environmentally conscience society of the 21st century corporations across the globe are under increasing pressure to integrate sustainable responsible business (SRB) into their conduct of business. This envisages that organisations take social responsibility for the impact of their operations and activities on the environment, customers and communities.

Sanford (2007) attributes the rising global awareness of Corporate Social Responsibility to several factors, most notably, globalization, advances in communication technology and media coverage (Sanford 2007). Political and public pressures about the social responsibilities of firms have intensified to such an extent that CSR can no longer be regarded as a voluntary exercise of companies. Various actors such as governments, civil society, non-governmental organizations and supranational bodies play an increasingly important role in defining norms for acceptable corporate responsibility. As noted by den Hond et al. (2007) an increasing number of corporations are beginning to realize that they can no longer ignore the moral expectations society places on them (den Hond et al. 2007). Managing CSR has thus become an important aspect of attaining legitimacy from their stakeholders, regulators, media, communities and general public. As Schultz (2013) notes CSR is not only related to the strategic and operative environment but also part of the external and internal corporate communications. One of the objectives of corporate communications is the management of corporate reputation, defined broadly "as a widely circulated, oft-repeated message of minimal variation about an organization revealing something about the organization's nature" (Carroll 2013, p. 4).

5 The Case of the Textile Industry

The textile industry has a major impact on social and environmental issues due the modes of production, consumption and lifestyles associated with it. Corporations within the garment industry chain have a wide sphere of influence and their practices affect millions of people worldwide. They impact on various aspects of life,

human rights, social and environmental issues. The last decade witnessed an increased and changed role of textile organizations in the global economy and society. Textile corporations have far reaching economic power and responsibilities. Globalisation has increased the complexity in the textile industry, with a number of offshore productions, where the setting and environment is fundamentally different. Textile companies do business across the world venturing into societies where regulations are non-existent, or inefficient to regulate the activities of powerful companies. They include clothing giants like Nike, H&M, Zara, Primark and many others with production bases in countries like Bangladesh, Thailand, Vietnam, India and China. Rapid transformation in these countries is throwing up many challenging circumstances which in certain cases fall short of internationally accepted labour-related and environmental standards. The supply chains have also become complex and the global nature of the clothing chain means that enforcing international standards has become paramount. The textile industry is distributed across the global and arguably some of it is done under conditions that are not sustainable, with serious effects on environment and the health of producers, which in most cases are locating in the developing countries.

Social responsibility in the textile industry has recently been in the spotlight, due to unsafe working conditions and exploitative labour practices. There are increased expectations that the textile industry should realise its responsibility towards employees, shareholders, society and the environment. Responsibilities towards the environment include environment-friendly production processes and supplies, as well as eco-friendly packaging. Responsibilities towards employees include safe working conditions and remuneration. The textile industry has in the past faced criticism for poor safety standards, poor working conditions, use of toxic substances and ineffective wastewater treatment. In a quest to promote its reputation the textile industry "claims that safety has been much improved, many toxic substances have been identified and eliminated, or standards as to how to deal with them have been created and are enforced" (Baldia 2001). Many corporations are eager to include sustainability commitments in their CSR documents. Sustainability is often nicely formulated in the CSR documents. For example, in clothing retailer giant, Hennes & Mauritz (H&M) the CSR document states that:

> H&M's business concept is to offer our customers fashion and quality at the best price. At H&M, quality is about more than making sure that our products meet or exceed our customers' expectations. It also means that they have to be manufactured under good conditions and that our customers must be satisfied with us as a company. Taking responsibility for how our operations affect people and the environment is also an essential prerequisite for H&M's continued profitability and growth.

In its 2009 Sustainability Report, H&M states that it's continuously looking for ways to be a more responsible company and to integrate sustainable thinking into all the decisions they make (H&M 2009, 2010). Similar formulations are found in other corporations' CSR documents. Questions remain as to whether the industry has done much to improve its productions processes as well as improving environmental impact. As new cases show, the industry is still far from mitigating its impact on the environment. There are still elements perpetuating practices that

are detrimental to the environment and to society in general. Mission statements and documents on CSR are not enough if nodes in the supply chain are producing in an unsustainable manner. It is with this regard that consumers are expected to show agency by raising awareness, and taking corrective measures.

6 Harnessing the Social Media in Consumer Activism

To ensure that textile companies move beyond their rhetorical statements it is imperative for conscious consumers to report cases of breaches, investigate questionable practices, act as consumer watchdogs and influence public opinion. In order to make informed choices individuals need information and communication channels to share their acquired knowledge. Developments in information and communication technologies have enabled the creation of global networks (Leonard 2011). During the course of UN Decade of Education for Sustainable Development (DESD) dynamic changes have taken place within the sphere of information and communication technologies. ICTs have permeated all aspects of our economy and society, catalysing new forms of communication, collaboration, creativity and innovation. The power of web networks has increased extraordinarily the speed, reach and interactivity of social communication (Jones et al. 2009).

For textile corporations, social media provides yet another platform for increasing the visibility of their CSR and hence their reputation. With the advent of social media, they are signs of major cultural shifts in the corporate world, as society strides past awareness into action. Discourses on global climatic change can no longer be ignored, and corporations which have mainly been on reactive stages are moving towards pro-active approaches. As Rowley (2009) has noted 'social media has begun to play a key role in how companies shape their corporate social responsibility policies and present themselves as good corporate citizens (Rowley 2009).

For consumers, the social media is a tool for consumer and citizen empowerment, providing new platforms for collaboration, knowledge-sharing, education and consumer activism. As noted by Jones et al. (2009), the power of the web networks has increased extraordinarily the speed, reach and interactivity of social communication. Conscious consumers in the western countries are today able to acquire information on production conditions. The social media have given the activists new platforms for knowledge disseminations, and with such knowledge are consumers able to challenge the nicely worded corporate social responsibility documents. Changes in communication mean that average consumers have access to more information and knowledge on the products, their use and the impacts of corporations. As noted by Leonard (2011) cyberprotest movements are able to have their mobilisation and framing processes enhanced while the use of internet technologies provides access to the resources of expertise and scientific professional data.

Initiatives such as the Clean Cloth Campaign (CCC), which aim at improving the working conditions in the global garment industry, are able to challenge

big retailers on certain products they sell and also disseminate information to consumers, who might be ardently unaware of the processes and activities behind certain products. A clear example for this is the *Stop the killer jeans* campaign launched by CCC in order to stop retailers from selling jeans produced through the use of sandblasting method (Clean Clothes Campaign 2010). Research has shown that sandblasting practice put the lives of thousands of sandblasting operators at serious health risk. The operations affect small workshops in Bangladesh, Egypt, China, Turkey, Brazil and Mexico. This campaign combines different communication measures including the use of social media. The social media provide opportunities whereby individuals themselves become message producers and distributors. The effect of such a campaign is noted on how certain big retailers have responded to consumer pressure and removed questionable products from their collection. A number of retailer, amongst them Levi-Strauss & Co, C&A, Hennes & Mauritz (H&M) responded by banning the sale of such jeans but major retailers like Diesel, Dolce & Gabbana and Replay, were reluctant to address the issue (Clean Clothes Campaign 2011). According to Clean Clothing Campaign (CCC) the luxury Italian brand Versace de-activated its Facebook wall after activists posted dozens of messages demanding that the company ban sandblasting. CCC has also been very much active on Twitter and Facebook, constantly revealing unethical or unsustainable business. The conversation generated by CCC in social media give credence to what Davis and Moy calls a new breed of 'professional consumers' or 'prosumers' (Davis and Moy 2007). These might not be many but they are key stakeholders and opinion influencers whose mobilization efforts have resulted in tangible results through withdrawal of questionable goods, or restitution.

7 Conclusion

Consumers around the world are increasingly harnessing the connective power of social networks to enhance the corporations' SRB engagement. The examples given above illustrate how consumers and consumer activists are exploiting social media in order to impact on corporate social responsibilities in textile companies. Social media keep the spotlight on corporations and provide the consumers with opportunities to demand transparency from corporations. Corporations that behave badly can be named and shamed. The social media also provides opportunities for sharing social innovations that contribute to responsible living. Social media create new opportunities for organizing partnerships and promoting responsible living. Through social media cultures that promote transparency and accountability, corporations are today measured through the critical lens of environmentally conscious consumers. More research is however needed to show the extent to which social media platforms can be leveraged to enhance consumer education on various aspects of sustainability.

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Part III
Transforming Learning Environments and Educational Approaches

Enriching Responsible Living Curricula with Transdisciplinarity

Sue L.T. McGregor

Abstract This chapter tenders a new approach for enriching responsible living curricula predicated on transdisciplinarity. It weaves together four large ideas to support the argument that learners can make more responsible life choices if they are exposed to a transdisciplinary-informed curriculum: transdisciplinary knowledge, transdisciplinary habits of mind (cognitive skills), transdisciplinary learning (iterative cycle), and the transdisciplinary learning *approach* (including the four pillars of education needed for the 21st century). The entire discussion is grounded in Professor Dr. Basarab Nicolescu's approach to transdisciplinarity: Multiple Levels of Reality mediated by the Hidden Third (to reconcile conflicting perspectives); the Logic of the Included Middle; and, knowledge as complex, emergent, embodied and cross-fertilized.

Keywords Transdisciplinarity · Responsible living · Curriculum

1 Introduction

The Partnership for Education and Research about Responsible Living (PERL) anchors its work in the concept of responsible living. The underlying premise of PERL's work is that people need to be educated and taught how to live responsibly on the earth, with each other and other species. At its website, PERL (2012) notes that responsible living involves (a) the readjustment of present priorities; (b) the redefining of human relationships; (c) the transformation of how societies deal with existing economic, social and ecological challenges; and, (d) the intensification of the dialogue between science and society.

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_8

In general, responsibility refers to the opportunity or ability to act independently and take decisions without authorization. It means being able to respond to life and act accordingly without depending on someone telling you what to do. Living responsibly also entails "living responsively, with a proper awareness of planetary needs, political imperatives, national issues, local questions and both family and personal wants, not always in that order but always with each element in that chain entire" (Morton 2008, p. 2). Educating people about the tenets of responsible living will require an especially designed curriculum and pedagogy, called a responsible living curriculum, described in the next section. Indeed, PERL (2012) has developed a definition of 'education for responsible living' that can inform any attendant curriculum initiatives:

> Education for responsible living provides opportunities for learning about the systems and processes connected to consumption. It involves relearning and reorganizing information in wider contexts. It is contingent on reconsideration of such central questions as the value of material and non-material prosperity, and the significance of service to ones fellow human. The present situation indicates the need for the further development of analytical, reflective thinking skills in order to decode the extensive and aggressive commercial messages to which individuals around the world are constantly exposed. Five basic skills are essential to learning to be responsible. These are: communication skills, decision making skills, problem solving skills, creativity and change management. (p. 2)

2 Responsible Living Curricula

The common element of any responsible living curriculum is its focus on helping students consider contemporary, tough, real world issues and problems and look for ethical solutions for themselves and for society. Such curriculum would emphasize ways in which ethical principles affect responsible decision making and would include self-analysis, analysis of complex world systems, and of attendant issues and problems. Students would consider the consequences of any decisions taken to address these issues. Responsible living curricula would teach ethical reasoning about right and wrong human conduct so students can learn to live responsibly on the earth (General Education Task Force 2012).

Courses in this type of curriculum would contain three key components: ethics, responsible living decisions, and citizenship or civic engagement (General Education Task Force 2012). Indeed, Dahl (2011) likened living responsibly to being good consumer citizens, people "who make choices based on ethical, social, economic and ecological considerations" (PERL 2012, p. 2). Students shaped by a responsible living curriculum would be able to engage critically, ethically and positively with a diverse and changing world because the curriculum itself would be "current, dynamic and responsive" to the world (General Education Task Force 2012, p. 45).

Responsible living curricula would also strive to help students integrate what they learn into their daily lives. The development of students' consciousness and self-control would be fostered, as would prosocial behaviour (voluntary behaviour

intended to benefit others) and independence, interlaced with a strong sensitivity to interdependence and interconnectedness. A space would be created where students can develop appropriate attitudes and dispositions, and acquire skills and knowledge, necessary to make responsible, informed choices so they can lead empowered, purposeful, and fulfilled lives. They would also learn to develop attitudes that allow them to take advantage of new opportunities and, at the same time, deal confidently with the stresses of uncertainty and change. The curricula would integrate concepts and content from a variety of subject areas and, most especially, would deal with contemporary issues facing children. Students would learn to care for themselves, for others, and for the environment (Thuente 1993). This chapter proposes that transdisciplinarity provides a powerful anchor from which to teach responsible living as defined above.

3 Transdisciplinarity

Hermani (2011a, b) has an intriguing view of students that informs the discussion shared in this chapter. Students "come to school with what they intrinsically are, in their integrity, in order to learn to know themselves, as well as the environment and our world's interactions" (2011a, p. 3). A transdisciplinary approach enables educators to respect this integral link between students and their wider world. It gives educators permission to focus on helping students 'learn to know who they are' by showing them they are inherently tied into and connected with the complexity of the world. With this self-knowledge, students can begin to engage in more responsible life choices as they learn to care for themselves, for others, and for the environment (the crux of a responsible living curriculum). Indeed, "transdisciplinarity is a powerful educational approach for the shift in culture [required] where [responsible living] is no longer a vision but a way of living" (Marinova and McGrath 2004, p. 6).

The rest of this section provides a necessarily brief overview of transdisciplinarity as understood by Professor Dr. Basarab Nicolescu (1997, 2002, 2008, 2010, 2011). As a caveat, McGregor (2006, 2009, 2010, 2011c, 2014) has provided detailed overviews of Nicolescu's transdisciplinary (TD) approach, and how he understands what counts as reality, logic, knowledge, and the role of values. As a succinct overview, transdisciplinary knowledge is emergent and complex. TD Reality comprises multiple levels, which are able to interface with each other through the mediating effects of leaving behind resistance to unfamiliar or disliked ideas. The logic used to infer judgements, make decisions, problem pose and problem solve is inclusive logic, respecting many actors' points of view. Integral value constellations play a crucial role in solving problems faced by humanity, and must be managed and led in a climate of collegiality and respect.

In a bit more detail, Nicolescuian transdisciplinarity holds that there are Multiple Levels of Reality (instead of just the material, physical reality). The movement between these realities is lubricated or mediated by, what Nicolescu

(1997) calls, the Hidden Third. This mediator, or hidden agent, manifests when diverse actors with divergent perspectives, yet keen interests in addressing a complex problem, come together. While engaged in co-creating this new knowledge, this collection of people use inclusive logic (instead of Classical exclusive logic). Inclusive logic assumes that things that are normally seen as antagonistic or contradictory can temporarily be reconciled to create new transdisciplinary knowledge (through the Logic of the Included Middle). The resultant knowledge is characterized as very complex, emergent, embodied (owned by everyone) and cross-fertilized (McGregor 2014).

In short, Nicolescuian transdisciplinarity proposes that people from all walks of life (Multiple Realities) would enter a fecund *middle ground* (a zone of non-resistance, ripe with potential and possibilities) prepared to remain open to others' viewpoints as they use inclusive logic to temporarily reconcile contradictions. All the while, they are respecting emergence, synergy and fusion, leading to the integration of ideas to form new complex, embodied, and cross-fertilized knowledge, which can be used to address complex problems (McGregor 2014). The next section introduces an inaugural attempt to conceptualize a transdisciplinary orientation to responsible living curricula.

4 Four Elements of a Transdisciplinary Orientation to Responsible Living Curricula

Emerging from an extensive literature review, four elements are now woven together to create a transdisciplinary orientation for enriching responsible living curriculum: transdisciplinary knowledge, transdisciplinary habits of mind (cognitive skills), transdisciplinary learning (iterative process), and the transdisciplinary learning approach (learning cycle including the four pillars of knowledge needed for the 21st century) (see Fig. 1). Together, they can help educators gain a transdisciplinary orientation for responsible living curricula, strongly informed by Nicolescu's approach to transdisciplinarity (Nicolescu 1997, 2002, 2008, 2010, 2011).

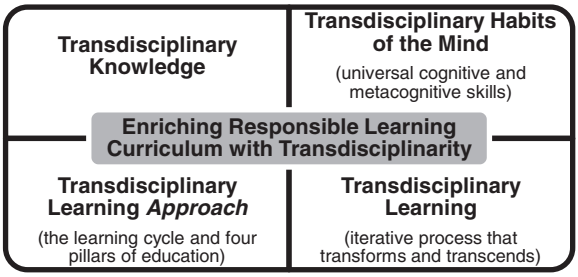

Fig. 1 Four elements of a transdisciplinary orientation for responsible living curricula

4.1 Transdisciplinary Knowledge

Traditional curriculum uses disciplinary knowledge and subject-focused content (Hartley 1997). Most people are familiar with mono-disciplinary knowledge, developed by and housed within distinct disciplines (e.g., economics, politics, sociology). Multidisciplinary knowledge is created when one discipline uses the insights it gains from inviting others to contribute to the solution of a disciplinary problem. Interdisciplinary knowledge is created when scholars from multiple disciplines work to integrate their ideas into a new whole, but the work is still confined to scholars in academic disciplines. When scholars within universities work with actors outside the academy, people who are living the problems, we witness the creation of transdisciplinary knowledge (McGregor 2006; Wall and Shankar 2008). Apgar et al. (2009, p. 256) clarify that transdisciplinary knowledge is created by "mov[ing] beyond the integration of different disciplines *towards* transdisciplinary approaches that link different disciplines *with* local and traditional knowledge systems" (emphasis added).

Transdisciplinary knowledge is a new kind of knowledge that complements traditional, one-discipline, multi and interdisciplinary knowledge. TD knowledge is formed in a transintellectual space, wherein resides a gradual cross-fertilization of ideas resulting from the convergence of different perspectives and value systems in the spirit of solving complex, emergent global problems of humanity (Lattanzi 1998). This type of knowledge is globally open and entails the integration of disciplinary knowledge with stakeholders' lived experiences leading to new visions of a responsible and sustainable future. It is alive and perpetually in flux and information because the problems being solved with TD knowledge are alive. Its creation entails self-transformation oriented towards new knowledge of the self, the unity of all knowledge, and the creation of *a new art of living* (Nicolescu 1997); that is, responsible and sustainable living.

Transdisciplinary knowledge is co-created outside the traditional university boundaries in the actual context of where it will be applied, by those who will be applying it to solve complex problems they are experiencing (McGregor and Volckmann 2011). Lattanzi (1998) suggests that distinct (disciplinary) bodies, or autonomous branches of knowledge, be referred to as *departments of knowledge*, to distinguish them from the *holistic knowledge* that forms the base of transdisciplinary learning. From this stance, he argues that knowledge from distinct disciplines is valuable, first-step knowledge, needed to understand problems from one perspective. However, the transdisciplinary knowledge base is best for treating problems that benefit from not treating them in *disciplinary isolation*. Such problems include human aggression, less than harmonious distribution of resources, thwarted human empowerment and loss of human potential.

This is why transdisciplinarity is described as a process characterized by the integration of efforts by multiple disciplines and members of civil society to address issues or problems with global implications. By integration is meant opening things up to all involved so that something new and permanent can be

created via synthesis and the harmonization of ideas and perspectives. Indeed, many issues of fundamental importance for our society, such as sustainability and peace, could not even be posed within the domain of one discipline. Of significance is that Lattanzi (1998) believes an inquiry into a simple issue should not stop just because a satisfactory explanation has been found. This latter approach is inherent in the other three approaches for creating knowledge (mono, multi and inter). Transdisciplinary thinking would have people dig deeper for the underling complexity of daily reality that creates issues with global implications, including excessive consumption, climate change/global warming, pollution, overpopulation, and unsustainability. Such an intellectual enterprise requires particular habits of the mind.

4.2 Transdisciplinary Habits of Mind

Transdisciplinary thinking helps people deal with the complex, wicked societal problems that require knowledge across all aspects of society: academic research disciplines, communities, civil society, industry and governments; that is, it involves the integration of knowledge from multiple knowledge systems or knowledge spheres (McGregor 2011a). Thinking from a TD perspective means people have to (a) recognize and value the multiple interacting parties (i.e., multiple realities) while (b) allowing themselves to self(re)-organize during the perspective sharing and problem solving process (Apgar et al. 2009).

In that spirit, Mishra et al. (2011) identify seven habits of a transdisciplinary (TD) mind; that is, cognitive skills they suggest *any* individual tends to use when creatively thinking across a range of domains. These TD mind skills are universal and employed by people inclined to integrate different solutions, viewpoints and perspectives. They include: perceiving, patterning, abstracting, embodied thinking, modelling, play, and synthesizing (see also Mishra and Koehler (2006) and http://www.tpack.org/). These TD mind habits are crucial for a responsible living curriculum.

First, *perceiving* is a two-layered process. People learn to observe using their five senses, and then they learn the process of *imaging* (calling to mind what they observed without any external stimuli). Second, *recognizing patterns* involves identifying a repeating form or plan in a seemingly arbitrary arrangement. Third, *abstracting* entails two processes: (a) people extract and focus on one feature of a thing to grasp its essence. Then, (b) they use analogies (comparisons between two seemingly disparate things) to explain the abstraction. Fourth, *embodied thinking* is also two-pronged. (a) Using kinesthetic thinking, people learn to 'think with their body', learning how to use their five senses to know the world around them (e.g., how hard to hold an egg without breaking it). (b) Thinking with the body also involves putting oneself in another person's position (out of one's body into another body's experience) in order to understand them (empathize) (Mishra et al. 2011).

Fifth, *modelling* involves both abstractions, noted earlier, and dimensional thinking (space and time). When people model, they build replicas or use theories or formulas to represent and then study something. *Deep play*, the sixth universal TD mind habit, involves people intellectually playing with ideas, concepts, boundaries or processes so they can open doors to new ways of thinking via unexpected breakthroughs. Finally, *synthesizing* involves feeling and thinking coming together into many and new ways of knowing, which could not have emerged if everything had remained separate and disconnected. Through synthesis, people develop deep, empathetic, complex connections between each other and their attendant ideas and positions (Mishra et al. 2011).

Derry and Fischer (2005) also discuss transdisciplinary competencies and mindsets, arguing that learners need these as well as disciplinary-specific, in-depth knowledge (see Lattanzi 1998) They propose three mindsets (habits of the mind) that would bring disparate disciplines and actors together: knowledge about boundary objects, knowledge creation communities, and metacognitive skills that foster reflective community. First, knowledge exchange requires hosts (researchers, journals, bureaucracies, standards, stakeholders/stakesharers) (see Torkar and McGregor (2012) for discussion of stakesharers). These hosts are called *boundary objects*, features that cluster at the edges of borders, with the potential to connect ideas across people. They can impede and expedite transdisciplinary learning.

Second, transdisciplinary learners need to have a commitment to the collective creation, expansion and building of knowledge through knowledge creation communities. Third, TD learners must be able to "think about and monitor their thinking" (metacognition skills) because this habit of the mind supports the aforementioned reflective knowledge creation community. They must be skilled at reflecting on the data, concepts and real world items, on the activities of the problem solving system/community, and on their modes of participation and inquiry (Derry and Fischer 2005). Transdisciplinary mind habits help inform transdisciplinary learning.

4.3 Transdisciplinary Learning

"Transdisciplinary learning is important" (Stahl et al. 2011, p. 497), and central to a responsible living curriculum. Transdisciplinary learning draws together concepts, theories and approaches from parent disciplines, and from stakeholder's knowledge systems and lived experiences, and then *transforms* these into new knowledge, possible because boundaries have been broken down or transcended. TD learning is driven by the need for new knowledge creation to address complex problems of humanity (Park and Son 2010).

Transdisciplinary learning opportunities help people gain better understandings of how their perspectives, knowledge, and values contribute to solving the problems. In particular, if opportunities are provided for altering the perspectives, knowledge and values that are being examined, iterative learning is possible,

leading to appreciations of how each actor's *position* on an issue can change as other's positions are brought to bear. As well, what they *know* can remain the same, but be viewed differently as different actors' perspectives are brought to bear (Stahl et al. 2011). Also, embedded disciplines and stakesharers' knowledge systems will come into play as needed or desired throughout the transdisciplinary learning process.

TD learning requires opening one's mind to an array of competing perspectives on how to solve problems (even on what constitutes a problem). The TD approach is all about merging divergent perspectives to problem solve (McGregor 2011b). This inherent crossing back and forth, in and out, over and under each other's perspectives and positions opens 'newer learning' because it opens important questions about thinking and gives learners permission to question. Transdisciplinary learning helps people see problems in even more than three-dimensional depth because it mimics the complexity of the problems people experience in the real world (Davies 2009). People "creatively move into, through, across [and beyond] disciplines in order to *open meaning* rather than be pinned down by [disciplinary] facts" (Davies 2009, p. 2, emphasis added). Iterative, interactive transdisciplinary learning necessitates a transdisciplinary approach to learning.

4.4 Transdisciplinary Learning Approach

While the concept of transdisciplinary learning pertains to an iterative learning process, a transdisciplinary learning *approach* refers to a three-step learning cycle and to four pillars of education (see Delros 1999). Müller et al. (2005) envisioned a transdisciplinary learning approach to help people from different disciplines and sectors work together to establish a common orientation to the issue at hand. (a) Each participant would articulate his or her position (including any limitations) and (b) all participants would accept the superiority of a common learning approach over disciplinary stances stemming from arbitrary, artificial boundaries. The latter involves all participants engaging in both an integrating and a service role, leading to the convergence of mindsets into agreed-to, new transdisciplinary knowledge.

Müller et al.'s (2005) transdisciplinary approach to learning involves a learning cycle with three steps, with learning occurring through continuous, iterative interactions between internal interpretations and external actions. The three learning steps are as follows. First, each participant comes to the table with his or her own purpose, concepts, knowledge and interpretations of the world. Second, informed by their internal perspectives, each participant poses actions, which have a series of expected and unexpected effects. Third, these actions and consequences are observed and described by each participant, leading to a convergence of viewpoints inspiring the creation of new knowledge, ideas and concepts. Each participant's interpretation of these shared data (including boundary judgements), their view of the problem, their chosen approach and possible solutions might

shift, which could lead to new ideas and concepts (Müller et al. 2005), and the TD learning cycle continues.

Müller et al. (2005) suggest that this TD learning approach can best be represented using a spiral to illustrate that the cycle has no beginning nor defined end: one could start with interpreted knowledge, take action based on this knowledge, observe the consequences and interpret the results to get new knowledge, leading to another set of actions, which are observed and interpreted, and so on. They also describe the learning cycle this way: "the creative step [action] is a translation from the internal world of thoughts and feelings to the external world of forms; the descriptive step [observe] is a translation from the external world to the internal world; and the normative step [interpretive] is a translation from information to purpose [leading to the next act]" (p. 200). This TD learning cycle respects Schmitt's (2007) call for transdisciplinary learning wherein people can "effectively communicate across disciplines and sectors, value other's expertise and knowledge, establish necessary relationships, ask important questions, integrate shared learning, and grow in self-confidence while successfully working [and learning] with others" (p. 1).

4.5 Four Pillars of Education

The transdisciplinary learning approach involves a process wherein knowledge, attitudes, skills, concepts, and values transcend and are focused on issues across, between and beyond single subject areas (the meaning of *trans*). The goal of such learning is to understand the present world so that changes can be made to ensure the future, taking into consideration human commonalities (Nicolescu 2002; Renatica Learning Wiki 2011). TD learning experiences that help people to look *beyond* consumption and other unsustainable, uncaring human actions must reorient learners to what it *means to learn*. This reorientation entails moving beyond learning facts and information to learning how to know, to do, to be with, and to be (the four pillars of education) (Delros 1999; Nicolescu 1997). As a caveat, although these pillars may sound very familiar, those advocating for the integration of transdisciplinary thinking into responsible living curricula must define them very differently than they are conventionally understood, see next.

Very briefly, *learning to know* refers to training in permanent questioning of assumptions and in building bridges leading to continually connected beings. *Learning to do* certainly refers to acquiring a profession, but doing so within a profession that authentically weaves together several competencies at the same time as creating a flexible, inner, personal core. The latter refers to always being an apprentice of creativity and of creating one's potential (Delors 1999; Nicolescu 1997). *Learning to be with others* means that not only do people learn to respect others but they learn a new attitude that permits them to defend their own convictions. This new attitude makes a space for both open unity and complex plurality—they do not have to be in opposition to each other. Finally, *learning to*

be does not mean the same thing as existing. It means people discover how they have been conditioned, determining if there is any tension between their inner self and their social life, and testing the foundations of their convictions and to question—always question. People have to continually ask themselves "Where am I?", because things change and move and so do people (Delros 1999; Nicolescu 1997).

Nicolescu (1997) proposes that these four pillars form the foundation of TD knowledge. Of relevance to this chapter, Marinova and McGrath (2004) envision these four pillars as fundamental to a transdisciplinary pedagogy for responsible living. They form an intricate part of helping students value their role as a consumer citizen who is responsible for themselves, each other and the planet.

5 Summary and Conclusion

A responsible living curriculum strives to help students deal with change, take advantage of opportunities to be proactive in their lives, develop a conscience, and engage in ethical, defensible life choices (Thuente 1993). Enriching responsible living curriculum with transdisciplinarity would help students become deeply aware of their connectedness with others and of the necessity of being able to communicate through tensions and contradictions. It is a challenge to make responsible decisions if one cannot deal with the conflict and complications inherent in daily choices. From a transdisciplinary perspective, mutual and common interests would trump self-interests, something that is more ensured when students gain TD habits of minds and can co-create TD knowledge through TD learning cycles and iterative TD learning processes. Educators wishing to consider a transdisciplinary orientation in their responsible living pedagogy can gain much from the synergy evident among the four large ideas presented in this chapter (see Fig. 1).

By way of a summary, transdisciplinary engagement with others involves focusing on complex, messy problems facing humanity with the possibility, the hope, of innovative solutions emerging from the integration of divergent perspectives. Transdisciplinary work entails seeing patterns, using one's imagination, being able to explain abstractions, creating multi-dimensional models, playing with intellectual ideas, and pulling the results together to generate solutions (i.e., transformative mind habits). TD mind habits is a powerful pedagogical idea, made even stronger when used in conjunction with boundary objects to create links, bridges or modes of transcending borders so people can connect in reflective, knowledge generating communities, operating at the borders between disparate worlds. Add to this the power of iterative learning and we get the convergence of a myriad of perspectives made possible from opening minds and fostering newer learning (all thanks to always questioning, being creative and accepting plurality, the tenets of responsible living).

Delivering a responsible living curriculum is further enriched by perceiving learners as coming to school as they *are*, so they can learn to know themselves

and figure out *where they are* at any given moment in time, as well as who they can *become* (better ensured through the TD learning approach, augmented with the four pillars of education, which are believed to be the foundations of transdisciplinary pedagogy). Finally, educators can help students *move beyond irresponsible living choices* if they envision learning as a cycle with people moving through three stages: using their internal interpretations of an issue to meet with and take action with others, the results of which are observed and interpreted by everyone, leading to more interpretation, action, observations and so on. This iterative, transdisciplinary learning never stops, is always done in a reflective community, and the knowledge generated is owned by everyone (embodied). The inherent result is more responsible living; that is, being able to respond to life and act accordingly in concert with fellow citizens.

In conclusion, educators who choose to support responsible living curricula by using a transdisciplinary-informed approach will find powerful pedagogical tools. Such tools are necessary because educators are charged with preparing students to deal with ever more complex global challenges; there is no room for error, no room left for irresponsible life choices. Educators need an approach which respects that globalization of the world requires students come to terms with the contradictions, tensions and, yes, opportunities they will encounter as they strive to live responsibly and responsively on the planet (Mimoun-Sorel 2010). Transdisciplinarity offers that hope; it views "human learning as art,…as a creative informative, formative, transformative endless learning process contributing to enrich and heal our bodies, minds and spirits" (De Mello 2001, p. 2). Transdisciplinary curriculum enrichment ensures responsible living.

6 Recommendations

To make sure that architects of responsible living curricula feel comfortable when drawing on the four-dimensional transdisciplinary orientation shared in this paper (see Fig. 1), shaped by Nicolescuian transdisciplinarity, several recommendations are shared:

- To bring transdisciplinarity to responsible living curriculum, educators and curriculum planners must become more familiar with the very new idea of transdisciplinarity. The brief overview provided in this chapter drew on Basarab Nicolescu's methodological approach (three philosophical axioms of knowledge creation). But, there is another approach that educators might wish to peruse, that of the Zurich school. The latter views transdisciplinarity as a *new type of research*, called Mode 2 research, informed by the post-normal science perspective (Gibbons et al. 1994; Nowotny 2003). Both approaches are leagues beyond the conventional mono, multi and inter-disciplinary approaches that have long informed curriculum development. This chapter happened to favour Nicolescu's approach because it focuses on the co-creation of new knowledge amongst

diverse actors and it honours the four pillars of education, believed to be fundamental to a transdisciplinary pedagogy for responsible living.

- As common as the term may be, it was a challenge to find good information about what constitutes a responsible living curriculum. Many people use the term, but do not define it. It is recommended that when designing responsible living curricula, architects take the time to clearly explain how they are defining the term. With more and more of these articulations, a richer body of knowledge can emerge around 'what is' responsible living curriculum. A necessary consensus could emerge, enriching TD curriculum initiatives.
- This chapter pulled together four aspects of transdisciplinary pedagogy that are not normally woven together (indeed, transdisciplinary pedagogy is a relatively new term itself); instead, they were found in the literature as stand-alone topics: transdisciplinary learning, TD learning process, TD habits of minds, and TD knowledge. They were presented here as a four-dimensional framework from which to anchor curriculum development for living responsibly, and for doing so through a transdisciplinary lens. Educators must commit to delving deeper into these four aspects of transdisciplinary curriculum. Readers are encouraged to read the entries in the reference list accompanying this chapter, since only a cursory overview was possible in such a short chapter format.
- Bringing a transdisciplinary orientation to curricula focused on responsible living will require educators to embrace and learn a powerful collection of student-centered, authentic and engaging pedagogies: holistic learning, integrative curriculum, thematic learning, inquiry-based learning, issues-based inquiry, democratic classrooms, teaching controversial and sensitive issues, and problem posing, problematization and solving. Teachers must teach values clarification, the values analysis process, values reasoning, and critical as well as creative, divergent thinking. These pedagogies privilege learners, with teachers as facilitators and coaches. Students *learn to learn*, for their *whole* life, so they can assume responsibility for their life decisions.
- As with any new approach to developing curriculum, educators and planners must be open to new ways to approach the contributory role of subject areas, learning domains, learners' characteristics, learners themselves, and the degree of desired knowledge integration. As well, attention must be paid to relevant pedagogies and attendant teaching and instructional strategies (see above) so that teachers are open to altering their role and privileging learners. The learning environments must also take on special meaning, as must links with the wider community and world (including governments, businesses and local communities) (see Hartley 1997).
- Finally, a *transdisciplinary* orientation to curricula for responsible living requires educators and curriculum planners to gain a deep(er) respect for integrating multiple perspectives, embodied thinking, complexity, cross-fertilization, iterative processes, and spiral and cyclical principles. They must appreciate there are many different realities that compete with, yet complete, each other, and that there are various logics that can be employed when responsibly posing and solving complex problems. Educators need to appreciate that knowledge is

emergent, arising from complex interactions amongst diverse actors with competing agendas, yet all focused on living responsibly with the earth and with each other, well into the future.

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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

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_9

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 subconscious 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,

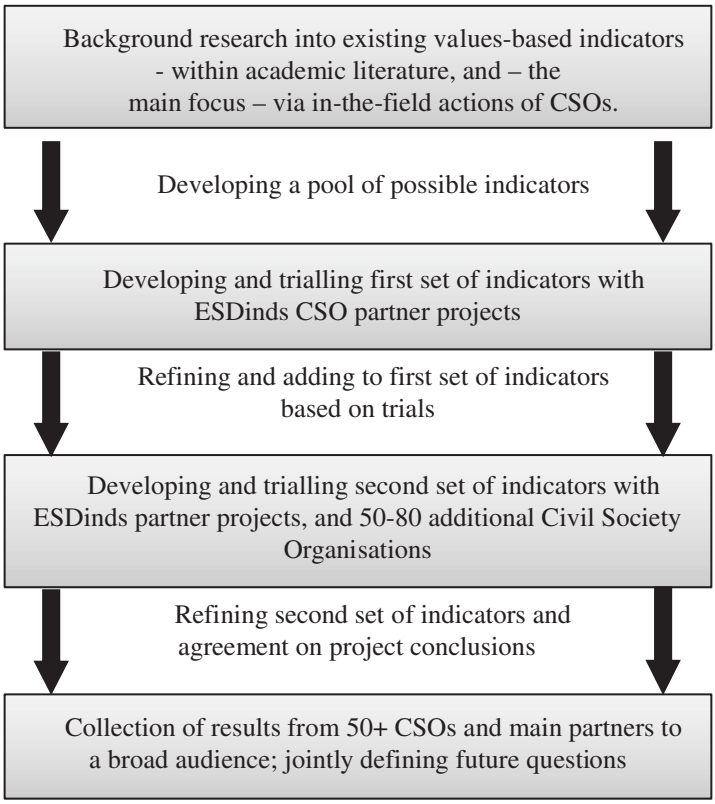

Fig. 1 Process of developing values-based indicators and assessment tools within the ESDinds project

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 interrelated 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)	*Artificial world*	*Natural world*	*Human experience*
'Ways of knowing' (core values)	Imagination and practicality	Rationality and objectivity	Reflection and subjectivity
'Ways of finding out' (intellectual skills)	*Modelling and synthesis*	*Experiment and analysis*	*Criticism and evaluation*

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 been 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).

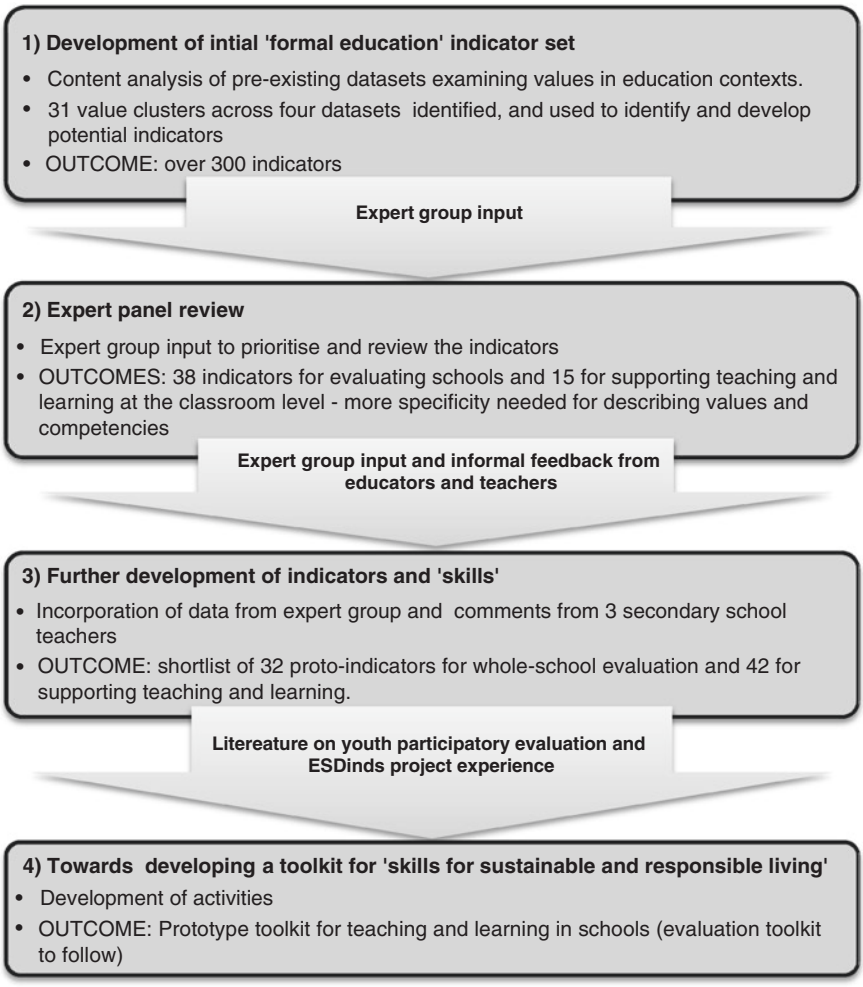

Fig. 2 Overview of the research through design process

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.

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Green Flag Eco-Schools and the Challenge of Moving Forward

Jonas Greve Lysgaard, Niels Larsen and Jeppe Læssøe

Abstract In this article we look at the Green Flag Eco-school approach in a time perspective. We make a distinction between internal and external time perspectives with the first focusing on the process inside the school and the second on changes in the surrounding world challenging but also opening for new ways forward for the educational approach. Based on a study of four experienced Green Flag schools in Denmark we identify problems with maintaining a dynamic process after the first years of establishment. We also identify problems with the involvement of the whole school and relate this problem of disintegration to the external time perspective where the environmental management approach has been challenged by request for more integrative approaches. In the final section we discuss whether it is possible to open for a more integrative approach to sustainability without losing the strong identity and concrete action orientation which have made the Green Flag approach successful. In line with the concept of responsible living we propose to do so by focusing on practices and products in the lived life as concrete points of departures for exemplary learning on how ecological, economic and socio-cultural issues always are inter-related.

Keywords Eco-Schools · Time · Sustainability · Ways forward

1 Introduction

When the Decade of Education for Sustainable Development was agreed upon at the global summit in Johannesburg in 2002 it was with the ambition of transforming the entire educational system in all countries to address the grand challenges of the

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_10

world (UNESCO 2005). Although all levels and types of education were included as objects for this ambition, the basic school level is by no doubt the largest and most important. Furthermore, the most comprehensive and promising practice to address the task of transforming the basic schools has by no doubt been the whole school approach (Læssøe et al. 2009a, b). This is also reflected in the fact that the proposal for the new UN Global Action Programme on ESD mentions the whole institution approach as one of its five priority action areas (UNESCO 2013). The whole school approach, related to the issue of sustainability, has been organized and coordinated in a number of slightly different international programmes. One of the eldest, and definitely the most globally widespread, programme is the Eco-school programme, which was founded in 1992 and today is applied in 55 countries all over the world. For this reason, it makes sense here at the end of the Decade of ESD (2005–2014) to ask which lessons we can learn from the practice of Eco-schools and how this concept can keep updated and perhaps even become strengthened in times characterized by fast changes in the world we are living in?

In this article we will contribute to reflections on these questions. We will do so partly on the basis of a qualitative study of Eco-schools and the Eco-school programme in Denmark, and partly on the basis of theoretical reflections on environmental as well as socio-cultural changes since the rise of the Eco-school approach.

2 The Whole School Approach

The whole school approach is basically a holistic approach in the sense that it does not only focus on curriculum development but also on school management, teacher competences, teaching methods, learning and work environments, the students, parents and the entire community. As such it has been applied to other issues than sustainability (Cf. e.g. EASHW 2013). However, the approach has not least taken shape through participatory and action oriented environmental educations programs and later programs for education for sustainable development as well. One of the cornerstones of a whole school approach is an action orientation of student learning. It is therefore conducted in relation to practice—both within the school and in the surrounding society. The students are not provided with readymade solutions but supported in their participation in decision-making processes regarding both individual and collective actions. Many schools perform ‘audits’ of school ground and school building operations, including resource use, waste and environmental conditions. Audits may be followed by implementation plans, monitoring and evaluation of progress towards sustainability (Tilbury and Wortman 2005). The following quote from Tilbury and Wortman express in a condensed way the vision of the whole school approach in relation to the sustainability issue:

> Education for sustainability is about shifting the focus from ‘what to teach students’ to envisioning schools as a place where students, adults and the community interact and learn together (Henderson and Tilbury 2004). It involves reorienting traditional classroom approaches to more student centred and interactive, inquiry-based approaches to teaching

> and learning (Fien 2001) as well as changing school structures (Sterling 2001). Important aspects of pedagogy in education for sustainability include encouraging learners to actively explore questions, issues and problems of sustainability in contexts relevant to them and their communities. It provides space for learners to envision positive futures rather than focus on negative aspects of sustainability problems, and to critically reflect on current lifestyles to make more informed decisions (Fien and Tilbury 2002; Tilbury 2004). (ibid., p. 24)

Although the different programs for sustainable whole schools share the holistic and action oriented approach, there are also divergences regarding the conception of sustainability, strategies for development of sustainability, and the role of education as part of this transformation. Based on an international comparative study, Mogensen and Mayer did the following scenarios summarizing the different approaches:

Key questions	1st scenario	2nd scenario	3rd scenario
What images for a sustainable future?	A science and technology driven future	New relations with a nature driven future	A social change driven future
What images of the teaching-learning process?	Learning as result of the transfer of correct information and strategies	Learning as an individual challenge, teaching as a facilitation process	Learning as a social process, teaching as an introduction in democratic dialogue
What images of school development?	School as an 'ecological' enterprise	School as a family	School as an 'educational research' community

Reduced version of table in Mogensen and Mayer (2005: 91)

3 The Eco-School Programme

Although the Eco-school approach has an emphasis on environmental management of the schools, it does not solely belong to the first scenario but includes elements from all three approaches. The Foundation for Environmental Education (FEE) is the international umbrella organization coordinating the Eco-school program. At their homepage they present the Eco-school programme in this way:

> Eco-Schools is an environmental management, certification, and sustainable development education programme for schools. Its holistic, participatory approach and combination of learning and action make it an ideal way for schools to embark on a meaningful path for improving the environment in both the school and local community, and to influence the lives of young people, school staff, families, local authorities and NGOs.
>
> The Eco-Schools programme involves seven steps that any school can adopt. Steps involve establishing an Eco-Schools Committee to encourage and manage the programme; providing environmental curriculum to students which includes hands-on opportunities for students to improve and empower the school and community; and developing an eco-code which outlines the school's values and objectives alongside student goals.
>
> Schools are evaluated after a period of participation and successful schools are awarded with the Eco-School's Green Flag.
> (http://www.fee-international.org/en/menu/programmes/eco-schools)

The Danish Eco-school programme—Green Flag Green Schools (GFGS)—was founded in the 1994 and is as such one of the eldest national Eco-school programmes. Today it comprises more than 200 schools. The Danish Outdoor Council, an umbrella NGO, is hosting the coordinating GFGS secretary and the Danish Ministry of Education has provided the funding for this. The GFGS secretary has furthermore been partner in RCE-Denmark—a national network of professional institutions or agents working with ESD. It was this network that enabled the cooperation between Aarhus University and GFGS to start up an evaluation process in order to inspire for innovation of the GFGS approach.

4 Research Methods

The study has been conducted as a first part of an evaluation process of the Danish GFGS programme. We have applied a realistic evaluation methodology in order to focus the evaluation on what works, for whom and under which circumstances (Pawson and Tilley 1997). We will not present the entire evaluation in this article but draw on interviews with teachers and school leaders at four schools with long experience as GFGS. Furthermore, we also draw on a group interview with members of the GFGS secretary and on documents describing GFGS in Denmark. The interviews have covered organizational issues as well as teacher experiences with working with GFGS and student learning outcomes.

Eco-school's Seven Steps to Sustainability

1. Eco-schools Committee
2. Environmental Review
3. Action Plan
4. Monitor and Evaluate
5. Curriculum Work
6. Inform and Involve
7. Produce an Eco-Code

Our empirical material has been interpreted in dialogue with theory and it should be emphasized that the outcome of this is not some kind of instrumental lessons from the Danish case which immediately can be applied elsewhere, but theoretical generalizations which hopefully make sense and can support more specific analyses and developments in many different contexts.

5 The Time Perspective

As already indicated, a key perspective arising from this empirical material is related to the time-dimension. There is no doubt that GFGS has been successful. The very clear and concrete concept with 7 steps to take before the schools are certified as green schools and receive a green flag has enabled schools to start up processes with active involvement of the student in environmental improvements in the schools and local surroundings. The green flag is a strong symbol of this joint process and creates an identity motivating for not abandoning the new green practices. However, time is a challenge. How do the Green Flag Schools maintain the dynamic needed for moving forward? In the following analysis we will divide this question into two related parts. The first, deals with the dynamics of the internal-school process. In this internal time perspective we address the question about what happens after the schools have received their green flag certificate and how it can cope with the challenge of keeping the process going? In the second part, we apply an external time perspective by looking at the dynamics arising from the fast changing world around the schools. The key question we address in this perspective is whether the GFGS concept, born in the early 1990s, still is up to date, or whether it is possible to innovate it to fit better into the present time without losing its clearness and strengths? In the final part, we look across the two analyses and sketch a way forward that might strengthen the educational ends and enable a stronger involvement of all school disciplines.

6 Time—The Internal School Process

The commitment to and management of the green flag Eco-school program varies immensely from school to school and especially over time. Across the different schools that are part of this study it did however start off with great enthusiasm. Whether the initiative to join the Green Flag program came from the school administration or teachers with special interest in the topic the process up to acquiring and finally being able to raise the green flag is described as an enthusiastic process, with the symbolic manifestation of raising the flag as a special event for both children and teachers. The actual process of meeting the quite stringent standards that forms the basis of acquiring the green flag often involves both teachers, children, administration and the technical personnel at the school and does as such offer a unified focus on the green flag as a shared project. Some of the schools involved in this study have however been part of the green flag program for several years and they describe how the enthusiasm they started out with can fade over time as the flag raising becomes a distant memory and the hard work of actually incorporating the Green Flag principles into the everyday workings of the school and documenting the process becomes a chore rather than something new and exciting.

The explicit goal of the Green Flag program is to remain an open and dynamic framework that enables the schools to find their own approach and adjust their level of engagement so that it suits the specific potential of each school. Our study shows that the overall opinion of the Green Flag program is positive and applauds the possibilities for including issues related to climate change and sustainability into the teaching and the organization of the school. There is however also a marked frustration to be found related to a perceived over time rigidity of the green flag program. As a teacher responsible for the Green Flag program at a school argues:

> At times we find the criteria for the green flag school a bit too specific, focused and unrealistic. In many cases we have already done what they demand. The Green Flag Program could be better at acknowledging what already have been done. There is a great difference in constantly trying to start something new or maintain and develop what has already been established. GFGS does not distinguish between this. As we understand and interpret the rules we have to establish something new every year. You can only establish something new to a certain extent. We have planted a lot of new trees, and we will not plant more trees in the middle of our soccer court. That is why we do not participate in all the different themes that GFGS launches, but pick those that fit into what we are doing and sustains our focus.

The danger might be that schools that have been involved in the program for a longer duration to a lesser extent find that the Green Flag programs offers much of relevance to them, or worse, feel themselves pushed into a position where they have to go through with projects that they already have been through or that they do not find fitting for their context. This does as such not collide with the Green Flag programs vision about being a loose framework for the activities of the schools. The problem arises when the schools lack the resources to navigate within this framework and over time find themselves pushed in a direction that they find less appealing and interesting to the activities at their schools. While the Green Flag program might be a central focus point of the whole school when it is introduced, over the years it needs to compete with other projects within the schools and at times loses out if it does not manage to remain relevant for different subjects and addresses up to date issues. A teacher argues that it might strengthen the program if there was a greater focus on the time perspective and the different needs of a school that has just started within the program compared to a relative veteran:

> In relation to the different initiatives that are announced by the program, it might be possible to differentiate more clearly between the process of establishing the program at a school, maintaining the effort and ensuring that the effort remains strong well into the future. That would also emphasize a more flexible process. That would make for a greater diversity in relation to meet the criteria that is put forth by the Green Flag program.

The teachers we interviewed like the Green Flag program, but as time moves on and new agendas grab the attention of both teachers and administration the lack of differentiated efforts towards new and more seasoned schools in the program makes it harder to integrate on both an organizational level, and ultimately in the classroom teaching.

The whole school approach embedded in the Green Flag Eco-school program emphasize the importance of an ongoing focus on the issues linked to environmental, climate and sustainability issues. Several of the schools involved in this study have worked hard to incorporate the different focus of the program into the whole range of subjects taught. Some schools work with a special 'green flag' project week during the run of the school year, where the whole school focus on issues lined to the Green Flag program, others try to ensure that environmental and sustainability issues are part of the curriculum throughout the year. At one school they work in teacher teams who take turns at instigating GFGS activities:

> The teachers at this school work in teams. We plan five activities in the team and discuss what should happen. We do not necessarily focus on a science topic. We focus on the good story. These stories must be linked to the green flag. It is very much up to the individual teachers or teams whether they want to have a specific approach. At times we choose a green flag approach, at other times we choose an approach that links with science in other ways.

At most of the schools, the green flag contact person would also be a science teacher. This offers certain advantages in relation to anchoring the project within the field of science teaching. It does however at times make it harder to spread it across other subjects as the program runs the risk of being pigeonholed as something primarily linked with the natural science teaching and less with subjects focusing on language, society or culture. Again the time perspective is important as the Green Flag program has an easier time bringing together teachers across the curriculum in the start, and then later on the program becomes the pet projects of a few science teachers with limited traction among the rest of the teachers. As a teacher stresses, it is hard to summon enthusiasm for the program across the range of different subjects, especially linked with the issue of an ever crowded curriculum.

> It is hard getting 100 % of the program communicated to everybody. Somebody must be into it a bit more. Those who have been involved for a longer period find that it is the usual few that do all the work. Not everybody shares the enthusiasm for the Green Flag program. The team needs to decide who is in charge, or it ends up with nobody in charge.

The work of the very enthusiastic persons, who often vitalize the startup of the project at the schools are evident at all the schools involved in this study. These dedicated teachers, school principals and parents often initiate a wide palette of activities, facilitate important processes and engage with the GFGF topics in new and creative ways. The challenges linked to this very enthusiastic approach does however pose a risk to the long-term resilience of the Green Flag program at the individual schools. The risk of burning out, the potential lack of ownership from others who are not part of the very enthusiastic in-crowd and potential lack of resilience of the project are all issues that pop up when the teachers discuss the involvement in the GFGS program and how one or a few individuals often carry the main load on their shoulders. These issues are especially evident when related to the work that must be done to document that the school still lives up to the strict standards of the Green Flag program. Each year somebody at the school

must document the activities during the school year linked to the Green Flag program and explain how these activities justify that the school can raise the flag yet another year. This crucial job often ends up in the lap of those few enthusiastic teachers, unless there is organizational support to appoint several people who take the charge for this. As one teacher explains:

> The commitment often stops when it comes to the documentation. That makes the documentation some of the hardest work related to the Green Flag program. Our experience shows that you really need to drag people in to do the documentation, and if it does not happen relatively fast after any given activity then it becomes much harder. It is very important with the documentation, and because of that it is extremely important that we have an appointed representative from each year that takes the responsibility.

As such continued organizational support and a focus on a broad involvement from teachers seem to be necessary in order to avoid the Green Flag program to become stagnant or something that is only brought up in a few select subjects where the teachers link the program with science-topics. As stated by the Green Flag program the point is not to herd the schools into a specific approach, and at the same time the point of the project is not to facilitate simple knowledge transfer. If the emphasis of teaching linked to the program is convening "truths" about science agendas, waste management, recycling or water consumption then the projects fails to live up to the whole school approach that lies at the foundation of the program. If an enthusiastic beginning over time stagnates into a few yearly lectures in sciences subjects and the program fails to find its way into art, music or language subjects then a greater focus on these issues needs to be incorporated into the program. As a teacher argues:

> The green flag often gets a very natural science focus and it is of utmost importance that the project addresses all subjects! If we reduce the green flag to something only focusing on nature and technical issues, then it does almost not matter. It is important for us that the green flag is a pedagogical effort and not only a technical one.

It might be possible to engage with a large part of a school in the heady early days of a project, but as time marches on, so must the effort to engage with a broader range of subjects and ensure that the organizational support for a cross-curricular approach is strong and dynamic.

7 External Time Perspective: Trends and Agendas

The GFGS concept has not only to be reflected within an internal time perspective but also with regard to influences of new trends and changes in agendas outside the school. In the following we do so by looking at some general changes in environmental and sustainability agendas as well as in educational and socio-economic policies and related practices.

The Eco-school approach was constructed simultaneously with a shift in environmental policy and management in the North-Western part of Europe. This shift

has been described as an 'ecological modernisation' which has been characterised as a discursive move:

- from a react-and-cure environmental regulation towards a more innovative anticipate-and-prevent strategy
- from a focus on waste to focus on production and consumption
- from a conception of the relationship between economy and ecology as a contradiction to a conception of it as a win-win relationship
- from ecological sustainability as a pressure for regression to a crucial vehicle of technological, institutional and economic progress
- from environmentalists as enemies to an emphasis on stakeholder participation and consensus based partnerships.
  (cf. Hajer 1995: p. 26ff; Dryzek 1997: p. 143ff; Læssøe 2010)

In an ecological modernisation perspective, producers, consumers and all other agents should participate and do their bit in a joint effort to transform the society towards environmental sustainability. However, although it aims at involving all agents, it is still an environmental management strategy taking the point of departure in environmental problems and in techno-science solutions to these which afterwards should be implemented in the society by policy means to motivate market agents and consumers to act.

At the global scale, the ecological modernisation discourse influenced the Earth Summit in Rio in 1992. At this summit the Agenda 21 action plan on sustainable development was adopted and education became for the first time a main part of this new global agenda. Agenda 21 can be argued as a set of normative goals to push forward ecological modernisations at the local level and it emphasized the importance of citizen-consumer participation. Not only in Denmark but in many other countries local communities and governments established local Agenda 21 groups during the 90s.

The Eco-school rose and became a part of these two optimistic trends towards environmental sustainability. The approach reflects the same focus on progressive environmental management involving all in doing their bit in their households and local communities. At least in some countries the situation in the education sector in the 90s enabled the Eco-schools to influence the general way of understanding and doing something related to environmental sustainable living in the school setting. The Danish public school changed to a new school law formulated in 1993. For the first time it included an environmental dimension that even today is a part of the aim: "…*contribute to their understanding of the interrelationship between human beings and the environment*…". It was clearly that every school now had to work with environmental themes. In this educational act 'environmental' means green and nature. Later the more complex concept 'sustainability' was implemented in the curriculum. But like environment, sustainability only was included in natural science subject like geography, physics and, what in Denmark is called "Natural science/technology" in form levels 1–6.

The ideas of ecological modernisation, as well as local sustainability initiatives and Eco-schools, are still alive. However, the situation in the world and our

societies are somewhat different today than 20 years ago. We do not attempt to make a comprehensive analysis but will draw attentions to some of the later happenings and trends that we find important in relation to the Eco-school approach.

First of all, climate changes have been so manifest and warnings against future climate changes so strong, that it is perhaps the most important issue of our time. In face of the challenges of climate change, it has been obvious that not even such risks can bring the world together in joint efforts. Rather than the ecological modernisation vision of a consensus based and frictionless path towards sustainability, disagreements and struggles marks the policies and public debates about climate change (Hulme 2009). This is partly due to the fact that climate change is not a separate crisis but interlinked with several other 'grand challenges' of the globe (food, resources, security, powerty, health and economy). As this has been acknowledged, it has caused a request for more integrative and transboundary strategies not only at the global level but also at the local level where it is obvious that climate and environmental policies involving production, governmental policies and household practices to a large extend cannot be separated from socio-cultural and economics issues. After many years where Local Agenda 21 efforts have been marginal and gradually lost their mobilizing effect after the first low hanging fruits have been picked (Læssøe 2007), the ecological modernisation vision needs a revision in order to accept and cope with disagreements and to develop ways forward integrating environmental, socio-cultural and economic perspectives. Attempts to move in the direction of such integrations of perspectives can be seen in many bottom-up initiatives today, and our point is not that local efforts are outdated but that they have been moved and/or need to move to follow the changing time and conditions. This move is not only about integrative efforts at the local level but also about the relation between the local and global. Climate change has challenged the typically very local focused Agenda 21 efforts and stressed the importance of stronger local-global interaction, not least in a social justice perspective (Lotz-Sisitka 2010).

While the climate changes push us to think and act in more integrative ways, the economic crisis in huge parts of the world from 2008 has pushed the agenda in another direction, namely towards a green growth approach. This was for example strongly visible at the Rio+20 Summit in 2012. In many respects the green growth approach, with its emphasis on the potential of linking economic and ecologic development, concords with the basic ideas of ecological modernisation. However, it represents a move towards a stronger focus on innovations in the production and market sphere and less focus on cultural and value oriented transformation with citizen-consumers as active drivers. In some countries this green growth agenda has already caused a shift in educational policy away from a comprehensive competence oriented approach to Education for Sustainable Development towards a focus on training of market related green skills giving priority to science, technology, engineering and mathematics (STEM factors).

Green growth is just a part of a general change in governmental policies. Influenced by a changing world order and new economic challenges, new

paradigms of economic management has strongly influenced educational policies and hence the conditions for Eco-schools. National policies, in relation to Eco-schools and ESD in general, have been approached by soft governance tools like consultations, networking support, consultant support etc. According to a recent international study these governance tools are not only soft but also too weak in most countries to enable more than sporadic changes (ibid). Policies in this sense aim at enabling changes by means of norm supporting structures (Wickenberg 2004). However they are at the same time challenged by norm hindering structures, like existing curricula only leaving minor spaces for changes, lack of in-service training of teachers, lack of time for innovative experiments etc. According to Wickenberg there need to be not only a knowledge and value oriented norm support but also system support if schools should be able to develop, implement and maintain new ideas like the Eco-school approach (ibid p. 111). However, the development of educational policies has moved in the opposite direction and increased norm hindering structures.

The soft governance structures have evolved simultaneously with a hardcore 'competition state' approach (Pedersen 2011). This approach is characterized by a new public management (NPM) focus on streamlining efforts to gain measurable outputs (Fatemi and Behmanesh 2012) and it has been combined with an even stronger economic dominated Neo-Weberian governance approach to achieve cost reductions and economy of scale (Pollitt and Bouckaert 2011).

The NPM has influenced the whole school system in several ways, first of all the management of the schools. In Denmark, the school system was decentralized in the beginning of the 90s and since then the school principal has got more and more power to organize and influence the teacher's work. The trend has gradually been a more top-down management of the schools in accordance with the new economic management paradigm. Schools are now perceived as competitors within a limited economy framework provided by the local municipality.

Secondly, this change has influenced the way teachers manage their time for preparing lessons, meeting the children and organizing their work. Rather than promoting engagement it has changed their attitude towards a salary-orientation and keeping working hours within the norms. Teachers who want to engage in sustainability issues, not only in their different subjects but also in a whole school perspective, have to argue for it among colleagues and especially in front of the principal. In a professional management view this seems reasonable, on the other hand does it impede teacher engagement and thus increase the burdens on the most enthusiastic teachers who risk burning out too fast.

Thirdly, the content of the teaching has changed in accordance with the new competitive knowledge economy. With the international comparative PISA test system teaching has been stronger focused on tests and exams and given less priority to generic competences. Sustainability related themes might be a part of some special subjects and might become a theme for a special week event in the schools but these pioneer examples tend to be more individual based on single teachers and events instead of a more system-wide or school broad approach.

A final trend to be highlighted is obviously the UN Decade of Education for Sustainable Development from 2005 to 2014. Looking back at the decade in Denmark, we can on the one hand conclude that it has been a marginal phenomenon with only minor effects on school practice. On the other hand, it has given rise to sporadic development projects and networks moving the visions and ideas for education in relation to sustainability forward. With the coming UN Global Action Programme for ESD, and whole school institutions as one of the five priority areas, it might inspire GFGS Eco-schools to open and be part of this more comprehensive approach to sustainability.

There are no simple conclusions or right solutions to the above presented trends. Neither do we argue for a simple affirmation of the Eco-school approach to the current discourses and agendas. It is, however, worth to consider how this 20 year old approach fits into the external context of today and to reflect on potential revisions and ways forward.

8 Reflections on Potential Elaborations of the Green Flag Eco-school Approach

We will now take a look across the analyses of the internal and external time issues and try to explore potential ways to cope with the identified challenges. That is, we will address the question whether it is possible to make the GFGS approach more dynamic without losing its qualities regarding identity and clearness?

We will not challenge the idea of a flag symbolizing the certification of the school for its efforts. However, it is worth considering the criteria for getting the certificate. It is not unusual with green certificates based on measures of progress rather than standards. It is a way to enable the process to keep dynamic over time. The risk, compared to certificates based on fulfilling a certain set of standards, is that it may cause a backlash in the sense that green progress easily becomes delayed by external factors like economic grants, technical difficulties etc., meaning that the flag risks to be taken from the school in spite of its efforts. This will indeed be heavily disappointing and counteract further progress. An alternative to this might be to change the certificate from focused on environmental management towards a certificate also based on some kind of documentation of educational progress. This could potentially reduce the described frustrations of spending time on environmental documentation in an already busy school working day and, at the same time, add a new type of criteria motivating for continuing educational progress in relation to green or sustainability issues. This, obviously, raises the question of how to measure such progress? As we are critical to generic prescriptive approaches to environmental and sustainability education because this area of education to a large extent contains issues marked by complexity, uncertainty, dilemmas and political choices (Scott and Gough 2003), we prefer to think

of documentation of progress as a demand for a continuing action research process. This implies that each school regularly should report how they have developed their educational plans, tried them out in action, reflected on the process and learning outcome, and on the basis of the new insights developed new plans etc. (McNiff and Whitehead 2005). Ensuring and documenting such a process, we presume, will counteract the described idling problem, occurring after the first years, and appeal better to the entire staff of teachers as well as keep them interested.

In our analysis of the Green Flag Eco-school approach in an external time perspective we highlighted the dissonance between, on the one hand, the ecological modernistic environmental centered view and its emphasis on consensus and technical optimization and, on the other hand, the idea of involving the whole school in such a green transformation. The GFGS becomes easily delegated to the science disciplines and the technical staff responsible at the schools and thus disintegrated in the other school disciplines and among the teachers responsible for these disciplines. A potential way out of this problem might be to update the Eco-school concept to bring it in accordance with the concept of sustainability with its stronger focus on sustainability as a matter of ecological, social and economic transformations. It might provide a better framework for the whole school but may also imply some risks as well. We will discuss three risks in the following.

To change the scope from 'green' to 'sustainability' risks to undermine the clearness of the approach and to overload it with all types of issues. Gough has discussed this risk in relation to the Australian 'sustainability schools programme' (Gough 2006). Her criticism is not targeted at this programme which, like the Eco-schools, is focused on environmental sustainability. On the contrary she defends it against the UN ESD-concept which she attacks for including a long list of issues covering almost everything and thus making it weak and undermining the environmental educational efforts. Although UNESCO from the outset emphasized that ESD should be regarded as a comprehensive framework which should be approached differently in different contexts (UNESCO 2005), we agree with Gough's warning. However, in our view the problem is not the concept of sustainability but the risk that it is interpreted as many separate themes covering all problems in the world. The core idea of replacing the concept of green with the concept of sustainability should be to stress that environmental challenges cannot be managed as technical issues separated from their socio-cultural and economic causes, conditions, consequences and ambitions. Today with climate as well as economic crises the interconnectedness of the grand challenges we are facing is more acknowledged than ever and the rationality of a sustainability approach to development is not to split up into items but to stress the importance of an integrative approach. This does not weaken the focus on environmental sustainability but ensures that it is not perceived as something 'out there' which we can delegate to scientists and technicians to solve. To teach students about the dilemma between sustainability and development as a matter of understanding and coping with the relations between ecological, economic and socio-cultural optics on life does not only mean to include economic and socio-cultural perspectives when dealing with ecological issues but also to include ecological perspectives when dealing with

economy and socio-cultural processes. This may not only qualify transformative actions but also enable transboundary interactions on policies, technology-development as well as plans and projects on micro-level. In relation to whole schools it will provide a framework that is more holistic in the sense that it does not embed the approach in the science disciplines and invite other teachers to participate on that ground but enable a more regular involvement of teachers covering other disciplines and perspectives.

One of the biggest challenges of facilitating learning on sustainability issues is definitely that it easily becomes very complex and abstract. Hence, an objection against replacing 'green' with 'sustainability' is the risk of destroying the clearness and concrete character which we have emphasized as one of the strengths of GFGS. Although this is a risk, we do not find it impossible to prevent it. It depends on the pedagogical approach. To a large extent in line with the tradition of home economics and education for responsible living, we will stress the opportunities in taking the point of departure in concrete every day (consumer) practices and products. This has been called 'exemplary learning' as every concrete example can be used to explore generic issues (Negt 1968). The complex and abstract issues of sustainability are represented in what we do, consume and produce. The history discipline could help students to explore how this, for good and bad, was done otherwise in other times. And geography could help them to explore about how people in other cultures do it today. Indeed practices and products in the school and local community can be deconstructed and reflected in the same way. Not as organized in topics like water, waste, energy etc. but as spaces, artefacts, phenomenon or practices that become investigated in multi-perspectives and reflected in critical-utopian ways as an inherent part of a sustainable future orientation. It can both include practical training, reflections on hidden values, reasons, dilemmas, decision making and consequences of our doings. Put into a sustainability framework such kind of exemplary learning will not only explore the constructions of our practices and products but do it with an awareness on the ecological, socio-cultural and economic implications as well as with an orientation towards the future and potential alternatives to existing practices and products. In that sense it becomes life skill education in a more explorative, experimental and future oriented sense than in the tradition of home economics (Muster 2013).

Is it realistic? Not in the sense that several reports have confirmed that ESD only is a marginal phenomenon in schools around the world due to a number of obstacles like mono-disciplinary structures, exam-orientation, lacking teacher competences, missing supportive structures etc. (cf. e.g. Læssøe et al. 2009a, b; Wals 2009; Gross and Nakayama 2010). There are indeed serious obstacles that must be solved otherwise. However, an update of the Eco-school concept might help to empower them in countries where they have existed in many years and now are facing decreasing engagement. At the same time, it is a strength of the whole school approach that the single schools can work for improvements step by step. In that sense we believe that a revision of the approach like we have indicated here might open for innovations.

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Envisioning Literacy to Promote Sustainable Wellbeing

Home Economics Perspectives

Kaija Turkki

Abstract Sustainable wellbeing and development can be seen as the ultimate goal of all human activity. It challenges us to strive for holistic frameworks and integrated approaches to discover the core phenomena and processes embedded in our daily lives and guiding us as consumer-citizens interconnected with our numerous human roles. This conceptual and theoretical research will reflect on the concept of literacy and literacies, and inquire how these might extend our understanding of the complex phenomena of sustainability and wellbeing. Literacy can be defined as 'a tool and a process to position, to build relations, and to communicate with our environment and the world'. These elements will be considered in relation to home economics/family and consumer sciences, and their positioning in changing societies and educational settings. Envisioning the future, including our future collective intentions, will guide the article, as will the rich resource base created under CCN and PERL's efforts to promote responsible living.

Keywords Literacy · Sustainable wellbeing · Home economics · Envisioning the future

1 Introduction

This article is based on longstanding research relating largely to the body of knowledge of *home economics, family and consumer sciences* and *human ecology*. The research has deep roots in the national development work concerning teacher education and curriculum planning in Finland, but the discussion has penetrated various international forums and has contributed several statements and agendas (Benn 2000; Smith et al. 2004; Arai and Aoki 2005; von Schweitzer 2006; IFHE 2008). Common to this multi- and inter-disciplinary area of study and research

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_11

in different domains is a focus on human actions in everyday life in various surroundings, and being committed to different human roles. Critical attention has been paid to the presence of choices, responsibilities and actions as interlinked elements. It is very much a question of how we as human beings relate and communicate by our interactions with different environments and the changing world. In this regard, economics, technology and globalization are central and often debated themes. Systems thinking as a key approach in human ecology and as a basic theoretical foundation for home economics also has an important role to play (Vaines 1994, 2004; Turkki 2004a, b). According to Hämäläinen and Saarinen (2007), the systems thinking movement has developed powerful methods to represent and model the functioning of wholes, and has provided instruments to conduct rational and scientifically sound analyses and discussions of these. Hämäläinen and Saarinen (2007) also argue that it is necessary to develop an ethics of the whole, and modes of being in the world based on interdependence, relatedness and connectivity, as opposed to fragmentarism, separatism and isolationism.

Wellbeing and sustainability have been widely debated, but far too little attention has been paid to the underlining processes that determine the consequences of human actions. This has been true in the field of home economics, and family and consumer sciences as well (Turkki and Vincenti 2008). Most of the elements and processes above inform that our daily lives and necessities (i.e. food, housing, clothing, safety and care) are strongly linked to, and affected by, diverse systems of nature, culture and society, and our approach to Human ecology involves sorting out these complex dynamics. There is a need to reflect on the surrounding structures and redefine key concepts. In recent decades huge efforts have been made to raise international discussion on these issues and to develop policies that clarify and improve the situation, as well as to analyze educational and research practices to determine if they are serving their objectives. This has resulted in many conclusions and declarations (IFHE 2008; Nickols et al. 2009; Firebaugh et al. 2010; Chen 2012; Mberengwa and Mthombeni 2012). Many examples come from the International Federation for Home Economics (IFHE) including its regions (USA, Asia and Africa). The IFHE Position Statement 2008 (see Fig. 1)

1.	The IFHE Position Statement 2008; the grounds for the body of knowledge	*(Sec 1)*
2.	Four dimensions of Home Economics (Turkki 2004)	*(Sec 1)*
3.	Home Economics – Our relation to the World	*(Sec 3)*
4.	Home Economics and Global systems	*(Sec 3)*
5.	The Home economics frame for global learning	*(Sec 3)*
6.	Home Economics Research – WHAT – WHY – HOW ?	*(Sec 3)*
7.	Defining Home Economics Literacy – Human Ecoliteracy	*(Sec 5)*
8.	Life-supporting circles as tools for Home Economics	*(Sec 5)*
9.	Positioning multiliteracies within Home Economics	*(Sec 5)*
10.	Bringing Human Dimensions and Everyday Life Activities to the Forum	*(Sec 5)*

Fig. 1 The IFHE position statement 2008; the grounds for the body of knowledge

focuses on the future proofing of the home economics profession, describes the essential elements required, and defines the focus area, the knowledge base and grounds for new knowledge, in addition to positioning home economics professionals in society. The full document was processed within four years through global consultation including professionals of all ages (Pendergast 2008). The process has been an interesting learning experience and a reminder of the limitations that may be embedded in our educational and research structures. As a following step, in 2010 an international call was made for articles reflecting recent professional developments related to the IFHE Position Statement and global megatrends. The edited book, entitled *Creating Home Economics Futures—the Next 100 Years,* was published in 2012 and includes promising articles from around the world featuring the new thinking (Eds. Pendergast et al. 2012).

Real change cannot been reached if people themselves cannot see the interconnections in their daily lives or are unable to commit to the issues in hand. These starting points and questions are very much present in the discussion paper launched by SITRA in 2013 entitled '*Towards a Sustainable Well-being Society*' (Hämäläinen 2013). Sitra is a public interdependent organization operated under the auspices of the Finnish Parliament (www.sitra.fi). Sitra challenged us to search for new perspectives on ourselves and the world around us. In Sitra's framework, the natural environment provides the foundation and boundaries for all activity, while the economy and government are the instruments, and civil society—through diverse human roles—is a key resource for pursuing wellbeing, our ultimate goal. Sitra believes the main objective of change processes should be to ensure the sustainable well-being of both current and future generations, including economic, social and ecological sustainability, as well as the wellbeing of individuals. This is one national research based example to invite and integrate individuals in their various roles as essential actors in order to improve the situation together with policy makers, the market sector and civic society. This is a very relevant appeal to address and continue the discussion. I see Sitra's holistic and integrated framework together with the fundamental discussion on the key concepts and approaches to sustainable wellbeing is as valuable resources for envisioning literacy (Hämäläinen and Michaelson 2014). This will be reflected on in concluding chapter.

Due to the quite fragmented history of the profession of home economics, the present research has paid much attention to how to define and focus on the basic phenomena of our daily life. From early on it proved important to include different fields of practice in the search for the qualities of wellbeing. Home economics has deep and multiple roots in society. Four dimensions, or fields of practice, of home economics have been identified, and the qualities of home economics discussed in this article are a combination of these. Together they characterize home economics as a holistic and integrated entity having deep roots in society (Turkki 1999a, b, 2004a, b). The four fields of practice are as follows: home economics *as a university discipline*, *as a school subject* (or teaching area), as an arena of *our daily life in households and families*, and as *a societal arena* including both policy issues and our roles as consumers and citizens. This framework has recently been

adopted to structure and guide the work of the profession also at the international level (see www.ifhe.org), and clearly reflects the activities of the PERL network.

The special aim of this article is to reflect on the concept of 'literacy/ies' and introduce some integrated frameworks that can strengthen our knowledge base and further guide our research and teaching practices in order to promote responsible living and sustainable wellbeing. The article includes five sections. Section 2 defines our 'Research into Home Economics and Responsible Living' including key discussion platforms. Section 3 introduces selected conceptual and theoretical frameworks that demonstrate the background thinking. Section 4 demonstrates Human Ecology and Literacy as unifying themes and fundamental approaches to sustainability. Section 5 reflects on 'human ecoliteracy' as a new concept and powerful tool. Section envisions sustainable wellbeing and celebrates the achievements of the CCN and PERL networks.

2 Research into Home Economics and Responsible Living

Research into Home Economics and Responsible Living has a history since 1990 when home economics was accepted as a new major in the degree programme for home economics teachers at the University of Helsinki (Turkki 1992). The basic degree was Master's level, including the right to apply to Ph.D. programmes under this major as an option. It was an important step in strengthening the research and constructing university teaching based more on research and tracking the changes in society. In 1991, Finnish home economics teacher education celebrated its 100-year anniversary. This raised awareness of our roots, and resulted in valuable research that described the early stages of teacher education and home economics as a field (Sysiharju 1995). The first doctoral dissertation in home economics was defended in 1996 by Liisa Haverinen under the title: *Mastering everyday life as a goal for household activities* (Haverinen 1996). She created a model that helped us to redefine human action in everyday life as an integrated knowledge base guiding the plurality of our subject matter. Havarinen's research is a successful example of new concepts and frameworks pertaining to our daily life, with clear impacts on the national home economics curriculum (National Board of Education 1994, 2004) and university degree programs. Finally, in 1999, a permanent professorship was established, with the clear objective of carrying out research on home economics and the everyday practices related to households and families from a holistic perspective. This challenging task together with promoting international discussion (see Turkki 1999a, b) obliged us to pursue the same research themes while striving for more holistic and integrated frameworks, binding us more closely to the educational and human sciences. *The overall mission of this research programme has been to build a strong basis for the discipline at the conceptual, theoretical and methodological levels, and to respond to the varied discussion of home economics/family and consumer sciences in national and*

international forums. Over the years several themes and projects have expressed the key concepts and focal areas, as follows:

- Home Economics as a Discipline and Science 1990–,
- Home Economics in Process 1992–2002,
- New approaches to the Study of Everyday Life 1998—theme of the conference,
- Rethinking Home Economics—USA-Finland-Japan 2004–2008,
- Home Economics and Global Education 2006–ongoing,
- Home Economics in Transition—Education for Sustainable Everyday Living 2006–2010,
- Home Economics as a Forum for Global Learning and Responsible Living 2011–2013,
- Home Economics Literacy and Future Envisioning 2013–ongoing.

During the first years the emphasis was on the university discipline, and this informed the selection of themes. Most widely used was 'Home economics as a Discipline and Science'. This has made it easier for us to position ourselves in academia, and to successfully respond to the quality assessments which were introduced as new activities in higher education during those years. In a period of great academic transition this has been an important capability. We created a proper language and clear structures to introduce our work. Focusing on everyday life in families and households and their daily practices has been a key driver and has guided most of the research over these years. Practice has also been added to the main framework of the project as a key indicator. The overall goals of the research have been as follows: (1) to re-examine home economics in order to raise it up as a valuable tool to address present and future society > *focus on concepts and phenomena*; (2) to reanalyse the basic phenomena of everyday life in households and families and look at how they relate to the changing world > *focus on processes*; and (3) to rethink our educational and research agenda as to whether they best serve the profession and society > *focus on structures*. These three goals are interrelated.

This home economics research programme was structured according to three intertwined themes. These themes (a–c), and some key research questions are listed below. Some of the basic frameworks and tools for describing the research achievements are introduced later in the figures. Most are the results of this research programme and many have deep roots in the historical knowledge-base of home economics in Finland and internationally. The discussion and debate between Finland and international forums has been continuous. Uniting the notions of 'history' and 'future' as essential dimensions has proved to be a successful choice to guide the research. Futures education and futures research share many common interests with home economics, and the discussion on futures research as an academic field was very much debated during the early stages of this project (Vapaavuori and von Bruun 2003). Since then, I have been an active member in The Finnish Society for Futures Studies, allowing me an inspiring forum to reflect in.

2.1 Conceptual and Theoretical and Frameworks

Research Questions:

- What is *home economics*?
- What can we learn from our 100-year *history*?

2.2 New Approaches to the Study of Everyday Life

Research Questions:

- How do we understand *practice* in home economics?
- What is *human action* in everyday life?
- How do we build *integrative* and *holistic* views of everyday life?

2.3 Rethinking Home Economics—Future Trends and Directions

Research Questions:

- What are the *dimensions* of Home Economics *in society*?
- How do we *build the future* through home economics?
- *What is global education* and education for *global responsibility* in home economics?

The research programme includes both theoretical discussion based on the literature and empirical data collected mainly from home economics students, teachers and other professional bodies related to the field. Research frames and objectives take different approaches to home economics, and are based on a variety of research methods. Understanding the history of the field has a special position in this research programme. The centennial celebrations in Finland (1991) and around the world have resulted in important analyses of similarities and differences. Similarities inform the essence of home economics, and differences to a great extent the way in which home economics is positioned in society. Many suggestions for new concepts and frameworks have been introduced and debated.

Over the years several university courses have been introduced, material has been provided to teachers, work has been done on the national home economics curricula and contributions have been made at policy levels. The Parliamentary support group for home economics was established in 1993 (Dromberg 1997), and we celebrated its 20-year anniversary in November 2013 by arranging our annual seminar as a unique networking activity. There has been a strong striving for the international input partly because the field of home economics in

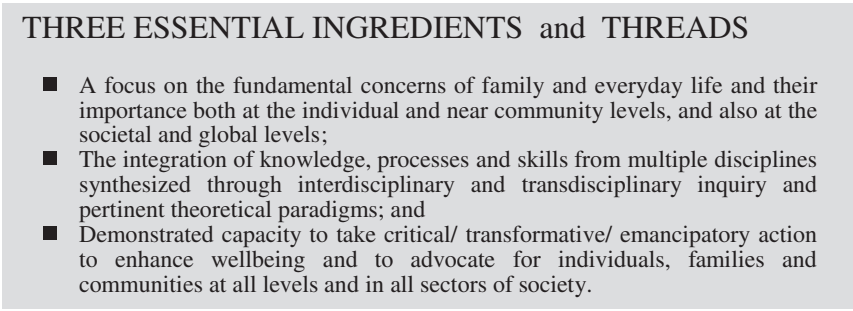

Fig. 2 The four dimensions of home economics (Turkki 2004a, b)

Finland was under rigorous restructuring and there were clear signs that most of the discussion was lacking conceptual and theoretical argumentation. Along with societal relevance, a key strength has been the strong emphasis on methodological issues resulting in many new approaches to better serve the research questions and frameworks of interest. This was also a commitment to cross the borders between disciplines and the areas of study providing platforms for innovative research. Alongside this research programme are several other projects, and 15 doctoral dissertations in home economics or home economics pedagogy have already expanded the body of knowledge related to all of the dimensions or fields of practice in home economics (see Fig. 2). A rich mixture of research approaches and new inter- and trans-disciplinary tools have been generated, which has been favourably evaluated by research assessments (University of Helsinki 2006).

This research programme is one discussion forum that includes and respects the diversity of everyday life, and there is good evidence that the discipline of home economics offers the potential to meet this diversity and to strive for new kinds of knowledge creation and understanding of the issues we face today all over the world. Introducing and developing the associated ideas with figures and frameworks has proved to be an efficient tool to continue the discussion with students as well as in international forums. It is a language that invites discussion and a remodelling of the figures. In this article this form of presenting is linked to the main tile—envisioning literacy—as well.

3 Conceptual and Theoretical Findings

This section introduces some of the basic frameworks created and discussed within various forums in Finland and with international colleagues in order to demonstrate the body of knowledge for home economics, and to respond to the research questions posed in Sect. 1. Relations with and contributions to society are highlighted. I refer strongly to transitions in university education and the development of home

economics teacher education in Finland. Three national forums are pointed out as examples of how to generate new knowledge by combining research, education and societal interaction. In connection with teacher education and home economics, this is a very relevant approach. First I introduce the links to the *university education* following a discussion of our *national curriculum work* in 1994 and 2004. Next I discuss the Ministry-level project entitled *Education for Global Responsibility* that I have reflected on during PERL's activities and which indicates action relating to global and futures education. These reveal clear evidence of the close relations between education, research and societal interaction that involve the functions of universities as well. They also indicate our strong commitment to work for responsible living and sustainability. I close the section with some notes on *quality assessments*.

(a) *University Education*. I am working as a main professor in home economics, and most of my teaching is based on my research and international experience. In fact, I can here introduce most of my teaching material processed during three courses under the major of home economics. With first-year students I conduct a course entitled *Introduction to Home Economics* (3 credits), followed by two Master's-level courses: *Theoretical and Integrated Approaches to Home Economics* (6 cr) and *International Discussion on Home Economics* (3–6 cr). The material is partly presented at Ph.D. seminars in home economics as well. There are two textbooks in Finnish and a new one is in production. The titles are *Home economics as a Discipline and Science* (Turkki 1990) and *New approaches to home economics education—from technical skills mastering everyday life* (Turkki 1999a), and draft title of the work in process is *The borders and challenges of home economics.* In addition, I am responsible for two optional courses based mainly on students' independent work as singles or in pairs—one focusing on history and the other on the future. The results of students' discussion are valuable resources for testing and clarifying new concepts and frameworks.

Based on critical analysis and by reflecting on the contributions of Eleanore Vaines to Finnish research in home economics, I have summarized my understanding of home economics in terms of five qualities (Turkki 2004a, b). I regard home economics as *a Human Science*, as *a Human Ecology*, as a *Philosophy of Everyday Life*, *as a Wholistic and integrated Knowledge Base*, and as a *Discipline for the Future.* This interpretation has roots in the history of the profession, and it is a clear indicator to signify human ecology as the fundamental approach, the basic theory (Bubolz and Sontag 1993; Vaines 1994, 2004). In home economics it is a question of the relations between the human being and his/her environments, including relations to nature, culture and society. Sensitivity to all nuances of knowledge and knowing is searched for. The core issue is to understand these relations and embedded processes: they serve as mediators between human action in everyday life and are connected to the use of resources and power structures including economics, technology and communications (Fig. 3). Relating our everyday actions to different systems in society nationally and globally can result in a real feeling that actually the whole

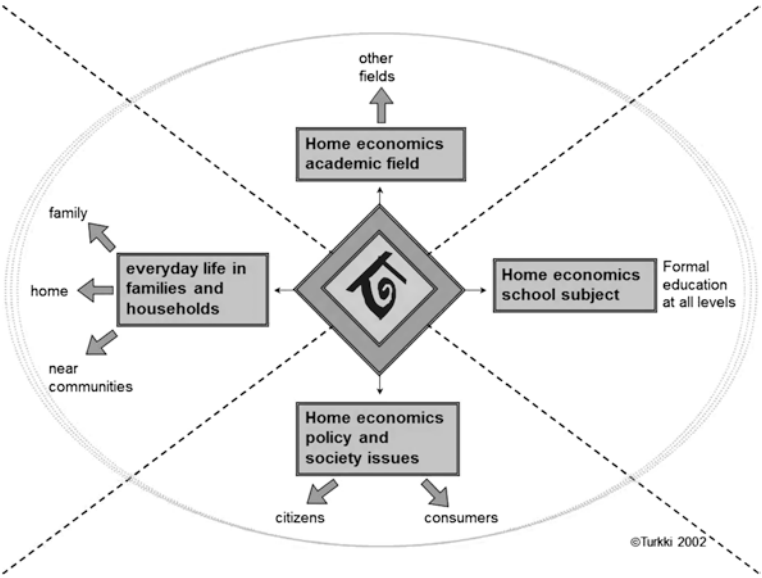

Fig. 3 Home economics—our relations to the world

world could be seen as 'my home' (Fig. 4). These findings play a central role in steering our future thinking and working for sustainability (see Turkki 2012a, b).

(b) *National Curriculum*; Home economics is a compulsory subject for boys and girls at the upper level of basic education in Finland (grades 7–9). School

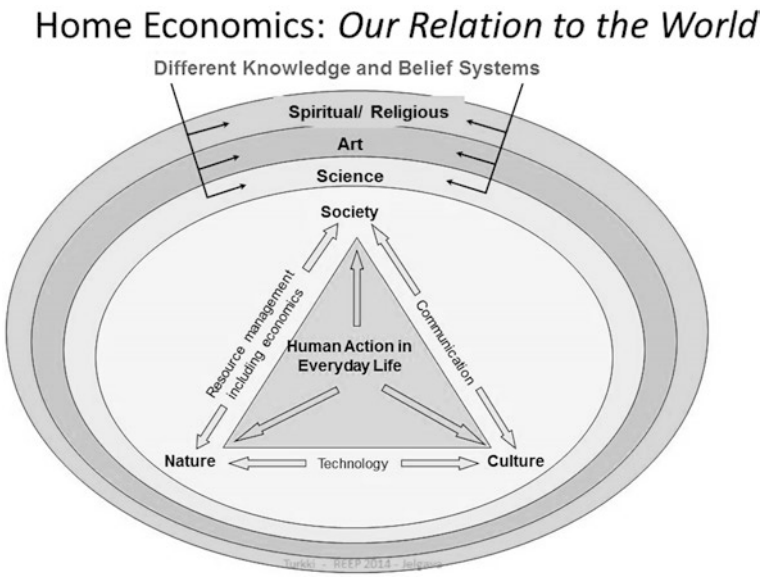

Fig. 4 Home economics and global system

education is directed by a national curriculum developed under the National Board of Education and revised approximately each decade. This programme together with most research done under home economics or home economics pedagogy have contributed highly to the curriculum work in 1994 and 2004. It is a question of creating new concepts and structures for the subject (home economics) and a question of pedagogical thinking and tools. Much attention has been paid to assessments and teaching approaches, including methods. The next curriculum is a work in process and will be finalized in early 2015. As well as home economics as a separate subject, a good deal of attention has also been paid to other possibilities in schools to improve the presence of home economics knowledge as a part of cross curricular themes, providing school lunches and other services for pupils. Important to note is the quite independent role of Finnish teachers to contribute to the local curriculum allowing them many opportunities to construct their own teaching. Much information is available in English on the webpages of the National Board of Education (http://www.oph.fi/english/). According to the 2004 national curriculum, the objective of home economics is to develop cooperative aptitudes, information acquisition ability and practical working skills in order to better manage day-to-day life, as well as the application of these in everyday situations at home, in family settings and more widely in society. The subject guides pupils to take responsibility for their health, human relations, and finances, as well as promote safe and functional environments. In home economics, pupils become familiar with many issues that are important from the point of personal and family well-being and good living. In addition, there are many possibilities to combine sustainability, responsible living and the global dimension. Home economics is known as a practical subject integrating four core contents: Family and living together, Nutrition and food culture, The consumer and changing society, and Home and the environment.

(c) *Global Education and Futures Education* are related to most education in general and an increasing amount of material and activity supports this work (Halinen and Järvinen 2007; Jääskeläinen and Repo 2011). However, there are still reasons to particularly ensure that teachers and other educators have enough competences to include these dimensions to their work and daily practices. Working with students is very much an exercise in awareness education as well. Since 2006, home economics research has been influenced by the national Ministry-driven programme entitled *Education for Global Responsibility (2006–2011).* This programme included several subthemes to engage different forums in society and resulted in numerous publications, many available free on the Internet (www.minedu.fi). The starting point was the Maastricht Declaration (2002) that defined 'global education' as citizenship education based on moral and ethical values, and invited all sectors of society to contribute (Kaivola and Melen-Paaso 2007). Teacher education and life-long learning were selected as key activators, and the main concepts to guide the programme were *media literacy* and *cultural literacy*, emphasized as core factors reflecting changing society. 'Education for Global Responsibility'

was committed to various international initiatives at the both European and international levels including the UN *Millennium Development Goals* and *UN Decade of Education for Sustainable Development 2005–2014*. The programme unites various global dimensions such as human rights and equality, sustainable development, multiculturalism, development policy as well peace and conflict prevention. A key initiative has been to request that people rethink their own activities from the perspective of global responsibility in all arenas of learning. The programme aims to raise global awareness in order to promote good life and a sustainable future.

This framework invited and challenged us to introduce our knowledge in a novel way to reveal the qualities of being *a life supporting discipline* and having *a communicative role* in society. Our multidisciplinary background and interrelated nature makes it possible to process the current realities of life in various societal arenas (Turkki 2009). Everyday life and its realities were highlighted in the final conceptual frameworks of the ministry-level project (Melen-Paaso and Kaivola 2009). The PERL publication *Learning Sustainable Development: Local Cases from a Global World relating to the UN Millennium Goals* (Schrettle et al. 2009) has served an innovative role in integrating and practicing global education in the Finnish context.

The futures approaches and global education have been our themes for years. Global education can be seen as a tool to raise us as global human beings and citizens, and I see global learning as a promise for sustainable futures (Fig. 5). In addition, many doctoral students have selected related themes and have focused their dissertations on migrant families and their everyday lives in Finland (Janhonen-Abruquah 2010) or multicultural education (Venäläinen 2010), for

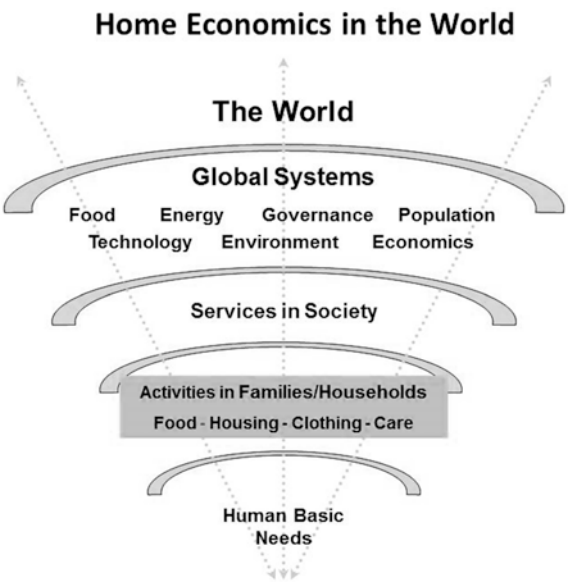

Fig. 5 The home economics framework for global learning

example. Figure 5 demonstrates and positions our everyday life and its processes in a global context and invites reflection. The purpose of this figure is to see the roles of various knowledge and learning systems as stabilizing factors and also as sources of innovation. The challenges of change are embedded. In contrast with the figure (Turkki 2012a, b), literacy has been added alongside education to emphasize the importance of communication and the communicative role of literacy.

Global education invites international collaboration. During the last ten years my most important references based on collective work have been published in Canada as a tribute to the scholarship of Eleanore Vaines (Turkki 2004a, b) and in the USA based on collaborate work between Europe and United States (Darling and Turkki 2009; Firebaugh et al. 2010). Very exiting discussions between European and Asian countries have deepened the societal analysis, particularly focusing on global change (Arai and Aoki 2005). The first version of Fig. 5 was debated in an Asian workshop on new paradigms for home economics (Turkki 2005). All of these developments together with the fundamental discussion and results in connection with the centennial celebrations of the IFHE have verified many conclusions and conceptual structures. This research was highly committed to the futures proofing process resulting the IFHE Position Statement 2008 and the launching of *The International Journal for Home Economics* with reflective articles in the first issues (Turkki 2008), and finally in the publishing of the book entitled *Creating Home Economics Futures—the next 100 years* (Pendergast et al. 2012). The book extends the discussion to all five regions of the IFHE and demonstrates the improvements and development work in a series of 14 articles. The goal of the IFHE Position Statement 2008 was to stimulate further discussion and new initiatives for the future development of the profession. We were also challenged to deepen our communication with other fields' efforts with the same aims of improving quality of life and working towards sustainable wellbeing. One of the new initiatives has been to present the concept of *home economics literacy*, and to demonstrate how it might clarify our message in various forums. This also has direct links to the United Nations and UNESCO, both of whom have been devoted a longstanding policy to promote 'literacy skills' (UNESCO 2004). This position paper calls for plurality in interpreting literacies.

Hopefully the selected frameworks and figures of this chapter stimulate discussion. The results and findings can be simplified into three categories: (1) Better understanding of the phenomena of everyday life and home economics, (2) New frameworks to structure university studies and research, and (3) New kinds of competences and ways to define our expertise. Searching for answers to the research questions (Sect. 1) involves many ontological questions (What are the phenomena like?), epistemological questions (What is knowledge?), methodological questions (How do we create new knowledge, and who's knowledge is included?) as well as axiological questions (What are the values and ethics?). Carrying out research based on several disciplines (multidisciplinary), and striving for inter- and trans-disciplinary modes is very challenging. On the other hand, it is the only way to grasp the plurality and transformative character of our daily life.

(d) *University Quality Assessments*: This research programme and the frameworks generated have been used several times as communication tools to clarify not only the research of this programme but more widely the home economics related research of the department. Most university teachers and research face assessments as part of academic work. I am not focusing on assessments as such, but reflect on my experiences in relation to this research project, and the advantages I have experienced in terms of identifying myself as a researcher, and approaching unfamiliar forums. It is not so easy to be understood by colleagues representing quite different fields. I have been honoured to serve as an evaluator of research, education and teaching on both the personal level and the level of research groups, whole departments and even universities in various countries and educational systems. It has been a huge learning opportunity for which I am very grateful. I have noticed the importance of getting other researchers as well as persons outside the research community to understand the research, position it in the best possible way, and respect the researchers' original goals. As an example, I was once responsible for introducing our research to an international panel in 10 min (Fig. 6). In such a situation a single figure can be a turning point for the final results of the total assessment. And poor communication can lead to many misunderstandings.

The feedback from the committee members and the results of the research assessment informed us that a few couple summary sheets had been quite important for the experts, who were not familiar with the field but were experts in assessing the research quality. This was an example of evaluating sound communication, meaning making and interpreting the roles of 'literacy'.

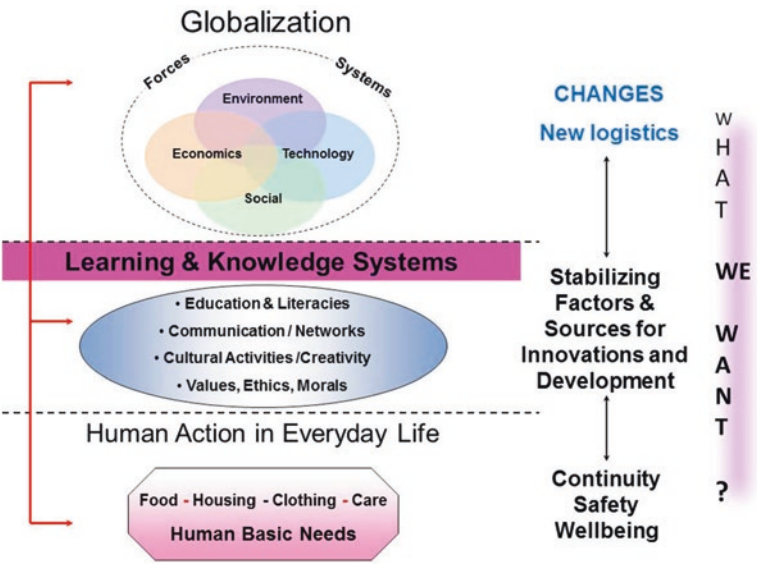

Fig. 6 Home economics research: what—why—how?

4 Literacy as a Tool and Process

Discussion around the concept of 'literacy' has a long history in the humanities concerning the fields of literature, languages and art. This article approaches literacy mainly from the perspective of communication and building relations between the human behaviour and peoples' environments. The key question is how to understand and interpret natural, cultural and social environments more deeply and to position ourselves and clarify our roles in relation to changes in these environments. The guiding idea of assessing 'literacy' as a valuable tool is to strengthen the conceptual and theoretical understanding of home economics as a holistic and integrated area focusing on human action in everyday life and pursuing well-being (see Figs. 4 and 5). To understand the complexities of everyday life we need multidimensional tools to communicate and identify the various features and aspects of our surroundings.

Vaines (2004) argues that understanding our common world is an avenue to well-being. This invites us to pose the questions of how do we see the environment and the world, how do we value the environment and the world, and how do we process the environment and the world? These are the reasons for reflecting on literacy as a communication tool and a process in our daily life.

Literacy is a tool and a process for positioning, building relations, and communicating with our environment and the world. Learning serves as an essential element, is embedded in all these processes, and guides us to also reflect on competences. As well, researchers in literature and linguistics are working towards broader interpretations of how to understand and teach 'literacy' in connection with language skills and competences. Significant research and debates can be found in the media and general discussion and by cultural researchers focusing on inter- and multi-cultural literacies (Salo-Lee 2007; Varis and Al-Agtash 2009). The whole spectrum is broad and challenging, and surely compels us to take a careful look at the conceptual and theoretical frameworks to which each field and contribution is committed (Kalantiz and Cope 2012). Nearly all agree that there is a need to focus on multiliteracies instead of literacy.

Literacy is not entirely new to home economics, family and consumer science, or related fields. We can find several research examples related to the various contents and subject areas of the home economics profession that focus on literacies. It has been quite widely used together with topics like food, health, family, the consumer, citizenship, finance, culture and technology in addition to the environment and ecology. However, most of the articles generally inform that the concept of literacy has not been defined in a manner that serves to strengthen our body of knowledge, which is the key aim of this article. From the human ecology perspective, an interesting discussion comes from the environmental area, focusing mainly on the natural environment. David Orr and Fritjof Capra approach ecological literacy based on systems thinking, and emphasize the importance of collaboration, community building and citizenship to promote ecological literacy (EL). They define EL as "*a way of thinking about the world in terms of interdependent natural*

and human systems, including a consideration of the consequences of human actions and interactions with the natural context" (see Stone and Barlow 2005). For me, this is one sign of the common background shared by home economics and human ecology.

In the domain of health and medical sciences there are examples of systemic reviews of earlier research and the integration of the definitions and models used. Based on 17 earlier definitions, Sörensen et al. (2012) state that "*Health literacy entails people's knowledge, motivation and competences to access, understand, appraise, and apply health information in order to make judgements and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course*". We can pick up many elements from this, and a systemic review examining the diversity of definitions might serve us as well.

There are also promising examples that unite these discussions with the reflection on the home economics body of knowledge and the discussion of professional development (Smith 2009; Pendergast and Dewhurst 2012; McGregor 2009, 2011). In Canada, Smith (2009) raised the question of what concept should guide Home Economics education, and if it could be food or nutrition literacy. As well, Pendergast and Dewhurst (2012) unite home economics literacy with food, and conclude that from this perspective—being qualified in home economics literacy—home economics educators can become global leaders in tackling obesity and other food-related problems by collaborating with stakeholders. This discussion will surely continue and expand in the oncoming years. The examples above inform that the international strategy work can facilitate local processes to clarify the position of home economics and identify new challenges to practicing the profession. The IFHE, under the leadership of President *Carol Warren,* has nominated literacy as a focus for research in order to strengthen the home economics body of knowledge within the IFHE in 2012–2016. For example, the next IFHE Annual Leadership Meetings in 2015 in Malta will feature a conference day dealing with this theme (see www.ifhe.org).

As mentioned earlier, several 'literacies', and *multiliteracy competences* make it easier for us to improve and extend our understanding, to complete our goals, and to raise ourselves as human beings. These basic definitions express some points that appeal to us. According to the *UN Literacy Decade (2003–2012),* very similar definitions were created, and literacy was positioned as a "continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, to participate fully in their community and wider society." And the guiding 'motto', 'literacy as freedom', has a powerful message. As well, only recently in Finland the theme 'multiliteracies' was accepted as a leading component in the processing of our new National Curriculum for comprehensive school to begin in 2016. The function of multiliteracy is mainly to serve as a uniting and integrating element within the school, but also in relation to the home and other actors in society.

According to Kalantzis and Cope (2012), literacies are multimodal entities. Learners 'doing literacy' become engaged with real-world issues. Many literacies

and literacy practices are dependent on people, contexts and situations. Anstey (2002) demonstrates this by defining a multiliterate person as "someone flexible and strategic in their literacy. She/he is able to understand and use literacy and literate practices with a range of texts and technologies, in socially responsible ways within socially, culturally and linquistically diverse world; someone able to participate fully in life as an active and informed citizen".

International educators working for *curriculum development and evaluation* under the OECD and EU have expressed serious endeavors to include more extensive interpretations in generating international assessment platforms and tools for literacy skills and competences (EU Literacy framework 2010). In 2003, PISA, within the DeSeCo project, produced promising results that identify everyday decision making as a core area to focus on (DeSeCo 2005). The OECD recently published a new report on the latest progress in developing evaluation tools for the next Pisa assessments. There is a strong emphasis on problem-solving skills and *financial literacy* connected to daily life (OECD 2013). All of these are calls for researchers to determine how the key concepts have been defined and implemented. In the USA, financial literacy as a specialization under Family and Consumer Sciences has expanded greatly, and many educational positions have been established (www.aafcs.org). A leading scholar in this area is Professor Tahira Hira, who was a keynote presenter in the Asian conference with the theme of focusing on home economics literacy (Hira 2013). This forum as well inspired me to continue my research on literacy.

The reflections on the literacy and multiliteracy related material and earlier research inform us that this theme and topic has much to offer for human and consumer professionals, and it seems evident that our professionals surely provide some extra dimensions to this discussion. On the reference list there is a collection of some 'basic' material to start the journey, but there is a critical need to make a more extensive search to reveal the work already completed. I personally feel a strong commitment to the literacy theme, and see it as a clear *commitment to deepen our knowledge base* and unite us with the societal and educational debates targeting the future competences (Turkki 2013, 2014). It challenges us to strive for holistic and integrated frameworks in order to discover the core phenomena and processes related to sustainability, everyday living, wellbeing, etc. The next section describes ways of continuing the discussion and positioning and integrating literacy with other transformative processes. A new concept—human ecoliteracy—will be presented.

5 Human Ecoliteracy as a Mediator of Being and Positioning Us in the World

This section returns to the original theme of home economics as human ecology and reminds of the fundamental work our Canadian colleague, Eleanore Vaines has done to deepen our understanding of the roots of home economics, and to guide us as educators and professionals to practice discipline. Her contributions

and career have been reflected on and celebrated by many international colleagues (Smith et al. 2004). In this book is also a summary article by Vaines (2004) herself that unites her philosophical and conceptual work and ways of thinking. Her work has been present in our research and serves special purposes. Human ecological approach can function as a unifying theme, inviting us to see the diversity around us and calling for a deeper analysis and inquiry of the interrelated webs of life. The quality of relations and communication matters. Henna Heinilä's research in Finland has been highly influenced by Vaines and has resulted in new innovative frameworks and interpretations of our daily practices in families and in professional contexts (Heinilä 2004, 2014). Moral vision, unity of being and new positioning have central roles in her research. These approaches and discussion forums have prompted me to reflect on how the literacy could be used to increase our interpretations.

Next I introduce four frameworks, all including a new literacy component, and informing their positions in relation to other concepts or processes. The aim is to support holistic approaches and enrich our interpretations to create more unity without losing diversity (Turkki 1998, 2004a, b). To promote sustainability we must search for the diversity in our nature, culture and societal relations, and this means better communication and greater understanding of relations and their qualities.

Figure 7 shows some of the key qualities and resources of home economics; it can be seen as a framework for our knowledge base. We must learn to better guide

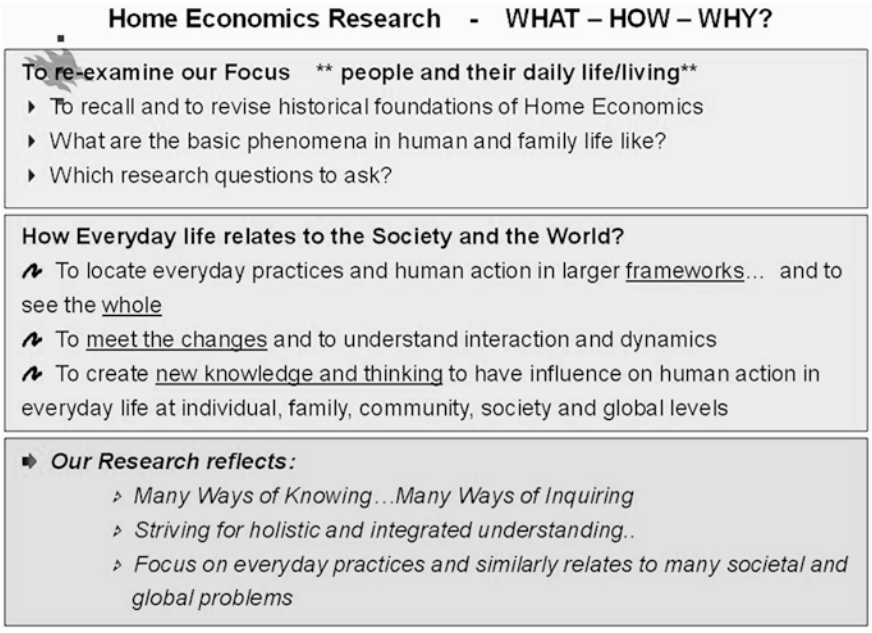

Fig. 7 Defining home economics literacy—human ecoliteracy

our daily actions by reflecting on (a) this knowledge base (WHAT), (b) our actions (HOW) and (c) the background reasons/values (WHY). At the bottom of the triangle are the key contents of home economics, and information about the diverse roles assumed in daily life. In our research, much attention has been focused on seeing all our roles as complementary and as enriching each other. The idea behind the figure is to position us as whole human beings in the world, completing our necessary daily activities relating to food, housing, shelter and care. We have diverse roles and different possibilities for living our daily lives. Much work goes into these activities, the content of which has continuously been at the centre of most educational programmes in home economics. The approach to teaching and learning the diverse subject matter has been highly technical and fragmented. What has been often called 'household work' has also been researched, but mainly by using narrower approaches and stressing quantitative measures (Steidl and Bratton 1968; von Schweitzer 2006). It does not encompass all the elements and qualities of our human actions in everyday life—rich in the variety of 'work'. It is a question of how to define and frame human actions and work. By looking for holistic understandings, an interesting approach to work has been introduced by Howard Gardner, who aims to define the qualities of good work. According to him, three essential qualities are involved in how people are committed to work—either paid or voluntary: good work includes three human-related elements beginning with the letter E. These are *Engagement, Excellence* and *Ethics.* All of which are needed to motivate us to achieve meaningful results. This interpretation is committed to multiple understandings of our knowledge base and learning introduced by Gardner as *multiple intelligences* and defining *five minds for the future* (Gardner 1985, 2008). It works well when approaching human actions in everyday life in relation to basic needs and necessities. Sustainable wellbeing and the processes of life-long learning help us to construct a more fundamental 'picture'. The role of literacy in this framework is to serve as a mediator, and home economics literacy might in some situations be referred to as 'human ecoliteracy', based on human ecological grounds and reflecting the ideas of Capra (2004) in order to reveal the hidden connections between humans and their environments.

Literacy, life-long learning, and sustainability are all human-related processes and qualities that influence our wellbeing. They are transformative and change our lives. All are embedded in our daily actions and transform our relations with natural, social and cultural environments. They are highly universal topics, and serious attention has been paid to improve our skills and competences to deal with them. Life-long learning and sustainability have often been discussed, and most agree on their value in at least the educational context. Home economics as a field and profession has been viewed as a human profession, a life-supporting discipline and a service profession (Kierren et al. 1984). Mirroring on the global responsibility education framework (see Sect. 3), I have proposed making closer connections between life-long learning and sustainability, by using literacy as a tool to improve communication and connections. I sincerely suggest that we regard the three elements presented above as essential life-supporting processes, to be considered together and as strengthening each other. Home economics professionals

have addressed all three, and may be able to create a deeper understanding of the qualities of human interrelatedness, and consequently of life in general.

All education is work for the future, and this is highly the case with home economics as well. We all are a part of societal and global transition. We ourselves are changing agents in these settings. This is why communication, meaning making and understanding various relations are critical components and processes, and where multiliteracy competences together with our knowledge and expertise in everyday life surely open new avenues and forums in which to see our societal challenges and innovate new practices and services (see Fig. 9). To support daily life and wellbeing, new forms of learning and cultivating our minds are needed (Gardner 2008; Gerzon 2010). A critical issue is to harness all human qualities and potential in order to promote creativity and innovation through life-long learning (Sahlberg 2009). The intention is to see and appreciate all types of work as meaningful. This question resonates well with the work done on a daily basis by families and private households.

As a summary and synthesis of the discussion and research on literacies I conclude that there is enough evidence to adopt literacy and related themes as tools to demonstrate our work and to improve our communication with other professionals in academia, educational forums and in policy arenas. Human ecology has proved to be one approach to maintaining essential resources, and human ecoliteracy as a new concept might strengthen our particular messages. Surely much more research and clarification is needed, and these topics must be validated in educational contexts. I hope and advise that further discussion and research focus mainly on improving our understanding of integration, building unities revealing the human qualities involved, and relating to other transforming processes, as Figs. 7, 8 and 9

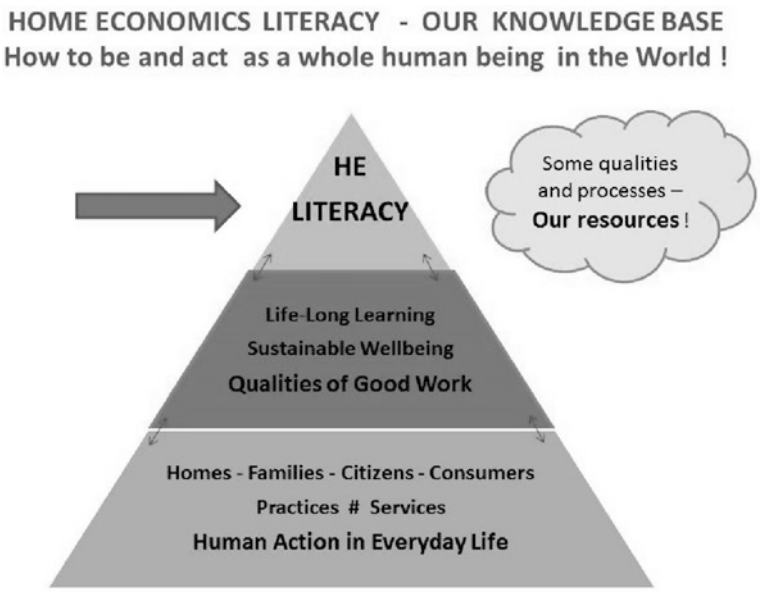

Fig. 8 Life-supporting circles as tools for home economics

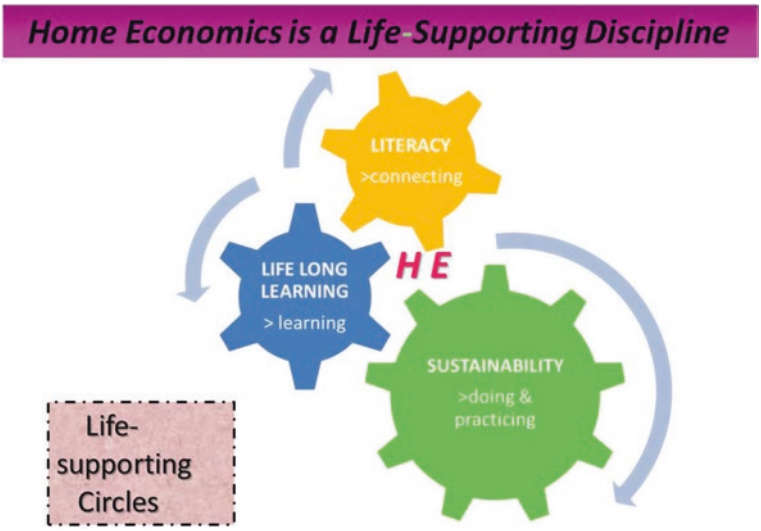

Fig. 9 Positioning multiliteracies within home economics

indicate. Based on developments over the last decades and including the work done under PERL and the IFHE, I am convinced that home economics as a field and profession could be leveraged by adopting literacy as a tool to demonstrate the qualities of our profession and better communicate with others, as well as by positioning our work and adopting future proofing (see IFHE 2008) as a pertinent approach. I am also convinced that Home Economics literacy can be a powerful tool to promote sustainability, and hope that these draft figures encourage more fundamental thinking and positioning of the ideas in concrete life situations, and the development of educational tools. Earlier research together with this article serve as evidence and prompt us to continue our discussion and research under the theme of literacy/cies. As I summarize:

- Literacy awareness and capabilities can strengthen our professionals, and the profession nationally and internationally. It can be united with most subject issues our professionals are committed to, and it supports our work for sustainable wellbeing.
- It better helps us to formulate our messages, and opens new channels to meet others and learn from them.
- It supports personal development/human growth but also improves services and informs policies.
- Our key target could be to advocate and specialize in multiliteracies—it supports well our professional core and strengthens our commitments to international organizations such as the UN, UNESCO, FAO and EU.

There are reasons to call for discussions on our vocabulary if new verbiage or terminology could inform our intentions and knowledge base more precisely. Under

Fig. 10 Bringing human dimensions and everyday life activities to the forum

the IFHE, this has been an essential part of the future proofing and rebranding exercises (Think Tank Committee 2013). The present article proposes *human eco-literacy* as one candidate to consider. It could extend our integrated knowledge base, and remind us of our ecological roots (Fig. 10). Our role is to call for a variety of human qualities and improvements in understandings the complexity of the processes behind the meeting of our daily needs.

6 On Our Way to Sustainable Wellbeing—Summary and Conclusions

Home economics is closely related to society. It is important to work with the different sectors of society and formulate the research themes to embrace the current issues and direct our message to make our way forward. During the last years the main subtitle for my research has been *Home Economics as a Forum for Global Learning and Responsible Living*. Envisioning the future, global learning and sustainable wellbeing have been key focuses, and guide this concluding section. These themes have very much in common with most PERL activities, and have had a central role in the work groups I have been a member of. The booklets defining the key concepts, introducing examples around the world, and focusing on life skills and capabilities under the main theme of education for sustainable living, are valuable resources to contribute. Their titles are *Global Awareness Education* (2011), *Learning to live together* (2011), *Learning to transform Oneself and Society* (2012) and *Learning to be* (2014).

Future visioning, global learning This article was influenced by an inspiring teachers' forum in Australia some years ago. Four international professionals from different parts of the world–Republic of Korea, Scotland, Australia and Finland—were invited to introduce their key elements and ways of practicing home economics in their countries. This resulted in four very different and unique stories. The history, the focus and the content were quite different, but the messages were very similar: home economics can provide extra value for society if we successfully communicate what it is. My presentation (Turkki 2012a, b) was entitled *Practicing Home Economics with a Global mindset can change the World*, and I described the history of Finnish society and of home economics in Finland from 1891 to 2012. The resulting discussion with the audience and colleagues was very rewarding.

To be a global citizen and a home economist in today's global world, we must open our eyes and our minds, and work with our hearts and hands. According to Gerzon (2010) the first step, similarly, is to open our eyes to see the world, and in order to continue the journey must cross the boarders, and keep eyes wide open. We have to open our minds to new learning, and once we can envision the world through new lenses we will naturally want to learn more. We can sense how our mind's full range has been limited. By uniting all our senses, our minds and our hearts we can invite all of human capacity to step in and bridge the divides that separate us from others. New resources will appear for all by working together in a way that respects diversity and searches for new practices and common visions. Vuokko Jarva, my colleague and a researcher on futures education and consumer-citizenship, has developed her teaching very much based on similar ideas. Drawing from David Hick's work 'Lessons for the futures' (2002) she stresses learning as futures envisioning and comments on how futures consciousness could be enhanced by consumer education (Jarva 2013). These starting points are evident in the Nordic-Baltic Strategy process to define consumer competences and propose objectives and content for consumer education. This was processed together with teachers, researchers and consumer professionals in Estonia, Finland, Denmark, Norway and Sweden (TemaNord 2009).

Well-being and beyond At the beginning of this article I introduced a discussion paper on sustainable wellbeing by Sitra (Hämäläinen 2013). A year later Timo Hämäläinen, the key responsible person behind the paper, together with Juliet Michaelson from the UK, launched a book 'Well-being and Beyond—Broadening the Public and Policy Discourse'. Under the four subtitles: The need for coherence; Restoring the centrality of the social; Revisiting economic principles, and Policy responses, 13 articles from seven countries were shared. The approach and background of the authors is very multi- and interdisciplinary. They want to turn the discussion to human well-being and to strive for more holistic frameworks and social contexts. In addition, the relations between human behaviour, economics, the environment and wellbeing are debated.

I strongly recommend that PERL members and others become familiar with the articles in this book. The authors themselves emphasize the issues taken up by PERL, and I quote: "the importance of empowering people; enabling them to create good lives; the significance of participation; cooperation and

belonging; and the need to comprehend complex environments to create coherence and meaning in everyday life". I am sure this quote is familiar to PERL members. The book is based on fundamental research and critically discusses the literature. Much of the discussion deals with different theories, concepts and policy responses. The book also reflects the relations between well-being, economics and sustainability. In the final article sums up the articles and their approaches and discusses more 'heuristics' and experienced-based techniques. She also calls for more dynamic models of wellbeing, which include work on co-production (work at home, voluntary work and hobbies) and highlights paying attention to the ways in which we communication about well-being. The content resonates highly with our research on *home economics and responsible living.*

The Home economics approach—a way to sustainable wellbeing This article is based on my 25 years' work as the responsible person for home economics as an academic field and knowledge base. Our key focus in education has been on teacher education, and home economics was established under the behavioural sciences, which guided our research. This period in Finland, Europe and worldwide from the perspective of higher education but also the family, household and consumer domains has seen huge structural changes. As well, our awareness and new knowledge about the states of our natural and cultural environments have greatly increased. These circumstances have allowed and necessitate us to establish research on a wide basis in order to lay the groundworks for the new area of study. Because of the ubiquity of home economics in society and changes in the home economics profession globally, the key aim driving the research has been to find the core issues and to see the whole, and also to immerse us in our strong local and global home economics history. Seeing the Finnish situation more widely in relation to other educational realities, research traditions as well as cultural and social practices, and similarly to reflect on our daily lives in households and families together with the support systems around them, has convinced me to embrace Vaines' axiom or metaphor "The World is our Home". The fundamental knowledge base created over more than a hundred years has been fractured. We have still much to do to establish education and research systems that support people in their everyday activity related to food, housing, shelter and care. This article calls for commitments, and I will continue this journey to deepen my *future vision by Integrating the notions of Sustainable Wellbeing, Home Economics Literacy and Life-Long Learning.* There is surely a need for better networks, and to improve our literacy skills in order to raise our sensitivity and see the world better. The concept of *Human Ecoliteracy* might demonstrate our message more precisely.

The key lessons learned by this research programme are (a) learn to listen to understand others; (b) learn to be aware of and know the structural changes in your society; (c) learn to reposition yourself and the work you are responsible for again and again, and (d) envision the future you want while taking a critical look at the themes and approaches you use or guide your students to get oriented in for their research. It matters. Excellent models from another country might not be the best in your situation. Be selective and be critical. You can also find more concrete

guidance: five steps for the future as explained in my article *Home Economics—A forum for global learning and responsible living* (Turkki 2012a, b).

I hope this article will be encouragement to see the richness of our own daily lives by raising the awareness and importance of positioning ourselves widely in society, from the local to the global, and by respecting all the diversity this covers. This article is also a strong appeal to policy forums and educational leaders to understand the importance of education and research concerning the knowledge base of home economics, family and consumer sciences, citizenship education and related titles. It is a question of our future, our economics, our health and sustainability. It is important to note that in daily life you can practice many of the skills and competences necessary in working life as well. The other critical message is how to understand 'economics' at various levels of society. I share the plea Muster (2013) from Germany expressed in an earlier PERL publication: 'enable responsible living'. She emphasized *the role of economics*, and provided many reasons for using home economics as an overall name. My experience in Finland is the same, and I have been an advocate of this name at the international level. We have a remarkable history under this name, and both words, *home* and *economics,* resonate strongly in society. It is important to consider which other terms we select and especially how we define, position and introduce our ideas and work for the others.

Reflecting on and celebrating CCN and PERL networks This twelve-year journey under the CCN and PERL networks has been a remarkable pleasure and inspiring experience. The 10th conference call of the PERL network invited us to introduce our work under the following themes: Preparing, Engaging, Responding, and Learning about Responsible Lifestyles. I addressed the challenge by sharing some of the insights I have gained over these years through the CCN and PERL. Home economics is a combination of healthy lifestyles, social responsibility, sustainable use of resources and cultural diversity. And the goal of the home economics profession worldwide has for more than a century been to promote wellbeing. By selecting the title '*Envisioning literacy to promote Sustainable wellbeing*' and inviting you to reflect on the new concept of '*Human Ecoliteracy*', I wanted to bring to mind the basic key transforming structures and key qualities of the profession, the ones that to a great extent have been hidden. This title, with all the key words, sets our sights on the future, which has all along been promising in this longstanding effort.

Envisioning is a skill that can be developed like other human skills, and it is a basic quality of human beings in all cultures. It is the power behind innovation. The notion of "literacy" has recently been adopted and is widely used, but far too little is defined carefully. Now and in the future, our lives are and will continue to be deeply interconnected, with new technology opening new channels for information and knowledge creation. In the context of home economics, literacy invites us to pay more attention to relations and processes concerning how we are present and positioned in the world. In our daily life it is a question of choices, responsibilities and actions. These settings are rich in considering and practicing values and ethics. We have not yet fulfilled or even explored all those visions our pioneers

discussed when proposing the first steps to organize home economics education and identify research topics more than 100 years ago. Selecting 'human ecology' as an overall title for home economics/family and consumer sciences remind us of our responsibilities today. These ten years under the CCN and PERL platforms have convinced me by multiple steps and remarkable progress to narrow the gaps. This has been indicated in the vision of the whole network involved and practiced by focusing on the work under the selected themes and promoting innovative and inspiring approaches. The greatest success has been to invite and unite such a variety of people with diverse backgrounds to work for our common goals, exuding joy and enthusiasm and respecting all perspectives. Learning from each other has guided the work. It has been a real honour to see and be involved in this community and to work for the common good.

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Building a Social Justice Pillar for Youth Career Development

A Qualitative Study

Carme Martínez-Roca, Màrius Martínez and Pilar Pineda

Abstract The qualitative study presented aims at gaining an in-depth understanding of: Structural barriers to socially just employment amongst 16–25 years old living in Catalonia (Spain); competences to be developed in order to lower them; how educational centers and specifically their career guidance practices can contribute to build-up such competences. Results obtained identify the economic model, the economic crisis, socioeconomic policies, social stereotypes and discrimination, social inequality, the educational system and inappropriate career development practices as main structural barriers to socially just employment. Communicative, methodological, personal, competences to live together aimed at lowering such barriers are described. Furthermore, strategies that educational centers can carry-out to build the identified competences are presented. When it comes to career guidance within educational centers, results obtained in the study show it is mainly perceived as an individual matching process to access an unjust occupational status quo. However, based on all results obtained, proposals are made to move towards a social justice career development approach aimed at empowering youth to be agents of socially just employment.

Keywords Social justice · Structural barriers · Employability · Competences · Career development

1 Career Development and Employability in the 21st Century

In its beginnings, career development was based on a matching model aimed at people's adjustment to an existing labour market (Arthur et al. 2009; Bassot 2012). At the start of the 20th century, Parsons (1909: 165) asserted that "society

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© Springer International Publishing Switzerland 2015

V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_12

should guarantee (…) a careful planning of and adequate preparation for some occupation, for which (…) the youth seems best adapted". More than a century later, the concept of employability is similarly still understood by some scholars. De Vos et al. (2001) define it as "the continuous fulfilling, acquiring or creating of work through the optimal use of competences. These competences refer to an individual's knowledge, skills, and abilities needed to adequately perform various tasks and carry responsibilities within a job, and to their adaptability to changes in the internal and external labour market". In this definition, employability relates to finding a job, to retain it or to progress in it; yet, the aim is still to adjust to the requirements of the labour market. Other scholars, however, contest this approach. Wilton (2008: 3) asserts that "far from eradicating traditional disadvantage, the employability discourse has compounded problems of social reproduction by placing the blame for relatively low labour market achievement in the hands of the individual and effectively removing structural and political reasons from the debate over inequality". However, in the origins of career development, the reason for aiming to adjust to an existing labour market was not to maintain an unjust status quo, but to challenge it. Herr (2001) affirms that "the heritage of career development practice in the United States (…) is responsive to the social, political, and economic forces shaping the national context" of the time. Among these forces it was "an emerging moral imperative that (…) argued that workers in the burgeoning economy of the early twentieth century needed to be seen not as the chattels of employers, not as property to be consumed and cast aside, but rather as persons of dignity with a right to determine their own destiny". Hence, in its origins, the matching model was contributing to human dignity and social justice by giving youth—specifically youth from disadvantaged socioeconomic status—a chance to choose from which they were usually deprived. However, this chance was, and still is, mainly limited at the understanding of the labour market as it is, not at questioning its fairness; it addresses youth's self-understanding and capacity to adapt to working conditions, not their capacity to transform them. The Skills Commission's inquiry into information, advice and guidance (2008: 20) stated that the matching model is "a hundred years out of date" and that "it is important that we move beyond this approach". In order to do so, the authors propose to go back to its roots, and to found the 21st century approach to employability and career development in social justice.

2 Social Justice Within a Holistic Approach to Career Development and Employability

Holistic career development is understood by the authors as a cultural practice based on a constructive dialogue. This practice fosters a process of reflection-planning-action aimed at reaching fulfilling, sustainable and socially just careers for all. A holistic approach to employability refers to the set of competences that

are mobilized to reach such careers. Fulfilling refers to a career which is satisfactory, meaningful, and which develops the person's strengths. Sustainable refers to a career that enables sustainable livelihoods and that is environmentally sustainable. This article focuses on the third pillar of holistic career development and employability: Social justice.

Social justice is an elusive concept; its meaning might be assumed, or taken for granted and therefore subject to different interpretations (Arthur et al. 2009; Irving 2010a). Our understanding of the concept encompasses (Arthur et al. 2009: 23): "Fair and equitable distribution of resources and opportunities; direct action to ameliorate oppression and marginalization; full inclusion and participation of all members of society in a way that enables them to reach their potential". Main features of the social justice pillar to holistic employability and career development are (McMahon et al. 2008; Irving 2010a): Multiple action levels (individual, organisations, and communities); embedment in culture as it is related to gender, ethnicity, religion or sexual orientation amongst others; enabler of socioeconomic and political change against a status quo that perpetuates social injustice; awareness of individuals' social responsibilities and potential as change agents; individual and community empowerment; lifelong span.

The social justice pillar challenges structural barriers to career development. These barriers are (Entitats Catalanes d'Acció Social 2010) factors external to the individual, which negatively affect his or her employment possibilities, and which usually cannot be transformed with the action of a single person. Based on Arthur et al. (2009), Entitats Catalanes d'Acció Social (2010), Generalitat de Catalunya (2012), Migunde et al. (2011), a non exhaustive list of structural barriers to employment includes: General economic and labour market situation (structural poverty, economic crisis); situation of specific employment sectors; social and economic policies that hinder access to basic human rights; poor social and economic infrastructure; social discrimination: Gender, age, ethnicity, sexual orientation, socioeconomic and status based stereotyping. Also, prejudice and discrimination exerted by institutions, culture, or media amongst others; social inequality: Unfair and uneven distribution of resources and opportunities; lack of career development practices within the educational system. There is not much literature on the practices ingrained in the social justice approach to career development which could contribute to reduce such barriers. Arthur (2005a: 145) states that "there is considerable work to be done to help translate the value of social justice into an expanded scope of career development practices". Irving (2010b) suggests outreach activities including but not limited to: Advocacy; community service; social activism; collaborative entrepreneurship; solution focused projects. Also, group activities such as: Discussions with role models who have succeeded on managing non-lineal careers; case study exploration on how to challenge socially unjust career related situations; mapping career histories of specific groups and the social, political, and economic conditions that have shaped them.

3 Social Justice Competences for Career Development Participants

The authors abide with Perrenoud (2004) in that a competence is a set of interlocked knowledge, skills and attitudes that a person pulls together to answer to the needs and challenges associated with daily life. When it comes to the social justice pillar to employability and career development, competences are mobilized to answer to the needs and challenges associated to reaching socially just careers. Some of the competences to be developed through this social justice approach are (Arthur 2005b; Arthur et al. 2009; Irving 2010b; Lewis et al. 2011): Critical consciousness of individuals' social responsibilities; critical consciousness of the role played by diverse institutions in perpetuating structural barriers to career development; identification of resources to lower structural barriers to career development; design and implementation of individual and collaborative action plans to lower structural barriers to career development; demonstrating advocacy and leadership to advance career development for all.

Two comments about the competences above: First, the authors have not found literature analysing whether competences linked to traditional approaches to career development and employability could also serve the cause of social justice. Some examples of these competences are (SCRE Centre Research in Education 2011; AYUSS 2011; UKCES 2010): Problem solving; creativity; communication; working under pressure; team work; autonomy; emotional management; and leadership. Second, according to the authors quoted, the social justice competences listed are to be developed by career development practitioners. The authors propose, however, that they are the target for both practitioners and participants. As Freire (2005: 69) asserted "teachers and students (career development practitioners and participants) (…) co-intent on reality, are both Subjects, not only in the task of unveiling that reality, and thereby coming to know it critically, but in the task of re-creating that knowledge. As they attain this knowledge of reality through common reflection and action, they discover themselves as its permanent re-creators. In this way, the presence of the oppressed in the struggle for their liberation will be what it should be: not pseudo-participation, but committed involvement".

4 Method

The study presented is the qualitative component of an ongoing broader research on the impact of career development in building up competences to access and transform the labor market amongst 16–25 years old living in Catalonia (Spain).

The objectives to be achieved through the qualitative study hereby presented are to:

- Identify structural barriers to employment; identify competences to be developed by 16–25 years old in order to lower them;
- Analyse how the competences identified have been developed;

Table 1 Key informants (KI): number and expertise

Sectors	Academia	Enterprise	Social activism	Regional government
Public	1 Career development in public educational centres (KI1)	3 Social action through labour unions (KI4, KI5, KI6)	2 Social action through political parties (KI9, KI10)	1 Social welfare (KI19)
				1 Gender (KI20)
				1 Unemployment (KI21)
				1 Work (KI22)
Private	0	1 Employability (KI7)	1 Financial support to social action (KI11)	0
		1 Media and social inequality (KI8)		
Non-governmental	2 Social activism (KI2, KI3)	0	1 Service learning (KI12)	0
			1 Homosexuality and lesbianism (KI13)	
			1 Low socio-economic status (KI14)	
			1 Racism (KI15)	
			1 Immigration and religion (KI16)	
			1 Disabilities (KI17)	
			1 Youth (KI18)	

- Analyse what is the role of educational centres and, particularly, their career guidance practices, in building-up such competences. Within educational centres secondary and post-secondary education, vocational training and basic adult education have been included (Table 1).

To attain the objectives, 22 semi-structured interviews were conducted, as the aim was to gain an in-depth understanding of key-informants' perceptions rather than generalising. However, the broader research mentioned above includes an online survey addressed to a representative sample of 400 Catalan educational centres. This survey is aimed at finding out if the competences identified in the 22 interviews are developed through career guidance practices within educational centres. On that basis, the study presented also contributes to the quantitative component of the broader research by informing the contents to be included in the survey.

4.1 Sample

Key informants were purposively sampled to represent experts in one or more of the structural barriers to employment amongst 16–25 years old identified in the state of the art. The experts were members of the public, private or non-governmental sectors; members of academia, social activism organisations, public administration, or enterprises.

A total of 30 key informants were approached for an interview. Three declined participation and five did not answer our request. Finally, 22 experts were eventually interviewed.

4.2 Interview Guide

The interview guide was structured in three sections: (1) Open-ended questions about structural barriers to employment amongst 16–25 years old living in Catalonia. (2) Open-ended questions about the competences to be developed by 16–25 years old in order to reduce them. (3) Open-ended questions about how the competences identified can be developed. This section started with a general question to enquire how experts thought youth develop the competences mentioned; in a second question it was asked if and how educational centres could play a role in its development. (4) It was requested if and how career development carried-out in these centres could also play a role in building-up such competences.

The interview guide was validated by five experts in content and method. Once modifications were included, the interviews were conducted.

4.3 Data Collection and Analysis

Data were collected from May to July 2013. Face-to-face interviews were held, with an approximate duration of one hour each. Participants were contacted by e-mail and telephone in order to introduce the research, its objectives and method. An interview was scheduled with experts interested in participating. The interview took place in participants' offices. The principles of autonomy and beneficence were fulfilled as on the day of the interview experts signed an informed consent form and were informed again about the objectives of the study, the confidentiality and anonymity of interviews and their right to withdraw at any time. Data analysis was conducted with Atlas T 7 qualitative research software.

5 Results

The results have been divided in five sections: Structural barriers for employability amongst 16–25 years old living in Catalonia; competences to be developed in order to reduce them; how to build up these competences; the role of educational centers in building them up; the role of career guidance in educational centers to build them up.

5.1 Structural Barriers to Employability Amongst 16–25 Years Old

Respondents discussed a number of macro economic, political and social barriers to employment. These are:

- Economic model and economic crisis,
- Socioeconomic policies,
- Social stereotypes and discrimination,
- Social inequality,
- Educational system and inappropriate career development practices.

Current and previous economic models and the present crisis are presented as being structural barriers to 16–25 years old employment. Key informants indicated that the model is driven by construction, tourism and tertiary services. These sectors do not need high qualified professionals and offer precarious work conditions, namely low salaries and temporary contracts. Experts consider that the existing economic model does not only affect the youth without qualifications. Thus, the preponderance of small and medium-sized enterprises in Catalonia, the consideration that such companies pay less attention to innovation and technology, and the lack of investment in research and development are regarded as barriers for highly qualified employment. As a consequence, the economic model facilitates that "even youth with good socioeconomic status and good educational curriculum end up going abroad" to find a job (KI11).

The economic crisis was the first structural barrier for youth employment indicated by most experts. The main components or this barrier are: A saturated and standing labour market; continuous destruction of employment and companies; lack of job creation; lack of access to credit. As a consequence, potential employers require high educational levels and experience from candidates. Hence, as a consequence of the situation of economic crisis "the right to work has turned into a privilege" (KI3), and a widespread state of pessimism has permeated society, turning also into a structural barrier for youth employment. Both personal relations and media play a role in maintaining this state of social decay where one repeated message is 'there is neither work nor possibilities to find it'.

Changes introduced in labour policy to incentivise job creation have failed in doing so, and compound a barrier for socially just employability. Reduction in salaries, extensions of temporary contracts, extensions in low paid training contracts are among the elements within the labour policy changes considered a threat to socially just employability for youth.

> Authorities do not consider youth as workers. When you think about a worker, you think about someone who is thirty or above. Therefore, all youth policies are about internships, [and] training, which are surrogates of real access to the labour market. (KI4)

Other labour policy related elements experts pinpoint as structural barriers for youth employability are: Extending retirement age; lack of subsidies for enterprises; the possibility to circumvent collective agreements between enterprise and workers; and a complex labour legislation. Key informants also consider that austerity measures beyond changes in labour policy hold back youth employability. In public education, the cuts in scholarships, in students' exchange among universities, and a rise of university tuition fees are seen as elements which jeopardise the right to quality education for all, and which contribute to social inequality (KI16).

Respondents highlighted different aspects of social stereotypes and discrimination as structural barriers for youth employment. Age is considered a barrier, especially for 16–19 years old. Youth related stereotypes featured are: Lack of responsibility; apathy; higher levels of conflict; higher labour accident rates; higher absenteeism; and drug consumption.

Gender based stereotyping and discrimination was discussed as relating to maternity, job related roles associated to women, the type of jobs women are good at and the low social value given to such jobs. Discrimination is connected to difficulties in reaching leadership positions, development of low-qualified tasks regardless of academic qualifications, and temporary hiring.

> If you are a woman, you face discrimination when you reach the labour market. It is what has been called the glass ceiling and the sticky floor. (KI13)

Ethnic based stereotyping is only linked to Spanish Roma population. Origin is also seen as a structural barrier. A particular skin colour in the picture of a curriculum vitae, or a certain surname is considered as potential lead to discrimination in hiring processes. The type of jobs young immigrants have access to are also linked to stereotypes and discrimination, namely: Low-qualified positions regardless of academic qualifications, low salaries, and specific jobs according to the area of the world where immigrants come from. Thus, Latin American women are associated to care and hospitality; Sub-Saharan men to agriculture and construction; North African men to construction and hospitality; Arabs to the establishment of small businesses. Second generations are also perceived as having similar barriers. Sexual orientation based stereotyping and discrimination relates to types of jobs: Homosexuals are associated to art and hairdressing, and feminine transsexuals to prostitution.

> Up to now only feminine transsexuals were visible, and they were sentenced to work as sex workers whether they wanted it or not. They did not have any right to pay [pension] contributions (…). The labour market does not want them (…). How the heck am I going to work if they see one thing in my ID and something else in me? (KI13)

Diverse elements within the educational system which pose a barrier for youth employability were described including budget cuts that bring about: crowded classrooms; lack of individualised attention; fewer exchange possibilities. Specifically about educational legislation, it is asserted that the constant changes since the advent of democracy in 1975 have made impossible to consolidate a quality education system. The difficulty in officially recognising non EU degrees in Spain is also considered a barrier for the immigrant population.

The lack of relation between the labour market and the educational system is another structural barrier mentioned. At university level, the mismatch relates to the disciplinary fragmentation found at the university versus the interdisciplinary competences required by companies. For some of the experts, the mismatch is based in the back to back relation between education and labour market; that is, the educational system lacks information about in-demand occupations or the requirements of the labour market. Others, however, assert that the educational system provides highly qualified professionals, whilst companies want cheap labour; that is, low qualified positions or high qualified professionals that accept to be underpaid.

Some career guidance practices—or the lack thereof—are also considered as structural barriers. School-labour market transition is highlighted as missing or poor. When these transitions affect learners with disabilities, one expert considers that 'many times, the existence of a disability makes (career) guidance shake' (KI12) because positive discrimination could turn into patronising. Four (n:4) key informants stated that career guidance is a non-existent or an expensive ad hoc activity mainly focused in decision making processes towards the next study option.

> Career guidance is developed by private companies. It would be wonderful if it existed (…) [but] it's a brutal lack of the educational system. There has never been investment in it. […] It is very expensive […] and totally class-based. (KI13)

5.2 Competences to Be Developed to Lower Structural Barriers for Their Employment

The competences indicated by key informants have been classified using the four categories existing in the Catalan educational system (Decret 143/2007): Communicative competences (linguistic, audio-visual, artistic and cultural communication); methodological competences (information management, digital competences, mathematics, learning to learn); personal competences (autonomy and personal initiative); competences to live together and to inhabit the world (knowledge and interaction with the physical world; social and citizenship competences).

Category	Respondents description of competence
Communicative competences	Ability to speak in public
	Good reading and writing
	Capacity for dialogue and active listening

Category	Respondents description of competence
Methodological competences	Use of information and communication technologies
	Social networks
	Organisational competences
	Social self-organisation
Personal competences	Resilience
	Emotional management
	Autonomy and initiative
	Entrepreneurship
Competences to live together	Being able to critically analyse, interpret and have an informed opinion about the social, political, economic and employment situation
	Collaboration, flexibility and team work
	Empathy

5.3 How to Build-up Competences Which Contribute to Lower Structural Barriers to Employment

Respondents described a number of learning environments and strategies contributing to the reduction of barriers to employment.

Learning environment or strategy	Description
Informal learning	The development of competences to lower structural barriers to employment is neither an intended objective of the potential educator nor the intention of the learner, but anyhow an end result. Concretely, participating in non-for-profit organizations such as associations, political parties or unions and in social movements, knowing about them and volunteering. Experts considered that such participation or knowledge fosters commitment, social values and critical citizenship
Formal or non-formal learning environments	Visualization of non-linear success stories of people that learners can identify with; individualised mentoring, tutoring and coaching; information about training options that society might be in need of; service learning opportunities; experiential opportunities, or making use of already existing competences, namely making use of women's household and community management competences (KI20). These learning strategies are to be used in both formal and non-formal education settings
Family	Providing opportunities for personal growth and by educating their children on social justice related values
Networking	The need for networking between formal and non-formal education organizations, and between formal education and public services was specified. Examples of public services provided are regional services for the unemployed and municipality information services for youth

5.4 The Role of Educational Centres in Building-up Competences

Respondents provided input about the role educational centres can play in such competence development. Results obtained are:

Role	Competence developed
A social justice ethos	Such ethos would include: non-discrimination; equal opportunities for all; equity; coeducation; openness to the community where it is placed; integration of personal, professional and citizenship development; and openness to constructive criticism about the weaknesses of the educational system
Networking	Considered as a way to go from dispersion to unity of direction. Furthermore, it is perceived as a way for formal and non-formal education organisations to develop an integrated work, and to have joint responsibility for the outcomes obtained
Permeable relations between education and production sectors	To foster permeability, the proposals made are to combine work and training and to increase collaboration through internships
Learner-centred methods	Move from transmission learning models to learner-centred methods. Practice and active learning is viewed as important, as well as participation, not only in the classroom, but also in society. Such learning approach fosters motivation and interest, both of them key elements for the development of the specified competences
Professional development	Capacity-building aimed at: improving career counselling strategies; raise awareness among teachers about the role they play in shaping learners' professional future; raise awareness about the conscious or unconscious stereotypes or prejudices educators may have and how they influence their practice; critically analysing the society we live in
Help learners to finish and continue studies	The importance of early detection of potential drop-outs, and the relevance of rendering more visibility to drop-out prevention processes
Development of social justice related attitudes	Understood as a state of mind, a disposition towards reducing structural barriers to employment, willingness to improve, eagerness, initiative, enthusiasm, boldness, solidarity, strong will, and rebellion or non-conformism have been indicated

5.5 Role of Career Guidance Carried-Out in Educational Centres in Building-up Competences

> It is good that people are informed. It is very important to have direct access to information about what is out there, what is happening, what are my rights, what do I need to go there, what should I hand in (…) To have information in educational centres is fantastic (…) but as much informed as you are, if our labour market is precarious, what you are going to find is exactly the same: problems to access it. (KI14)

Key to the above excerpt is the understanding the expert has of career guidance as an information process and, as such, its impossibility to influence the labour market. The understanding of what career guidance is, mainly founded in Parsons' approach, also permeates most of the answers given by the rest of experts. The categories established to present the results are: Career development objectives, contents, activities, timing and resources.

Categories	Activities
Career development objectives	Breaking stereotypes relating to gender, socioeconomic status, vocational training and non-linear academic trajectories. The saying 'If you are good you go to baccalaureate, and if not you go to vocational training' generates a huge stigma (KI7)
	Other objectives that have been mentioned are to: increase self-knowledge and positive self-concept; know the labour market and how to access it; know different professions and alternative career paths. inform more and better about vocational training options
Contents	Learners' interests; decision making processes; information about how is and what is valued by the labour market; information about diverse professions; career related stereotypes
Activities	Individualised activities such as coaching, mentoring, tutoring, and individualised follow-up to assist the student to make the 'right decision' about his or her career or study options. *Guidance implies mentoring, following-up. It implies the ability to make decisions, to know how to make decisions (KI9)*
	Group activities pointed out are: Workshops with professionals, visiting companies, work placements, or projects on how to create a cooperative. Extracurricular activities have also been mentioned: Career development expos, shadow jobs, service-learning or attending the professions' bus (a bus with information about different professions that moves from city to city)
Timing and resources	Career development should be carried out during the four years that it takes to complete secondary education, and considered a lifespan activity
	A higher budget, more hours and more competence development for teachers should be allocated to career development if it has to be able to work towards reducing structural barriers to employment

6 Discussion and Future Perspectives

The structural barriers to employment mentioned by key informants are aligned to the ones the social justice pillar for career development and employability aims at reducing and which have been stated in Sect. 1. The barriers pointed out by key-informants put 21st century youth in a similar situation to the one Parsons wanted to challenge in the early 20th century. Career development within educational centres or its lack thereof is presented itself as a barrier, with a potential to increase social inequality rather than reduce it.

According to the results obtained, competences that are traditionally related to adapting to the existing labour market could also serve the purpose of its transformation to make it as socially just as possible. These competences are: Communication, problem solving, autonomy, emotional management and leadership. This finding offers a platform for future studies on how the same set of competences serves what could be perceived as opposite objectives. Besides, the majority of competences classified under methodological competences or competences to live together are aligned with the social justice competences stated in Sect. 3. The key difference is, however, that competences stated in that section were addressed at practitioners, whilst the ones in this research are to be developed by participants. As a common threat in all of them, a social component whereby the person aims at achieving not only an individual benefit, but the common good.

According to the results obtained, there is a clear mismatch between the structural barriers and competences identified by key informants and the role they say career guidance in educational centres can play to develop them. Objectives, contents and activities indicated by experts refer to career guidance mainly as an enabler of informed career choices aimed at adjusting to the existing labour market, and not as an enabler of socially just employability. There are, however, some results which relate with diminishing oppression and marginalisation, which is one of the purposes of the social justice approach to career development. These results are objectives such as breaking gender and socioeconomic status stereotypes, activities such collaboration with formal and non-formal educational organisations, and lifespan career development opportunities. This is a step forward, yet it is not enough. According to the authors, further steps are needed to move from an individual matching process to the existing occupational status quo towards an individual and collective process which empowers youth to be agents of socially just employment. Doing so contributes to the work that Arthur (2005a: 145) states is needed to "translate the value of social justice into an expanded scope of career development practices". This article contributes to this work by applying to career development the findings obtained when asking the experts how to develop the competences identified, and what is the role educational centres can play in such development.

Based in these findings, the practices the authors propose to move towards a social justice approach to career guidance in educational centres are: include a social justice ethos in educational centres' policies; include the development of social justice related attitudes in classroom activities; foster service-learning, volunteering

or participation in non-for-profit organisations; enhance parents' involvement in their children career development, so they can support it; carry-out career learning strategies which are active, experiential, contextualised, individualised, and participatory. Such strategies are to be implemented both as a transversal element of the curriculum and in specific career guidance activities; carry-out career guidance activities throughout the full span of time learners stay in the centre, and not only at the end of it; network with public administration, non-formal education and production sectors; search for educators' capacity building opportunities on the above mentioned. When these practices are applied, career development will be closer to be understood as a practice where, paraphrasing Donne (1624) "no [individual career] is an island, entire of itself; every [career] is a piece of the continent, a part of the main (…). Any [person's career setback] diminishes me, because I am involved in mankind, and therefore never send to know for whom [career development barriers'] bells tolls; it tolls for thee."

Acknowledgments This article is written as part of the work to be developed in the research "The impact of youth career guidance in the development of competences to access and transform the labor market". This research is financed by the programme "Recercaixa", an initiative of "la Caixa" Foundation and the Catalan Association of Public Universities, and it is carried-out by the Autonomous University of Barcelona, the International Foundation for Interdisciplinary Health Promotion, EDUCAWEB and DEP Institute.

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Part IV
Empowering Youth and Local Communities

Are Food Convenience and Sustainable Consumption Mutually Exclusive?

Home Economics Literacy to the Rescue

Suzanne Piscopo

Abstract This article offers an introduction to the literature on convenience foods as a growing phenomenon within contemporary lifestyles and on the emerging interest and practices in sustainable food consumption. Various factors influence the use of convenience foods, including time availability, values related to health and the natural environment, as well as cooking skills. Some of these factors also feature in choices and behaviours related to sustainable food consumption; although other factors such as knowledge, food labelling and belief in ones own potential positive impact also play a role. The importance of education for sustainable food consumption as a key strategy for improving individual and planetary wellbeing is outlined and the link with Home Economics literacy and particularly food literacy is explained. Building on the literature, and the discipline's aims and practical application, suggestions are presented on how Home Economics educational initiatives can facilitate convenience in food preparation, whilst keeping in mind principles of sustainable consumption.

Keywords Convenience foods · Sustainable consumption · Food literacy · Home Economics literacy

1 Introduction

What does it mean to eat well? Are convenience and sustainability mutually exclusive? These two questions by two different authors (Bildtgård 2010; Rosenberg 2013), inspired me to explore the literature on the saliency of convenience foods in contemporary living and whether convenient food use can coincide with principles of sustainable consumption. One often reads and hears

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_13

about time-strapped families, the stressful task of meal preparation, the parallel growth in availability of processed foods to alleviate these challenges, and the concern over the sustainability profile of such foods. Typically, convenience foods are portrayed in a highly negative light by those seeking to promote healthy, environment-friendly and budget-sensitive diets. I question whether taking such an absolute stance, is accurate and justified; or whether making family food providers feel guilty for resorting to use of convenience foods is ethical, or is in fact counterproductive as they give up when faced by the daunting task of eating and preparing food sustainably without including these foods.

I propose that the time is ripe to revisit the whole convenience foods scenario and, by exploring aspects of food and sustainability, discuss how Home Economics (HE) could help family food providers make more informed processed food choices so that food convenience and sustainable consumption are compatible.

1.1 Convenience Foods

Convenience foods are most often presented as products that enable consumers to save time and physical and mental effort in activities related to food shopping, meal preparation, cooking, consumption and post-meal activities (Brunner et al. 2010; Buckley et al. 2007). These products are generally foods which have one or more ingredients which singly or in combination have undergone some type of processing and which may have a number of additives. For example, of the 700 convenience foods consumed by a sample of German adolescents (Alexy et al. 2008) each product had on average fourteen ingredients; 20 % of which were additives.

Prevalence and use The growth of the convenience foods market is undeniable and various studies report how these foods have come to dominate in the diets of developed nations, as well as those experiencing nutrition transition (Schleicher 2014; Langley 2013; Reisch et al. 2013; Chenhall 2010a; van der Horst et al. 2010; Alexy et al. 2008; Carrigan et al. 2006). Delocalisation of food, technological innovations such as the freezer and microwave oven, changing household structures and management (with more single person households and more wives and mothers participating in the paid workforce), multicultural societies and mass tourism introducing new foods, and changing values, norms and trade-offs with respect to food choices are some of the factors that facilitating the pervasiveness of convenience foods (Chenhall 2010a; Buckley et al. 2007).

Buckley et al. (2007, p. 606) conducted a market study on convenience food lifestyles (CFLs) of persons primarily responsible for food shopping and cooking in British households. Segmentation analysis, based on the identification of 20 convenience lifestyle factors, identified four distinct groups: the "food connoisseurs" (26 %) and the "home meal preparers" (25 %) who were not particularly disposed towards the use of convenience foods; and the "kitchen evaders"

(16 %) and the "convenience-seeking grazers" (32 %) who had a more positive attitude towards and more regularly used convenience foods. In short, about half the providers were willing users of these foods.

Convenience foods are also widely consumed by children and adolescents and the proportion of convenience foods in their diet has been shown to increase with age (Alexy et al. 2008). But other age groups are also users of convenience foods, such as working adults faced with longer hours and less time to unwind and relax, and retired more senior adults seeking convenient, easy-to-use products in order to enable their independence (Canadean 2014a; Schleicher 2014). An emerging trend is evident among time-deficient economically-comfortable consumers who often seek convenience luxury meals to indulge and enhance moments of personal time, owing to the pressures and stresses from work. These consumers are willing to pay for premium prepared meals which provide a fine dining experience without having to leave the house (Canadean 2014b).

Interestingly, Carrigan et al. (2006) have concluded that convenience foods are so integral to daily life that the term 'homemade meal' has been reinterpreted to include the help of various convenience products. Similarly, Chenhall (2010a) asserted that convenience foods have become "normalized" within the diets of children of all ages and families (p. 2). These conclusions are akin to those of Brunner et al. (2010) who revealed that time spent cooking was not predictive of convenience foods use. They described how most everybody uses convenience foods, even if there is no time pressure or need to save time. Other reasons, such as concern with naturalness or nutrition knowledge were more significant in differentiating people's convenience consumption.

Motivators and barriers to use Convenience is reported as one of the most important factors influencing food choice in different age groups (Bissonnette and Contento 2001; Armstrong et al. 1991) and a number of studies have explored why consumers are seeking convenient foods and the properties which are important to them (Langley 2013; Schubert et al. 2013; Hjelmar 2011). Time has often emerged as a key driver for convenient food consumption (Anozie 2013; Osman et al. 2014; Tashiro and Lo 2011; Brunner et al. 2010), and thus warrants further attention.

Time scarcity, perceived or actual, is a constraint affecting all nature of households, from rural to urban, from financially insecure to financially secure (Anozie 2013). Time scarcity is a factor contributing to the substitution of home-cooked foods and meals, by away-from-home prepared foods and meals. Moreover, as a result of scientific and technological developments, food has been reformulated and constructed in such manner that, at least in developed countries, consumers need to spend less time and make fewer decisions in food preparation and cooking (Vileisis 2008). Time-use studies in France, Norway, Holland, the UK and the USA (Warde et al. 2007) found a decline in the amount of time spent cooking. Contrastingly, other studies have shown that time 'saved' through the use of convenience foods has been replaced by time spent travelling to and from distant supermarkets or speciality frozen meal shops, making food related decisions and purchases, and assembling or reheating food (Chenhall 2010a).

Tashiro and Lo (2011) tried to identify how individual and household characteristics influenced use of prepared foods and out-of-home eating among Chinese adults. In general, results demonstrated that a higher education and a higher income resulted in more time being spent obtaining and consuming away-from-home foods, as opposed to cooking food at home. In contrast, older adults, females and larger households spent more time cooking foods at home. Of note is that those with a higher education were likely to prepare food at home, but spend less time doing so. The results also confirmed that time allocation decisions regarding food preparation are largely influenced by an individual's valuation of luxury and nutrition and by time and budget constraints. For example, time scarcity (due to long working hours) and a high preference for luxury (due to higher education and higher income) outweighed nutritional concerns. On the other hand, it was suggested that older people may be more nutrition-conscious and that large families aim for economies of scale as both groups engage more prominently in home food production. All of this has implications for which and how convenience foods are used.

Research by Worsley et al. (2011) showed that younger Australian adults valued convenience more, possibly because of the full-time family and work responsibilities of many of them. Similarly, Schubert et al. (2013) revealed that for primary family food provisioners, particularly mothers of young children who had fulltime employment outside the home and/or who had children involved in multiple out-of-school activities, use of convenience foods meant that they could include community activities, as well as fitness and other leisure pursuits. The authors concluded that varying the amount of visible effort and measured time in food provisioning was more of a management technique and "in no way implied that the women disregarded the nutritional value of the meal being offered" (p. 135). In fact, the mothers saw the diversified convenience food market as offering solutions that could save time and support nutritional and social requirements. The availability of healthy convenience food options challenges the perception that a preference for convenience food is in opposition to any health motivation with respect to food choice decisions (i.e. by choosing one you are automatically rejecting the other) (Osman et al. 2014).

Positive evaluation of healthier convenience foods was also reported by Brunner et al. (2010) who found that certain foods, such as convenience packaged salads were perceived as "natural" (p. 504) by Swiss consumers and thus considered acceptable. This aligns with the study by Bildtgård (2010) on what it means to eat well among Swedish and French adults. Health and taste emerged strongly in the discourse around eating well of both nationalities. However, a difference was seen in the perception of processed foods. The French respondents talked almost exclusively about "natural foods", idealising non-industrial forms of food production. The Swedish respondents were also critical of industrially-processed foods, but less stringent in their outlook, expecting science to develop new agricultural and industrial processes that would allow for the production of "pure foods" (p. 229). An industry report from Australia (Langley 2013), similarly outlined how consumers preferred their food to come from "natural" sources, but they were not willing to forego pre-prepared foods and meals from supermarkets.

This conflict between value of convenience foods as facilitating food preparation and personal growth, and a perception of these foods' non-naturalness or negative impact on the natural environment was also evident among Swiss (Brunner et al. 2010) and Greek (Botonaki and Mattas 2010) adults. For the Swiss, the greater their nutrition knowledge and the higher their concern with the naturalness of food and avoiding waste, the lower the general consumption of convenience food products. For the Greeks, convenience orientation in the food domain was mainly connected with values that motivate people to seek new experiences, act independently and enhance their own personal interests, but was also in conflict with values of conservation and self-transcendence.

Self actualisation as a value also emerged in Hjelmar's (2011) study with Danish consumers. The author proposed that behaviours which are adopted with a convenience goal have a significant element of routinisation and that it is important to acknowledge that convenience behaviour is more about routine than intention. For example, with respect to food, the use of certain food products becomes convenient because one has self efficacy as to how they are used successfully in a recipe and/or the outcome is guaranteed to be well-accepted by family members.

A study with Danish children and teenagers (Holsten et al. 2012) suggested that, when these young people were deciding what to eat in the home, food preparation effort and skills were criteria used to evaluate options. Cooking skills were also identified as a strong predictor of ready-meal consumption among Swiss adults (van der Horst et al. 2010) and interest in information on easy-to-fix meals increased as frequency of household food preparation increased, particularly among females in multi-person households (Armstrong et al. 1991). Therefore, the ability to assemble different ingredients and use different cooking techniques seems to be crucial in making food decisions and it is unlikely that convenience foods will not be part of the equation.

Schubert et al. (2013) have described how convenience foods are often blamed for many of the problems in contemporary dietary patterns. "If we are to believe much of what we read, convenience foods stand out as being nutritionally inferior, as having production methods that are environmentally damaging and ethically indefensible, and as constituting and promoting food practices that are culturally degrading" (p. 130). The authors explain that studies continually warn consumers to avoid processed foods and to choose alternative food preparation and many perpetuate the stereotype of "convenience foods as being the choice of lazy people" (p. 135). In a similar vein, Short (2007) has criticised the prevalent negative perception among the British general public and academics and policymakers regarding convenience foods.

> Home-cooking 'from scratch', from 'real', 'non-prepared foods' is viewed as grounded in learned knowledge, skilful and vital to family well-being and identity. Using 'pre-prepared' 'convenience foods' on the other hand is usually portrayed oppositionally, as lacking in skill, individualistic and atomising (p. 553).

Short proposes that the use of convenience foods should not be seen as "skill-free" and "merely requiring assembly" (p. 562), but rather as a possible route for increasing children and young people's presence in the kitchen, connecting rather than isolating the family.

Convenience foods are typically also perceived negatively because they tend to have a poor nutrient profile. Monteiro et al. (2013) described ultra-processed foods as "attractive, hyper-palatable, cheap, ready-to-consume food products that are characteristically energy-dense, fatty, sugary or salty and generally obesogenic" (p. 21). Undoubtedly, regular consumption of a diet comprised of convenience foods high in these nutrients increases the risk for various non-communicable diseases (Botonaki and Mattas 2010). Yet these nutrients can be present in varying amounts in convenience foods. Thus, the task is to help consumers learn how to identify foods which are low in these various nutrients and to motivate them to prefer and choose these foods over others which have a less desirable nutrient profile.

Another concern is that many processed foods have an array of additives on their ingredient list. Whilst in different regions of the world and different countries there are official regulatory structures in place to ensure the safety for human consumption of these additives (such as the European Food Safety Authority and the US Food and Drug Administration), there are also several issues regarding the singular and synergistic impact on human health of regular and prolonged consumption of these additives [Center for Science in the Public Interest (online)].

Interestingly, the food industry has not remained complacent in the face of recommendations or actions by consumers, NGOs, or health authorities to reduce consumption or modify the nutritional value of processed foods. It is constantly reformulating or innovating to develop food products which are more amenable to the needs and values of consumers, focusing on the health and the environmental aspects, as well as more ethical issues such as sourcing from 'fair' companies and supporting local food producers (Ingredion 2014; Piscopo 2013).

1.2 Sustainable Food Consumption

Sustainable diets have been defined as diets which "contribute to the protection and respect for biodiversity and ecosystems, are culturally acceptable, economically fair and accessible, adequate, secure and healthy from a nutritional viewpoint and, at the same time, optimize natural and human resources" (Burlingame and Dernini 2012: 7). This definition embraces the three main dimensions of sustainability as originally conceived in the Brundtland report (World Commission on Environment and Development 1987). It also highlights that the health of human beings and the health of ecosystems are inter-related.

Motivators and barriers to sustainable food consumption Consumers have increasingly been encouraged to become "ecological citizens" (Dixon and Isaacs 2013: 67) and to consume food more sustainably (Reisch et al. 2013; Bissonnette and Contento 2001). Yet Vanhonacker et al. (2013) warn that in order to achieve a substantial impact, a greater proportion of consumers need to adopt more sustainable food choices and this requires a better understanding of barriers and motivators to sustainable food consumption. Depending on their personality,

attitudes, age, socio-economic circumstances and access to food, as well as on the influence of the mass media and social media on their food choices, consumers may be aware, value and active to different degrees with respect to the sustainability of their food consumption choices (von Meyer-Höfer and Spiller 2013; Verain et al. 2012).

Reisch et al. (2013) conducted a review of contemporary issues and policies in sustainable food consumption and identified the emergence of modern "food styles"—that include use of heavily processed products—as a contributing factor to unsustainable consumption. Table 1 outlines the various contextual challenges consumers face or contribute to directly or indirectly as a result of processed foods, as well as the impacts of these processed foods.

Sustainability labelling is one of the strategies used to facilitate sustainable food purchases, but it could lead to information overload (Reisch et al. 2013). To avoid this, Engels et al. (2010) proposed a label for facilitating cross-product comparisons of sustainability performance and thus promote ecologically sound, fair-trade, healthy and convenient products among consumers.

However, Thøgersen (2014) has warned that even if external factors made it easy for consumers to make sustainable consumption choices "individuals rarely have complete freedom to choose between a sustainable and an unsustainable lifestyle" (p. 90). Choices are often hampered by a range of human limitations such as

Table 1 Contemporary issues in sustainable food consumption

Consumers are challenged or contribute to a challenge because they …
• Have lost the notion of seasonality, due to year-round availability of vegetables and fruits
• Have access to an extensive range of comparatively low-priced high-convenience foods
• Have become increasingly distanced from the production of their food, though there is a resurgence of interest in regional food and new trends like slow food, urban gardening
• Are consuming more meat, fresh dairy products and highly processed meals
• Are giving less importance to home meals as fora for structuring of everyday lives
• Are offered solutions by the convenience food industry to indulgence and prestige aspirations, as well as health and fitness concerns
• Are increasingly demanding high-quality, health-oriented and organic foods
• Are faced by complex decision-making due to increased and novel food options
• Have to navigate through numerous co-existing food labels
• Are contributing to high amounts of food waste due to insufficient menu planning or knowledge about food freshness and storability, buying of large package sizes enabled by large home-storage capacities and the attractiveness of quantity discounts at points-of-purchase
Consumer behaviours are having an impact …
• On the natural environment as evident in water, energy and land use, water and air pollution, GHG emissions, reduced biodiversity, support of organically-produced foods
• On human health as evident in over-or under- nutrition, food risks from agrochemicals and food additives, climate change, pollution
• On ethical issues as evident in support for just and fair access to food and clean drinking water for all, availability of hygienically and technologically safe food, fair working conditions and animal welfare in food production

Adapted from Reisch et al. (2013: 12–15)

lack of financial resources, cognitive capacity, energy for volition and self-control, knowledge about problems and solutions and skills. For example, Tobler et al.'s (2011) study on perceptions regarding environment-friendly food choices showed that consumers erroneously believed that avoiding excessive packaging had the strongest beneficial impact on the environment, whereas purchasing organic food and reducing meat consumption were the least beneficial.

von Meyer-Höfer et al. (2013) conducted research on so-called "convinced" sustainable food consumers. These consumers were more likely to be female, sought "quality" foods and had a more positive attitude towards sustainable consumption. The latter was expressed as a higher willingness to contribute to sustainable development by their consumption of sustainable food, as they tended to "believe in the effectiveness of their personal purchase decision" (p. 11). Factors hampering sustainable food consumption among these psychologically motivated consumers were the expected price and perceived difficulty to change one's habits, together with perceived scepticism about the existence, availability and ease of identification of sustainable food products. All this has implications for educators promoting sustainable food consumption, as teaching and learning strategies which strengthen confidence that one has the capacity to make a positive contribution to sustainable development may be more effective in achieving actual behaviour change.

The importance of values also emerged in Hjelmar's (2011) study on organic food shopping behaviours. He found two types of consumers: Pragmatic consumers who gave great value to convenience, which included that organic foods were readily available in the local supermarket, were clearly visible (preferably with an eco-label), and with a minimal price differential vis-à-vis conventional products; and reflexive consumers for whom health considerations, ethical considerations (animal welfare), political considerations (environmentalism) and quality considerations (taste) played an important part. Similarly, Connell et al. (2008) have suggested that those consumers who regularly shop at Farmers Markets do so not only because they can buy "good food", but also because it offers an opportunity for expressing values associated with food choices (p. 182).

Ecological food consumption has typically been linked to vegan diets due to the absence of animal products (Ruby 2012). Yet, elimination of meat from the diet is seen as a barrier to sustainable food consumption (Vanhonacker et al. 2013). For those not interested in a plant-exclusive diet, alternate products such as hybrid meat, meat substitutes and insect protein have been developed, but these have been difficult to introduce in Western diets. Other solutions, such as reducing meat consumption, or consuming meat with lower environmental impact, such as sustainably farmed fish and organic meat, were received more favourably in studies. The highest acceptance was for moderation in portion size of meat consumed (Vanhonacker et al. 2013).

The role of education in sustainable food consumption A Nordic Council of Ministers' (2009) report stated that in fostering sustainable consumption, "educational programmes have long had the objective of promoting the concepts of commitment to sustainable lifestyles, the enhancement of skills and competences

relating to sustainable development and the promotion of such awareness as a part of lifelong learning" (p. 22). The relevance of formal and informal education for sustainable *food* consumption is emerging around the world.

Hassan-Wassef (2012) has remarked that dietary education must strive to include messages that "promote sustainable diets and the ethics of food consumption as applicable and relevant to each country and location and, more importantly, to raise awareness about current environmental issues such as carbon and water footprints" (p. 410). A study among Chinese adults on green consumption (Zhu et al. 2013) revealed that through relevant education to motivate intention to change, an actual switch towards more sustainable practices may be possible. Piscopo (2013) outlined examples of national dietary guidelines and industry and NGO consumer guidance promoting sustainable diets. Messages were linked to human, environmental, social and economic wellbeing (see Table 2).

Tobler et al. (2011) similarly, outlined various behaviours which should be tackled via informational or educational campaigns based on research related to motives for choosing or not choosing sustainable food consumption practices. The authors found that respondents lacked knowledge on the environmental benefits of ecologically-friendly food choices and recommended that education interventions should focus on increasing awareness regarding the environmental impacts associated with meat consumption, heated greenhouse production and air transportation, as well as the environmental benefits of organic food products. They also concluded that the following arguments could likely be more effective in bringing about sustainable consumption: (a) Better taste and environmental friendliness as motives for the consumption of seasonal vegetables and fruits; (b) Health benefits and prevention of animal suffering as motives for reducing meat consumption.

Bissonette and Contento (2001) proposed that, especially when working with adolescents, one needs to make the impact of environment-*un*friendly practices more salient for them through cognitive and experiential approaches. Álvarez-Suárez et al. (2014) used the classroom as a community setting where the first step was to identify obstacles to environmentally-friendly behavior, followed by

Table 2 Key messages from selected guidance instruments promoting sustainable diets

• Favour a plant-based diet which incorporates a variety of foods, ranging from grains, to vegetables, pulses, fruit, nuts and herbs and spices
• Frequently consume raw vegetables and fruit
• Opt for 'whole' varieties of grains
• Opt for foods which have been cultivated or reared organically, are in season and are produced locally
• If consumed, eat meat (including processed) and fish and seafood only a few times a week and avoid large portion sizes of meat
• Keep foods high in less healthy fats and/or sugars to a minimum
• Drink local tap water and local fresh fruit juices more than bottled water and sweetened soft drinks
• Seek eco-friendly labelling, such as organically-farmed, non-GMO and sustainably-fished food certification, recyclable packaging symbols

Adapted from Piscopo (2013: 86–87)

the design of small-group behaviour modification strategies that could then be extended to the community at large. This thinking is in keeping with McGregor's (2009) argument that Education for Sustainable Consumption could benefit from the application of social learning theory through observational learning and as part of authentic consumer education curricula.

Home Economics literacy and its role in facilitating sustainable convenient food use From its earliest conception as a discipline, the aim of HE has been to help individuals and families make the best use of available resources for maintaining human and planetary wellbeing (McGregor and Goldsmith 1998; dewhurst). This vision aligns neatly with that of sustainable consumption. Indeed, according to the International Federation of Home Economics (IFHE) (2011), HE has a valid role to play in fostering the UN Millennial Goals of Education for Sustainable Development, which aim at developing the pillars of sustainability within the education sector and within individuals' daily lives. So much so, recent studies have reported that HE teachers consider sustainable development to be an important issue and that formal HE curricula make significant contributions to education for sustainable development (Piscopo and Mugliett 2012).

Defining HE Literacy Given the emerging discussion on HE literacy (Hira 2013; Pendergast 2013), it is clear that the knowledge, attitudes and skills being proposed are valuable to making sustainable consumption choices even in the realm of convenience food usage. According to Hira (2013), HE literacy is a composite of multiple literacies, including food, consumer, environmental, financial, social and technological literacies amongst others. All of these literacies would be useful, some more directly than others, in guiding sustainable convenient eating among individuals and families.

For many years Home Economists have recognised that behaviour change is the ultimate goal of all literacies and they have been "confidently and knowledgeably dealing with multiple literacies in a way of interconnecting elements such as skills, culture, systems, and behaviors" (Hira 2013, p. 115). Turkki (2012) explains that HE has a prime role to play in global development by uniting the discourses of sustainability and wellbeing in a practical and meaningful way. In a similar vein, Lorek and Wahlen (2012) state that HE is unique in that it can serve to bridge the knowledge-practice gap for establishing sustainable consumption lifestyles. More specifically, HE can guide individuals and families on how nutrition is best enacted at the household level in order to facilitate sustainable food consumption also at the national and global level. Food literacy, as one component of HE literacy, has a crucial role in this regard.

Defining Food Literacy Food literacy has been given much attention lately in academic research, policy development briefs and school-based and community interventions due to an interest in the association between deficiency in cooking skills, obesity, disease prevention and family resource management (Benn 2014; Pendergast and Dewhurst 2012; Chenhall 2010a; Lichtenstein and Ludwig 2010). Yet, perceptions and understanding of food literacy differ. In research by Fordyce-Voorham (2011), consumer skills were seen as integral to food literacy and it was felt that "With planning, shopping, and preparation skills, young people are

empowered to make their own meals from fresh and seasonal food produce and flavoring ingredients instead of relying on takeout food and expensive convenience food" (p. 119). In other words, food literacy was seen as a tool for avoiding use of convenience foods and services, but not so much as a tool for choosing wisely among available convenience foods and services, if lifestyle and culinary circumstances necessitated their use.

Vidgen and Gallegos (2014) worked with Australian young people and experts to elicit their understanding of food literacy. Based on this grounded research study eleven components of food literacy were identified, which fell into the domains of planning and management, selection, preparation and eating (see Fig. 1). If it were assumed that convenience foods are a standard constituent of one's diet, then these components would need to be applied specifically with this in mind in any HE interventions. For example, the component making feasible food decisions which balance nutritional needs and flavour preferences with time, money, skills and equipment available would determine whether to buy a fully prepared fresh vegetable soup found in the chilled food section at the supermarket

Plan and Manage

- Prioritise money and time for food.
- Plan food intake (formally and informally) so that food can be regularly accessed through some source, irrespective of changes in circumstances or environment.
- Make feasible food decisions which balance food needs (e.g. nutrition, taste, hunger) with available resources (e.g. time, money, skills, equipment)

Select

- Access food through multiple sources and know the advantages and disadvantages of these.
- Determine what is in a food product, where it came from, how to store it and use it.
- Judge the quality of food.

Prepare

- Make a good tasting meal from whatever food is available. This includes being able to prepare commonly available foods, efficiently use common pieces of kitchen equipment and having a sufficient repertoire of skills to adapt recipes (written or unwritten) to experiment with food and ingredients.
- Apply basic principles of safe food hygiene and handling.

Eat

- Understand food has an impact on personal wellbeing.
- Demonstrate self-awareness of the need to personally balance food intake. This includes knowing foods to include for good health, foods to restrict for good health, and appropriate portion size and frequency.
- Join in and eat in a social way.

Fig. 1 The eleven components of food literacy derived from the expert and young people's studies. Adapted from Vidgen and Gallegos (2014: 55)

and which required mere heating; or whether to buy a packet of frozen mixed chopped vegetables as a basis for a home-made soup. Or, if one had to consider the quality of a convenience food product, being able to read the nutrition label to determine and perhaps compare between similar products the fat, salt or sugar value per 100 g/ml would be an important skill to have.

Interestingly, there has been an upsurge on an international level in advocacy for including food and cooking education in school curricula or youth programmes (Reicks et al. 2014; Pendergast and Dewhurst 2012; Pendergast et al. 2011; Chenhall 2010b). Recognition of HE's potential role in meeting this need was expressed by Lichtenstein and Ludwig (2010) when they suggested that the subject be reinstated as compulsory education and that basic food preparation and meal planning skills must be included in a renovated HE curriculum.

> Through a combination of pragmatic instruction, field trips, and demonstrations, this curriculum would aim to transform meal preparation from an intimidating chore into a manageable and rewarding pursuit. As children transition into young adulthood, they should be provided with knowledge to harness modern conveniences (e.g., prewashed salad greens) and avoid pitfalls in the marketplace (e.g., prepared foods with a high ratio of calories to nutrients) to prepare meals that are quick, nutritious, and tasty (pp. 1857–1858).

The authors recommended adopting a practical approach, taking into consideration the realities of contemporary families and contemporary food systems, where the use of convenience foods is not excluded, but caution is advised in their selection. Given the earlier discussions, the question which automatically follows is 'How can HE literacy help uphold sustainable consumption principles if one chooses to include convenience processed foods in ones shopping basket?'

Integrating sustainable consumption and convenience via HE education Whether in a school or community setting, Home Economists are typically engaged in education on foods, nutrition and consumer issues, including sourcing, storing and preparing foods, as well as maximising nutrient retention, getting value for money and promoting traditional cuisine (Piscopo 2014; Pridane 2013). Thus, HE provides a natural forum for developing sustainable diet competences in a holistic and applied manner (Benn 2014; Piscopo 2013), where critical assessment and judicious use of convenience processed foods is not unthinkable, as long as current dietary guidelines and sustainability principles are respected and the role of individuals as responsible citizens in these matters is clear (Bissonnette and Contento 2001).

Kolodinsky (2012, p. 163) has suggested a three-pronged approach so that Home Economists augment their practice with respect to working within food systems. She proposes integrating:

- "food cents"—looking at cost of food purchased, time spent cooking, food miles, environmental impact and substitution of less healthy convenience foods.
- "food sense"—considering the environmental impact of globalisation of the food supply, the increased demand for mass-produced foods, and consumers' role in seasonal and regional purchasing, in requiring appropriate food labelling and in demanding less or environment-friendly packaging.

- "food scents"—analysis of how modernisation of the food system has impacts on the diet-health link, food culture and traditions, as well guidance on appropriate food choices and food preparation techniques which preserve food traditions and respect social norms, yet still embrace good nutrition principles which foster health.

Harmon and Maretzki (2006) has also proposed a concrete list of action goals to help nurture sustainable food systems and also guide the development of curricula. The focus is on health, environmental and ethical aspects of the production, transportation, preparation, consumption and disposal of food (see Table 3). Given the

Table 3 Actions, messages and skills for sustainable convenience food education via home economics

Specific examples for home economics		
Action[a]	Messages for learners	Skills for learners to see and practise
Eat a healthful diet lower on the food chain	If meat is consumed, eat small amounts of humanely raised pastured or fodder-fed animal products; eat less grain-fed meat	Identify plant-based recipes suitable for different meal settings and family needs
		Prepare more plant-based dishes with no or minimal meat content
	Increase the proportion of vegetables, legumes and fruits in your regular diet	Prepare dishes containing cheaper plant protein foods, rinsing well if canned varieties are used
Eat and act to promote sustain-able farming/fishing practices	Find out how and where the food you consume is produced	Identify and explain food labels which can help consumers recognise sustainably produced/sourced food
		Prepare dishes with ingredients which are local and have been produced in a sustainable manner (based on realistic economic accessibility)
Learn to cook, and appreciate cultural food patterns	Find out about traditional food patterns of diverse cultures	Discuss trade-offs between using whole less processed foods which require time, effort and energy/water to produce at home, and more highly processed foods which require less resources for home production
	Explore the traditional Mediterranean diet and similar plant-based diets	
		Plan and prepare meals with can be cooked quickly using a mix of fresh and less-processed convenience foods
		Prepare local traditional foods and foods from other cultures which meet several sustainability criteria

(continued)

Table 3 (continued)

Specific examples for home economics		
Action[a]	Messages for learners	Skills for learners to see and practise
Reduce food transport energy	Choose foods in season locally whenever possible	Practice weekly menu planning for different family set-ups and lifestyles
	Choose foods produced locally or within a limited kilometre radius	Draw up shopping list for household staples which may include some less-processed, healthier convenience foods
	Patronise restaurants that buy local, seasonal food	Use only local, seasonal foods as far as possible
	Create a demand for locally produced/processed foods	Practice freezing/preserving food bought in bulk
	Buy foods in bulk and freeze for later use	Set up a school, home or community kitchen garden

[a]Goals as proposed by Harmon and Maretzki (2006)

Table 4 Actions, messages and skills for sustainable convenience food education via home economics

Specific examples for home economics		
Action[a]	Messages for learners	Skills for learners to see and practise
Reduce food processing and packaging energy	• Buy fresh local foods whenever possible	• Prepare raw and lightly cooked dishes
	• Identify availability of different forms of the same processed food	• Prepare dishes using energy-saving and water-saving cooking techniques
	• Avoid buying products with unnecessary containers and packaging	
Reduce food waste and landfill methane production	• Only consume enough food to meet your energy and nutritional requirements	• Become familiar with or calculate their energy and basic nutritional needs
	• Buy sparingly	• Prepare dishes using leftover foods
	• Use leftovers: Eat soon after production day, freeze for later, share with others or compost as the last resort	• Separate waste
	• Avoid sending food waste to landfills	• Participate in school/community composting initiatives
Eat for social justice	• Do not over-consume, but rather conserve scarce resources (e.g. food, water)	• Prepare dishes using farmers market and fair trade products (based on realistic economic accessibility)
	• Shop at farmers markets or enroll in community supported agriculture schemes	• For school and community events showcase and prepare foods using farmers market and fair trade products
	• Find out about availability of fair trade food products and opt for these as far as possible	

[a]Goals as proposed by Harmon and Maretzki (2006)

food literacy and consumer literacy strength of HE, these goals could easily be integrated into experiential learning activities. An example of this can be seen in research conducted among HE university students in Tokyo to evaluate the impact of cooking education based on the "Eco-cooking" Japanese movement (Mikami and Nagao 2013). Results revealed a reduction in energy and water usage by students, with no significant negative impact on taste.

Inspired by the literature and Harmon and Maretzki (2006, p. 118) in particular, Table 4 portrays key messages and practical skills which could be implemented via HE educational initiatives in different settings, to integrate sustainable consumption principles with convenience food use.

2 Conclusion

Several studies (Macdiarmid 2014; Monteiro et al. 2013) have emphasised that achieving sustainable food consumption patterns will require commitment and action by the various stakeholders in the whole food system, from governments, producers, retailers, to consumers. The likelihood of changing dietary behaviours on a large scale may require fiscal and other statutory measures, but will certainly also depend on formulation of meaningful realistic guidance and practical educational interventions which consider modern lifestyles, cultural and social norms and the food settings in which food choices and intake take place. Educators and Home Economists need to keep up-to-date with salient issues that are affecting eating habits. Being sensitive to the key drivers of convenience food use can help identify messaging and nurture skills which can facilitate using these foods sustainably if they are a regular feature in the individual or family diet.

Ultimately, the development of a society which embraces and practices sustainable food consumption—even if a portion of their regular food basket comprises convenience foods—depends on collective learning processes through which the shared values, attitudes and behavioural norms change. Home Economics literacy can assist so that consumers of different ages make informed decisions, apply appropriate food procurement and preparation principles and are empowered to believe that their choices and actions can make a difference to their personal, family, community and global wellbeing.

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A World at Stake—Global Citizenship, Justice, and the Role of Museums

Sigurd Solhaug Nielsen and Jørgen Klein

Abstract The purpose of this paper is to demonstrate museums' potential for promoting global awareness and social justice. The paper presents and analyses a controversial Danish exhibition titled *A world at stake*. The travelling exhibition was based on the concept of the United Nations' Millennium Development Goals and designed as a full-scale board game covering an area of 250 m^2, large enough for a class of pupils to take the role of live playing pieces. The exhibition was launched in 2010 by the Danish science centre Experimentarium, and circulated in Denmark, Sweden, and Norway until mid-2014. The target group was mainly pupils from primary and secondary schools. The exhibition was controversial due to its presentation of an unjust world in an unjust manner. The paper critically analyses the exhibition and its embedded pedagogy by drawing on the concepts of global citizenship and social justice.

Keywords Global citizenship · Museums · Millennium development goals · Poverty · Social justice

1 Introduction

In 2004 the first Consumer Citizenship Network (CCN) conference was held at UNESCO's headquarters in Paris, titled 'Using, choosing or creating the future?' One of the CCN working groups, named 'Global Solidarity', addressed the question of what contributions the European consumer can make towards eradicating

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© Springer International Publishing Switzerland 2015

V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_14

global poverty. During the past decade this question has been elaborated and discussed from different angles and points of departure both under the CCN initiative and later through the Partnership for Education and Research about Responsible Living (PERL). An appreciation of how this challenge is interwoven in the global economic system and is an outcome of economic processes that we all take part in is fundamental in the understanding of the issue of global poverty. The main focus has been to inform and raise awareness of global economic processes among children and young people, as they are seen as change agents for the future. The CCN/PERL network has so far been successful in addressing how this issue can be dealt with didactically with in teacher education and schools, with numerous publications, guidelines, and teaching materials having been produced and made available to the public. In this paper we aim to expand the focus to an arena that so far has been less explored within the CCN/PERL context, namely the role of museums in contributions to global awareness and social justice.

Responsible living and sustainable development are concepts that must be understood within a global framework. In the year 2000, world leaders adopted the United Nations (UN) Millennium Declaration, committing UN member nations to a new global partnership to reduce extreme poverty and establishing a series of time-bound targets, which later became known as the Millennium Development Goals (MDGs). The first goal represents the main target of the campaign: '*Eradicate extreme poverty and hunger*' (United Nations 2014). Poverty and the poor are defined as the proportion of world population whose income is less than USD 1.25 per day. The other seven goals are the means by which to achieve goal number one: '*achieve universal primary education*, *promote gender equality and empower women*, *reduce child mortality*, *improve maternal health*, *combat HIV/AIDS*, *malaria and other diseases*, *ensure environmental stability*, [*and establish a*] *global partnership for education*'. The goals are subdivided into 60 quantifiable subtargets. Statistics gathered from year to year from each country make it possible to monitor progress towards the year 2015, the deadline set for the campaign (United Nations 2014). The campaign has been the subject of much critical debate. The definition of poverty, the problem of gathering reliable data, and issues of comparability have all been questioned within the member states of the UN (UNDP 2013). Despite the challenges involved, there seems to be agreement on the advantages of being able to present some form of measurable 'current state', as opposed to goodwill statements from year to year. The MDGs conceptualize poverty as a manageable condition, for which a recipe is presented to resolve world poverty, one of the most vital injustices experienced by humanity through time.

In this paper we focus on how the MDGs can be made accessible to youths by presenting the example of museum exhibition titled *A world at stake* (original title in Danish: *En verden på spil*). In addition, we discuss the role of museums in contributing to global citizenship and social justice through such exhibitions. The following main research question is addressed: *How are issues of global poverty, social justice and global citizenship addressed and promoted through A world at stake*?

When considering an exhibition's potential contribution to vital challenges with local and global impacts, we outlined two subquestions that cover essential debates relevant to the main question: *Does the exhibition's pedagogical framework and representation of global poverty stimulate global citizenship*? *How can we understand A world at stake as a museum sector initiative for social justice*?

The paper explores the concepts of global citizenship and social justice as a theoretical background against which the case is discussed. A description of the case *A world at stake* is presented, followed by an analysis of the exhibition. The empirical sources are based on the authors' observations at Glomdalsmuseet, part of Anno Museum in Elverum, Norway, between autumn 2013 and spring 2014. We conducted six sessions of observations of the complete school programme at the museum. The sessions were led by four different museum educators. The visiting classes of primary and secondary school pupils (from 10 to 16 years old) were observed at a distance and care was taken not to interfere with the learning environment. Three of the sessions were recorded and one of the recorded sessions was transcribed in full. Field notes were written shortly after observing the sessions. The research was conducted as part of a research project hosted by the Department of Geography, Norwegian University of Science and Technology (NTNU), in collaboration with Hedmark University College, Norway.

In addition to our observations, we experienced the exhibition as participative audience on at least five separate occasions, including a conference and one staff demonstration. The occasions were not part of the formal process of gathering empirical data but contributed to shaping our views on the exhibition experience.

Local communities in Norway were aware of the exhibition because prior to coming to Elverum, *A world at stake* had been on display in three other locations in Scandinavia: Experimentarium in Denmark, Jærmuseet in Norway, and Teknikens Hus in Sweden. More than 15,000 pupils participated in organized school visits to the exhibition. In addition, the exhibition was experienced by families and a general audience at weekends and at various events. However, the number of school visitors is significant because our observations related to the exhibition in the context of parties of school visitors.

2 Global Citizenship and Social Justice

The concepts 'world citizen', 'global citizen', and 'cosmopolitan citizen' can mean different things to different people but are often used interchangeably. Citizenship is often defined as fixed in the rights and responsibilities deriving from sovereign nation states. Osler and Starkey (2003: 243) argue that migration requires people to develop multiple loyalties and identities, and this questions the traditional idea of citizenship. Delanty (2007) demonstrates how cultural dimensions of the term have become increasingly important. As cultural identities are shaped along with ongoing global migration and cultural exchanges, he sees cosmopolitanism as layered in different forms of governance that transcend

national, international, and global levels (Delanty 2007). According to Gibson et al. (2008: 12) the concept of world citizen can refer to a level of citizenship concerned with global issues such as the environment, peace, and poverty. This view of world citizenship has strong links with the concept of cosmopolitan citizenship, which relates to international experiences, respect for other cultures, and concern for global issues (Gibson et al. 2008). This is in line with Linklater (2002: 322), who emphasizes that the concept of cosmopolitan citizenship embraces stronger individual responsibilities for the planet as a whole. This has been stimulated by, for example, inadequate responses to environmental degradation and uneven distribution of resources and economic development. Thus, the concept of cosmopolitan citizenship has been used to challenge the idea that the first responsibility of a state is to promote the welfare of its own citizens (Linklater 2002: 322). According to Lough and McBride (2013), global citizenship can be associated with a cosmopolitan mindset and with responsibilities and obligations that transcend national boundaries. In this paper we apply the term global citizenship as a generic term covering the aspects embedded in the above-discussed concepts of cosmopolitan citizenship and world citizenship. This includes viewing the citizenship concept as a socio-political idea that implies a moderate sense of commitment to a particular country along with a moral sense of solidarity and responsibility to people in other countries. Lough and Mcbride (2013: 459) argue that there may be many democratic structures outside a nation state for fulfilling a person's moral obligations towards the rest of the world. For example, through engagement with humanitarian NGOs and multilateral institutions, global citizens may influence issues of justice, poverty, and human rights worldwide.

The concept of global awareness is closely connected to understandings of global citizenship. Merryfield (2008) defines global awareness including knowledge, interest, and engagement in global issues, local/global connections, and diverse cultures. According to Gibson et al. (2008), global awareness refers to knowledge and understanding of the interconnectedness and interdependence of the world, an attribute that is fundamental for developing global citizenship. In educational terms, global awareness can thus be seen as the learning processes and skills needed to achieve a perceived goal of global citizenship. Carlsson-Paige and Lantieri (2005) point to a constructivist pedagogy that emphasizes the active role of the learner in the learning process as the recommended methodology for developing global awareness. They are supported by Holden (2000), who draws on the critical pedagogy of Freire (1972), and argues that in education, where the learners are willing participants and active collaborators in the learning process they will develop a deeper sense of self-awareness and greater understanding of the world. Holden (2000: 75) further claims that through the use of photographs, artefacts, role-play techniques, and simulation games, teachers are likely to foster a deeper understanding of society and societal processes among their pupils.

Clearly, global citizenship includes moral aspects. In the next section we pursue and operationalize the moral aspects of global citizenship by applying the concept of social justice to the MDGs. The aim is to present to readers a critical understanding of the poverty campaign in which *A world at stake* was based.

3 Assessing Social Justice in the MDGs and Museums

> Justice is the first virtue of social institutions, as truth is of systems of thought. (Rawls 1971: 3)

Some political thinkers have described justice as an ever-present condition and 'the yardstick' by which all social conditions can be measured. This is evident from the fact that justice has remained one of the most critical issues in the history of political thinking (Malnes and Midgaard 1993). Here, we lend support to geographers' understanding of the term, and look at how justice is manifested in the MDGs. Justice can be defined as the 'exercise of authority in maintenance of "right"' (Smith 1994: 44). Identification of unwanted conditions motivates actions in favour of the good. Justice also includes retributive justice, which refers to the actions or repercussions that may follow an act identified as unwanted or illegal. Retributive justice is performed through a legal system established to maintain formal governed law, and is recognized by a measurement, commonly agreed upon as the fair exchange of good and bad. Smith (1994: 24) writes that the noun justice refers to fairness, or to do right. Hence, to do justice is to treat fairly, and to justify is to show justness or fairness of something.

A similar understanding of equality is applied in *distributive* justice, but then in the sense of equal shares or 'the fair allocation of divisible goods' (Mels and Mitchell 2013: 212). Further, distributive justice is subdivided into categories of social, political, and economic justice, which are commonly described as overlapping categories. Although it is possible to differentiate inequalities in income (economic justice) from unjust distributions of individual rights (social justice), the isolated treatment of these issues may lead to artificial descriptions of 'real circumstances', which are 'compounded by the obvious interdependence of different attributes' (Smith 1994: 25). This view can be identified in the notion of the MDGs, which recognize extreme poverty and hunger as *the* unjust condition of the human race. The campaign to implement the goals addresses distributional justice by highlighting the unequal allocation of resources and life necessities on a global scale, and promotes an agreed set of means to reverse this condition. The set of goals and subtargets recognize the interdependence of attributes that Smith points to. The MDGs address the issue of global injustice and extreme poverty, suggesting possible means to correct the imbalance. However, within this framework there is not much contemplation over how this unjust situation came to be or why structures that generate poverty are still upheld (Amin 2006). It is also worth noting that the UN's concept of the MDGs is based on a specific definition of poverty, wherein the poor are recognized as a group that is different from the rest of the world's populations, who all have an income of more than USD 1.25 per day. Thus, MDGs depart from a defined dichotomous understanding of population and group by means of an economic definition. The exact limit of income is used to define and pinpoint a particular group of people subject to the unjust conditions of poverty. However, the MDGs do not question or elaborate on the reasons for the unjust condition or why poverty is spatially distributed in the way it is. We argue

that here is a need to understand the campaign's representation in the exhibition *A world at stake* from this predefined condition. The MDGs frame an understanding of the poor as a group with a set of cures predefined by its seven goals accompanying the main goal of eradicating extreme poverty and hunger.

Conventional understandings of museums may not typically be associated with justice, but the concept is increasingly being applied to these institutions, especially through politically motivated cultural policies and within museological debates. Museums preserve tangible and intangible heritage, and shape future identities through their public displays and spaces (NOU 1996: 7). In Norway, the societal role of museums has received particular attention in the last two decades: 'The social role or mission of museums is to develop and communicate knowledge of how humans understand and interact with their surroundings' (St.meld. nr. 49 (2008–2009): 145, our translation). With a shift from the museums' conventional priority on preserving and displaying material artefacts, recent Norwegian White Papers have spurred a wide range of debates on what such a broad-scoped societal role may look like in practice. We argue that such a societal definition gives leeway to understanding museums as potential contributors to global awareness and a more just society. Hence, our understanding of museums and justice emphasizes the educational mandate along with the potential to stimulate agency:

> 'Public education is … an instrument of democratization in line with, and as a supplement to formal education. … museums are places where people should gain knowledge about conditions in the natural environment, the interplay between humans and the natural world, living conditions in the past, and artistic qualities, all of which constitute necessary background knowledge in order for individuals to navigate in an increasingly complex world' (NOU 1996: 7: 39, our translation).

The NOU report (an official government report) emphasizes the educational role of the museum. It states that museums and their artefacts are not ends in themselves, but rather the means to understand relationships found in people's surroundings and everyday lives. In this sense, justice is identified through the long term-effects of museums, providing increased civic capacity for democratic participation and navigation 'in an increasingly complex world'. This complex world could also be understood to encompass ideas of difference, struggle, and contestation, and subsequent unjust conditions.

However, recently, scholars and interest groups have argued that museums and justice should be practised as a more explicit relationship. A network established in 2014, named the Social Justice Alliance for Museums (SJAM), calls on institutions and individuals to sign a charter, in which item 4 states: 'We acknowledge that many museums have for many years failed to operate for the wider public benefit, and instead have catered primarily for educated minorities. We reject this approach' (National Museums Liverpool 2014). We interpret this as meaning that a conventional and persistent belief in the societal contribution of museums is available. More specifically, item 4 is a reference to content production, and how museum representations target specific audiences and implicitly exclude others. The public's access to culture as an issue of social justice is also clearly reflected in the recent White Paper from the Norwegian Ministry of Culture, titled

Culture, *inclusion and participation*: 'One of the Government's overarching goals is to reduce economic and social inequalities and to work for an inclusive society in which everyone can participate. … Participating in cultural activities is a way of creating a sense of belonging within a society. In modern society, personal and social identities are strongly related to participation in cultural activities' (Meld. St. 10 (2011–2012): 7). Cultural participation is thus linked to the shaping of identities and belonging, as well as being one of the means by which to fight social inequality through civic education. Thus, lowering people's mental barriers to entering museum doors represents one of the ways that museums can contribute to social justice.

4 *A World at Stake*—An Unjust Representation of an Unjust World

The exhibition *A world at stake* was launched in 2010 by the Danish science centre Experimentarium in collaboration with Jærmuseet in Norway. The overall idea was to offer schoolchildren an inspiring experience by introducing them to the MDGs in a playful environment. The project received financial support from DANIDA (Ministry of Foreign Affairs of Denmark) and Norad (Norwegian Agency for Development Cooperation). Five NGOs were contributors and advisors with regard to the theme of development and poverty.

In line with the interactive style of many science centres, the exhibition at Experimentarium was designed as a full-scale board game covering a 250 m^2 area, large enough for a class of pupils to form teams and take on the role of live playing pieces. The exhibition was designed to engage primarily school participants in a 1-hour guided session. In many cases this was followed by a 30–60 min presentation and dialogue between pupils and a museum educator on themes related to poverty. In the following discussion, we examine the exhibition and the complete performance within that space, as it was the prime attraction offered to all school visits in all of the exhibition locations.

Upon entering the exhibition, a class was split into four teams, each representing their own colourful 'home base' and a checker showing the location of each team on the board layout (the floor). This was followed by a 20-minute introduction by the museum educator. A few thematic elements were introduced to the pupils at this stage, but the educators we observed focused primarily on practical performance rather than thematic elaborations. The game was then started with a countdown clock, and the class was given 20 min and 15 s in which to solve as many tasks as possible. The allocated time worked as a symbolic reference to the MDGs deadline set for 2015.

A world at stake was performed as a game of chance in two ways. First, the teams' movements were constantly dictated by a centrally located dice. Much like any other board game, each team rolled one or two dice (as the game required) and performed the challenge according to the placement of the checker. The numbers

Fig. 1 Two out of twelve tasks in *A world at stake*. *Left* Stop epidemics spreading around the world. *Right* Plant trees and forests in one minute. *Photo* Flemming Leitorp, Experimentarium

shown on the dice therefore directed each team to one of the twelve sections where they had to perform interactive tasks that reflected themes from the MDGs in a more or less specific way.

One of the sections, 'Stop the epidemic', depicted a 5 m wide world map with red flashing buttons symbolizing 'epidemics' spreading at a rapid rate (Fig. 1). Team members then had to work in collaboration, pressing flashing red buttons to stop as many as possible of the epidemics from spreading. This activity related to Millennium Development Goal 6: 'Combat HIV/AIDS, malaria and other diseases'. Another task reflected goal 7, 'Ensure environmental stability', through a challenge named 'Plant a tree'. Members of the team had to collaborate in order to plant as many trees and forests as possible in one minute. As symbolically explained by the museum's educator, this would 'prevent atmospheric carbon emissions, and desert spreading'.

Second, the game of chance was somewhat crudely present in four of the tasks, for which a second dice was needed. If a team encountered one of these tasks, an additional black and white dice was rolled. Depending on the outcome, the team either suffered a setback or gained an advantage (Fig. 2).

The section 'When the earth shakes' illustrated how housing construction in some parts of the world is challenged by infrequent earthquakes, and where appropriate building materials are a key factor for people's survival and well-being. According to Experimentarium, the white field of the dice allowed a team to solve the task 'in the role of a developed country' (Experimentarium 2012). Figure 2 (left) shows team members using white-toothed card boards that interlocked when pushed together. After one minute of intense construction, the team's effort was put to the test when the table wobbled, simulating an earthquake. 'Houses' that were still standing after the 'earthquake' earned the team points. If the initial dice thrown was black, the team's misfortune was emphasized because they would have to cope with using brown construction boards without teeth. Since they would not interlock, the houses constructed of them had almost no chance of surviving a simulated earthquake. This communicated the idea that developing countries have poor construction materials. The same developing or developed country dichotomy was also found in 'Get a doctor', a task that referred to Millennium Development Goal 5: 'improve maternal health'. In this case a game

Fig. 2 Pupils participating in two of the activities. *Left* 'When the earth shakes'. The team was equipped with white, easy-to-use building materials. *Right* 'Get a doctor'. The depicted pupil had been lucky and was able to access doctors located nearby, through a game of quoits. *Photo* Flemming Leitorp, Experimentarium

of quoits served to illustrate how distances to doctors and medical services matter (Fig. 2). Again, the black and white dice dictated whether a player was at a long range or close range. Throwing a white field placed a team player in the city of Hellerup, Denmark, with a very short distance to doctors, represented by Barbie dolls dressed in medical outfits. By contrast, throwing a black field placed a player in Sierra Leone, Africa. The signpost for Sierra Leone was located at a distance of about 4 m from the 'doctors' and thus gave fewer hits and fewer points.

A world at stake was promoted by the host museums as an unfair game. This was due to the use of the dice to dictate the movements of each team. However, the unfairness is perhaps best illustrated by the second dice, which in 50 % of cases dictated that teams had to take on the role of developing countries, for which all subsequent tasks became more difficult. Additional unfair elements in the exhibition where chance cards that related to four fields on the board, and an unfair judge, who was invariably played by the museum educator. However, the unfairness of the exhibition had many layers. In particular, the biased portrayal of developing countries was unfair. One of the purposes of the 20-minute interactive play was to score points. The points were counted in form of pieces of a picture puzzle at the team's home base. In the exhibition, pupils learned that points gathered when playing the role of developing countries were hard to earn, while resources in developed countries were in abundance and accessible at close range. The world was thus clearly represented as the dichotomy of the fortunate developed countries and unfortunate developing countries. In a language directed towards children, this message was verified in some of the press material that accompanied the exhibition when it opened at Jærmuseet 'Would you bother to be Africa?' (Jærmuseet 2010, our translation). Further, one of the contributions from the cooperating

NGOs was to provide illustrative imagery for the picture puzzles at each team's home base, as well as the walls surrounding the board game (a few of which can be seen in Fig. 2). All of the images showed either high-risk or deprived contexts: women carrying thin babies over deserts, a city slum, and a high number of indicators of Africa as a continent where misery unfolds. Developing countries and their (arguably) poor inhabitants were mainly represented in the images, text descriptions, and interactive experiments by misfortune, hardship, and generally poor circumstances in which they were unable to care for themselves or to have a notable impact on their own future.

While the 20 min and 15 s of play created a multisensory and intense experience, the final 20 min were spent in a calm debriefing atmosphere. Pupils sat peacefully in a circle that allowed the museum educator to facilitate a dialogue. At this stage, the teams were confronted with their more or less complete puzzles, which by then resembled live situations in different world contexts. The teams were then challenged to put into words the resemblance that they could make from their picture puzzles in response to prompts from the educator, such as 'What is your puzzle? What do you see?' Thus, what pupils had just a few minutes earlier regarded as hard earned points, then took the form of assumed narrations from the 'real world'. These narrations were typically followed up by the educator to engage the pupils in a mix of dialogue with questions and answers, and to share a limited number of facts and statistics relating to the MDGs. At this point the purpose of the game became more nuanced. When playing, the pupils had been led to believe that scoring points would lead their team to a fortunate situation. In many of the observed cases, the educators took the role of an unfair judge, and provided surprising solutions as to who had actually won the game. One educator designated the 'orange team' as winners simply because orange was her favourite colour with reference to the corrupt and unfair leadership found many places in the world, regardless of how many points they had scored. In another case, the educator chose a quite different strategy and awarded victory to the team that seemed to cooperate and organize themselves in an effective manner. This was followed up by making a point of collaboration and shared responsibility as vital for achieving the MDGs. Since it was very much up to the educator to facilitate the final dialogue, and designate winners for various reasons, the outcome could not be anticipated by pupils. Even though the dichotomous representation of the fortunate developed countries and unfortunate developing countries was quite obvious during the game, this stereotype definition was often not reflected in the question of who actually won the game and for what reason.

5 A Contribution to Global Citizenship?

Compared to exhibitions of a more standard format where visitors can expect to find designated text and titles highlighted on banners, *A world at stake* presented a highly complex scene in terms of conveying knowledge and ideas. The complexity

was due to the fact that each organized 1-hour visit was unique and based on audience participation. Each group saw and experienced different combinations of the content, with varying group dynamics. The dice determined exactly what the players had to perform and how many times. One team could end up performing half of the board game tasks, with many of them repeated three or four times. Others could cover the whole board and perform all twelve tasks. Team numbers ranged from two to seven pupils. Since the classes were small in numbers, the environment was relatively less noisy and chaotic, and consequently each team member had fewer distractions but more responsibility in terms of the collective performance of their team. Bigger teams would have tested the team's leadership, communication, and organizing skills. The occasional chance cards provided additional thematic content information and allowed for exceptions to the general rules of the game. Experiences of *A world at stake* were therefore subjective and hard to generalize. In the following discussion, we focus primarily on two aspects: the first considers the MDGs and their representation in the exhibition, and the second traces the exhibition in the light of science centres' pedagogy and global citizenship.

In the above descriptions of *A world at stake* and the 1-hour programme in which pupils participated, we have focused especially on the lack of nuance in the portrayal of poverty, poor people, and poor countries. This critique is based on a critical understanding of the long-term oppressive effects of exploitation, marginalization, powerlessness, and cultural imperialism (Mels and Mitchell 2013). It is quite obvious that the dichotomous representation of 'us' and 'them' is unjust in itself. When developing countries are represented only in terms of misfortune and hardship this does not stimulate audiences to think of positive and creative capabilities that may reside within those countries. That is not to say that such biased depictions are not true; *A world at stake* rendered text and imagery from situations documented by various NGOs. Rather, the significantly one-sided selection can be criticized. The grim contrasts are also amplified when images of developing countries are juxtaposed with images of developed countries as areas of fortune and welfare. A postcolonial critique also followed the display period of the case study exhibition in Copenhagen. Richie and Fredriksen (2010: 7) observed an almost complete lack of skilled men in all images, which lead them to comment rhetorically 'Aren't there any men in Africa?' According to them, in an African context elderly men are associated with decision-making and can be stakeholders in initiating local development projects and therefore an important part of signalling possibilities and not just challenges and deprivation. In this regard, the exhibition portrayed the African continent as a uniformly deprived area without any local initiatives, and waiting to be saved by good-hearted developed nations, primarily Scandinavian ones.

While we acknowledge that critical postcolonial readings represent a valid and potent critique, it is still a critique that to some extent misses the point of the exhibition. The purpose of *A world at stake* was partly to promote a globally anti-poverty campaign initiated by the UN. The initial task was to make the content of the MDGs accessible to a young audience. As demonstrated earlier in this paper,

the campaign has been criticized for pointing to a narrow definition of poverty, for framing developing countries through reports of disturbing statistics, and for not elaborating the historical and structural reasons for poverty. Injustice is made visible and declared through the separation of the poor and 'the others' (i.e. those who are not poor). This dichotomy gives impetus to the campaign's main goal of eradicating extreme poverty and hunger. In other words, the campaign promotes the possibility of change and the possibility of achieving justice for the poor. The trait that we observed in *A world at stake* is the simplified representation of a global challenge. Critics argue that this is better described with an emphasis on structural mechanisms that explain the reasons behind poverty (Amin 2006; Richie and Fredriksen 2010). We concur that the somewhat simplified and possibly even naive idea of fighting poverty was maintained in the exhibition, but it was a view that was initially framed by the UN, not by the creators of the exhibition. This leads us to suggest that it might be more appropriate to address this critique to how the MDGs frame global poverty, rather than to the initiators of the exhibition.

In the following, we shift our focus to interpret and discuss the exhibition in view of the learning perspective applied. We draw on the concept of global citizenship introduced earlier in this paper and consider how this aligns with the pedagogy underlying the exhibition.

Science centres, such as Experimentarium, have traditionally embraced tactile engagement with *the experiment* as the essence of their activity (Macdonald 1998). This approach is typically applied to experiments within natural sciences, such as physics and chemistry, and allows members of the audience to observe variable outcomes of their individual efforts. A key point is not to provide the audience with a conclusion to begin with, but rather to engage members of the audience in individual observations and reflections, and thereby set in motion or stimulate personal curiosity in the observed phenomenon (Falk et al. 2004). This has led to a visitor-friendly emphasis on process and observation in contrast to more traditional museums in which a less dynamic content emphasizes the mediation of facts and the right answers. In the case of the *A world at stake* exhibition, the initiators' decision to apply this approach to the complex issues of poverty and MDGs, and hence also the politicized themes underlying them, was in this sense both bold and ambitious. By reviewing Experimentarium's 'Vision, policies and objectives', we can understand the educational idea that permeates one of the initiator's core ideologies: 'The Experimentarium trademark is creating involving experiences for visitors of all ages. … We consider the senses the most important part of learning, and therefore the body is a central issue in the way that we work. … Experimentarium aims to surprise and amaze visitors, stimulating their curiosity and their desire to learn more' (Experimentarium 2014).

The description in the above quotation matches our observations. *A world at stake* undoubtedly provided a concept triggering enthusiasm as well as the familiar pleasures (and sorrows) of board games involving chance throws of the dice. The tasks illustrated in Figs. 1 and 2 had entertaining features, but for the pupils their enjoyment from playing the game was combined with the seriousness of the theme of poverty and the fact that they were in a learning environment, both in context of

an organized school visit and being in a museum: 'The more the children participate in the playful and competitive learning environment (in the board game), the more likely they will want to contribute to solve the troubles of Africa' (Marketing text from Experimentarium cited in Richie and Fredriksen 2010: 6). While this statement may seem overly ambitious, as though there is a one-to-one relationship between learning through museum visits and practical life, it can be assumed that Experimentarium was suggesting a causal relationship between joyful experiences and learning.

Critical observers have acknowledged the entertaining aspects of the exhibition too: 'In another task, that generates enthusiasm among the audience, the player is encapsulated in a glass tunnel while a whirlwind throws plastic fruit around inside it, which the player has to catch. The player is trapped in the storm, cannot escape, and is forced to jump and dance, and twist and turn to catch the escaping fruit. It's great fun, both for the participant and for the audience watching the player's efforts through the glass.' (Richie and Fredriksen 2010: 7, our translation). The emphasis is on stimulating the abilities of members of the audience on their own premises, moving the audience, and tapping into their creative senses by giving them tactile tasks that accept failure as well as triggering mastery through performance.

Thus, it seems fair to conclude that *A world at stake* was not designed to mediate and explain the complexity of poverty as a phenomenon, but rather to stimulate curiosity and further exploration. This argument should be seen in relation to the concept of global citizenship and constructivist learning presented earlier in this paper. The pursuit of global awareness, willingness, and an active role of the learner were seen as important requirements. This was supported by the importance of exposing pupils to wide set of media formats. It is therefore not hard to see that *A world at stake*—both through its pedagogical foundation and through its execution—represented a convincing attempt to match an issue of global concern with constructivist pedagogy.

Further, it can be argued that the exhibition promoted global awareness by attempting to arouse its audience's curiosity in the issue. The constructivist perspective sees knowledge as a result of several inputs from different sources, which the individual negotiates between, makes connections, and step by step, over time forms a complete understanding (Falk and Needham 2011: 2). This understanding challenges the critique of Richie and Fredriksen (2010) and allows us to consider museum experiences as partial contributions to an individual's understanding. The constructivist perspective lends trust to the learner in the sense that he or she depends on multiple sources of information and will critically negotiate between them to form a more complete and nuanced understanding. In the case of *A world at stake*, this implies that the audience had to draw on brief but memorable experiences from the exhibition to build on and negotiate with similar stories that they had encountered in everyday life, whether from school, media, friends, or their family. Further, with the moral concerns that global citizenship implies, we should also trust that emerging global citizens will draw sound conclusions from the different sources they experience.

Lastly, we discussed earlier in this paper how museums' relationships with justice are manifested through strategies of inclusion and accessibility. In this regard, *A world at stake* can be understood as a low-threshold initiative. Participation in the exhibition required only basic reading skills. All texts were short and instructive, as opposed to elaborate and rich in facts. A varied set of activities challenged the teams to interact with each other physically and socially. This in turn challenged and stimulated a wider set of skills and capabilities, rather than merely those that were intellectually strong. As the board game layout and the museum educator invited the audience to play, rather than attempting to educate and teach them, it seemed to facilitate a high level of mastery. Board games and their rules are familiar to most people regardless of their social and cultural background. In the case of the exhibition, this seemed evident from the way the pupils quickly engaged in action, seemingly approaching the tasks without fear of failing. In terms of engaging in a cause of social justice, it is through its inclusive design approach that *A world at stake* was a convincing demonstration. It made accessible and democratized the subject of global poverty that potentially concerns abstract and intertwined political discourses. Although it is desirable that global citizens understand the structural causes of poverty, the exhibition did not lecture on these connections. Rather by showing glimpses of reality, by the use of drama, tabloid pictures, and amplified messages, the exhibition aimed to stimulate the type of curiosity that leads to a cognitive dissonance that may motivate further exploration of the complexity of global poverty.

6 Concluding Remarks

This paper has examined how issues of global poverty, social justice, and global citizenship were addressed and promoted in the exhibition *A world at stake*. We have revealed that its portrayal of developing countries invited critical reading. Text, imagery, and also the scoring of points, supported the idea of developing countries as uniformly disadvantaged. Its tabloid layout and dichotomous design features seemed to reflect ideas about developing countries that might be deemed problematic. We have commented that this portrayal reflected the ideas underlying the anti-poverty campaign, suggesting that a critique of *A world at stake* also must involve a critique of the MDGs concept.

We find the science centre pedagogy and the intentions underlying *A world at stake* interesting. Science centre pedagogy aims to stimulate curiosity through the use of tactile engagement and stimulation of a wide variety of senses. We argue that this corresponds well with constructivist learning theory, and the idea that understanding evolves as a result of input from multiple sources over time. In the context of developing global awareness and stimulating global citizenship *A world at stake* provided a very promising initiative through its emphasis on the active role of the learner. We conclude that if the exhibition contributed to arousing young people's curiosity about how poverty has developed and is maintained, and even enforced, the didactics of unjust representations can be justified. This implies a

level of trust in that the learner is capable of navigating and negotiating between different sources of knowledge and of gradually developing a global citizen identity.

In view of inclusive visitor strategies, we find that *A world at stake* was a rare initiative within the museum sector, especially related to topics such as social justice. The case study has shown that museums have the potential to reach many visitors and in very effective ways. However, it is our hope that any future museum initiative will go deeper into examining what social justice means and how this is best promoted. The questions asked and discussions presented in this paper should provide a fruitful contribution to such initiatives.

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Social Learning for Sustainability

Advancing Community-Based Inquiry and Collaborative Learning for Sustainable Lifestyles

Robert J. Didham and Paul Ofei-Manu

Abstract The pursuit of sustainable lifestyles is one that occurs simultaneously at individual, collective and societal levels. Education for sustainable development (ESD), and the offshoot education for sustainable lifestyles (ESL), has generally targeted individual learning and behaviour change. Although, there are several good examples of cooperative and collaborative learning for sustainability in both formal and non-formal educational initiatives. This paper examines the processes of social learning that occur in such collaborative learning cases. Social learning theory has evolved through three distinct phases. The first phase was grounded in the field cognitive psychology, and it provides an explanation of how individuals learn from society or social observation. The second phase developed from the field of organisational studies as an explanation of organisational learning and how collective learning is achieved through an amalgamation of the individual learning of group members. The third phase of social learning is currently evolving as a combination of ecological and educational perspectives, and it aims to explain how sustainability learning can occur collectively and as a society, i.e. for social transformation. In this chapter, a comparative evaluation of five case studies from the Regional Centres of Expertise on ESD in East Asia is conducted to identify what are the social learning processes present across the cases. The main features of community of practice theory are examined as the potential conditions for establishing an effective learning community. The comparative case evaluation demonstrates a high level of benefit in achieving effective social learning in such sustainability initiatives which contributes to smooth implementation of new initiatives as well as strengthening their overall efficacy and longevity.

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© Springer International Publishing Switzerland 2015

V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_15

Keywords Social learning · Sustainable lifestyles · Community of practice · Cooperative inquiry

1 Introduction

The concept of sustainability was first brought to international attention in the Bruntland Report, i.e. *Our Common Future,* in 1987. It was also this report that provided the commonly cited definition of sustainable development. "Sustainable development is… development that meets the needs of the present generation without compromising the ability of future generations to meet their needs" (WCED 1987). The United Nations Conference on Environment and Development (UNCED), or the Rio Earth Summit, held in Rio De Janeiro in 1992 led to the first international agreement that aimed to put humanity on a path of sustainable development which was elaborated in the principles of the *Rio Declaration on Environment and Development* (1992) and *Agenda 21* (1992). Now nearing three decades since the original work of the World Commission on Environment and Development, we find that many milestones have occurred at the level of international treaties and agreements on sustainable development.

Many countries adopted the treaties and followed them up with national policies or plans, however vertical integration of these plans and linkages to implementation at local levels has been inconsistent at best. Reviews made on progress towards these international agreements refer to the existence of *persistent gaps in implementation* of sustainable development (see: ECLAC 2012; UNCSD Preparatory Committee 2010; Didham 2011). Some of the noted implementation gaps include (1) lack of comprehensive and integrated policy making and planning across the three dimensions of sustainable development, (2) continuation of unsustainable patterns of production and consumption, (3) absence of institutional, legal and economic mechanisms for costing/valuing environmental degradation, (4) lack of appropriate information, environmental statistics, and monitoring and evaluation to support decision making, (5) limited civic action and civil society participation in decision making, (6) failure to meet international cooperation agreements, and (7) continued challenges in achieving poverty eradication, social inclusion and equality (ECLAC 2012).

The past 30 years have also seen a counter trend in sustainability to that led by international conferences and agreements. Over this same period, a large number of local and community-based initiatives developed. Some of these initiatives were led or supported by local governments, while other initiatives developed in entirely grass-roots manners. Some of these examples, such as the Transition Towns network and the Permaculture movement, are now replicated around the world and through this have developed complex knowledge and approaches for sustainable development. There are several unique features common across many of these community-based approaches that warrant closer investigation in considering how the persistent gaps in implementation of sustainable development may be overcome. These features include (1) high-levels of community participation and engagement, (2) critical reflection and practice in identifying new pathways/solutions, (3) pragmatic validation of approaches and concepts, (4) rich local

contextualisation, and (5) change in prevailing worldviews and paradigms of development. Additionally, a common outcome of such approaches is the generation of practical actions that can be taken within the context of people's daily lives, i.e. transition towards sustainable lifestyles.

In this chapter, these dynamic aspects of community-based approaches are viewed as important collective processes in social learning for sustainability. A phronetic approach is applied to examining five cases from the Regional Centres of Expertise on Education for Sustainable Development. This comparative case assessment aims at identifying the practical actions and factors that support social learning for sustainability and the collective realisation of sustainable lifestyles.

2 Social Learning for Sustainability—A Critical Perspective

The current political discourse on sustainable development is not easily related to the daily lives of ordinary people, although it is well understood that achieving sustainability transformations will require dramatic changes in the way individuals live and form their lives and societies. In response to this challenge, the concept of "sustainable lifestyles" is viewed to be complimentary to sustainable development with the first bringing relevance to sustainability at the micro-level and the latter at the macro-level. "Creating sustainable lifestyles means rethinking our ways of living, how we buy and what we consume, but it is not only that. It also means rethinking how we organize our daily life, altering the way we socialize, exchange, share, educate and build identities. It is about transforming our societies towards more equity and living in balance with our natural environment" (UNEP 2011). The application of a social learning approach can improve the transformative nature of these processes by increasing opportunities for active engagement in critical examination of current consumption and lifestyle practices; reimaging those practices and identifying solutions towards more sustainable patterns; planning and implementing programmes for mainstreaming these solutions; and assessment of implementation activities and outcomes.

The application of a social learning approach for sustainable lifestyles necessitates first a critical review of social learning theory and its historical development through three distinct phases (or schools of thought). The first development of social learning theory was by Bandura in the early 1960s within the field of cognitive psychology. Bandura's research on social learning challenged earlier behaviourism traditions that held that behavioural learning occurred through conditioning and direct reinforcement. Bandura (1977) demonstrated that individual behavioural learning could also occur through observation, thus arguing that learning is a cognitive process that occurs in social context and is influenced by social norms. The cognitive theory of social learning thus provides an explanation of how individuals learn from society.

The second school of thought developed in the field of organisational learning. The concept was first raised in Argyris and Schon's (1978) work on double-loop learning and in Revans' (1982) work on action learning processes. However, it was

not until the 1990s that this school of thought began to flourish (Wang and Ahmed 2002). Rather than focussing on individual learning, this approach is focussed on how group learning occurs and how it can be dynamically structured and facilitated. Furthermore, it considers how an organisation learns and adapts based on the sum of experiences from its individual members. Some academics such as Senge (1990) used this approach to make specific recommendations for structuring and developing companies into learning organisations (Flood 1999). This second school of thought provides an understanding of how collective/group learning takes place, and how it is influenced through the real world experiences of group members.

The third school of thought emerged around a decade ago with a noted application of social learning towards ecological issues, natural resource management and sustainable development. This new approach grew out of earlier work on community participation in natural resource management, participatory rapid appraisal, and group problem solving approaches. It also draws on educational theories such as community of practice and cooperative inquiry to strengthen its overall efficacy. This third school of thought considers how people collectively reflect, deliberate on and envision new pathways for sound environmental management—pathways that may deviate from previous traditions and conventions. Under this school of thought, social learning is defined as, "learning taking place in groups, communities, networks and social systems that operate in new, unexpected, uncertain and unpredictable circumstances; it is directed at the solution of unexpected context problems and it is characterised by an optimal use of the problem solving capacity which is available within this group or community" (Wildemeersch 1995: 33 cited Wildemeersch 2009: 100).

This third school of thought on social learning thus proves most useful in addressing how society can collectively pursue sustainable development in a manner that allows us to overcome the problems and challenges faced today (Table 1). This will require looking beyond current conventions and limits of thinking to consider wider approaches and perspectives on how as a society we not only learn new behaviours and practices, but also how we transform dominant world views through the incorporation of a strong sustainability perspective. Glasser (2009: 38) argues for positioning social learning, "as the foundation and conduit for harnessing the human propensity to contemplate our fate and futures" and in so doing supplanting "economic growth as the metanarrative and vehicle for bringing about a more sustainable and desirable world for all".

This approach to social learning and its application in natural resource management embeds the process of social learning within the context of governance structures and the natural environment. Natural resource management faces complex

Table 1 Three schools of thought on social learning theory

Phase	School of thought	Perspective
1	Cognitive psychology	*Individual* learning *from* society
2	Organisational learning	*Collective* learning *of/about* society
3	Ecology and education	*Sustainability* learning *as* society and *for* social transformation

problems, high uncertainty and limited predictability, thus the human dimension is key for securing appropriate and effective practice. “This implies that management is not a search for the optimal solution to one problem but an ongoing learning and negotiation process where a high priority is given to questions of communication, perspective sharing and development of adaptive group strategies for problem solving” (Pahl-Wostl and Hare 2004: 193–4).

The third phase of social learning brings together collective learning perspectives and extends beyond both individual learning and mere knowledge acquisition. Social learning can be defined in this manner as, “Deliberative approaches that enhance collective learning processes among a diverse group of social actors, with different types of knowledge and perspectives, … thus central in the creation of new responses to threats for socio-ecological systems” (Garmendia and Stagl 2010: 1712). One of the challenges faced in achieving social learning that realises the creation of new responses and new social understandings is that the type of social interaction that takes place in various social learning situations is inherently influenced by social contexts and established norms and values. In this way, it is important that the roles of power and scale in influencing learning outcomes are clearly addressed. In establishing a potential social learning group, this can be partially addressed by ensuring that the collective group members represent a wide range of differing world views, epistemological beliefs and knowledge systems, and in this way a “tension” is created from the outset that the group must initially work to overcome through a process of deliberation and negotiation (Reed et al. 2010).

Overcoming this tension does not mean that the group adopts one common world view, but rather they identify a common goal for collective action that allows all group members to support the process through their own expertise. Pahl-Wostl et al. (2007: 11) explain, “During the initial stages of dealing with a problem, the framing and reframing of the problem domain determine the direction of the overall process… differences in how an issue is framed are among the key reasons for problems in communication and entrenched conflicts among actors”. The concepts, norms and world views that frame such problem definition may be derived from the actors’ diversity of knowledge and experience, especially in regards to their epistemological beliefs and how they make meaning of their physical and social environments. The process of social learning does not aim for consensus among group members, but ideally it creates a common purpose and ability to deal constructively and openly with peoples’ differences (Pahl-Wostl et al. 2007). In addressing the power dynamics inherent in social learning processes, Glasser (2009) defines three categories of active social learning as hierarchical, non-hierarchical, and co-learning (Table 2).

Following a review of social learning in adaptive water management cases, Pahl-Wostl et al. (2007: 10) argue that social learning can occur across two different levels and respective time scales. First, over short to medium time scales, social learning occurs between the engaged actors within and through the processes they are engaged in. Second, over medium to long time scales, structural and contextual shifts to the wider governing structure occur as part of the collective learning process. Elaborating on how to achieve this second scale of learning

Table 2 Glasser's three categories of active social learning

Hierarchical	Based on predetermined, inflexible relationships between established teachers and learners
Non-hierarchical	Based on two-way learning, where each participant, as an 'expert' in their own right, shares their knowledge and experience
Co-learning	Based on non-hierarchical relationships, collaboration, trust, full participation, and shared exploration

Replicated in full from Glasser (2009: 51)

and truly upscaling it to a social level, many authors have tried to identify the key components that enable the occurrence of social learning. Tilbury (2009) proposes five key components of learning based change for sustainability: (1) systemic thinking, (2) envisioning, (3) critical thinking and reflection, (4) partnerships for change, and (5) participation. Keen et al. (2005) conclude that there are five keys strands of activity that are integral to the ecological approach to social learning which closely parallel the previous five components proposed by Tilbury. The five key activity strands are: (1) reflection and reflexivity, (2) systems orientation and systems thinking, (3) integration and synthesis, (4) negotiation and collaboration, and (5) participation and engagement.

Rodela et al. (2012) conducted a review of 54 peer-reviewed papers from the third phase of social learning. This study however concludes that in the majority of these papers there is a mismatch between the topic (i.e. social learning) and the contents of analysis. There are very few studies that have attempted to provide data/evidence on the actual effectiveness of social learning (Rodela et al. 2012). Reed et al. (2010) raise a similar point that in the literature, the concept and analysis of social learning is often methodologically confused and entangled with an investigation of the conditions necessary for social learning, for example levels of participation are often analysed to infer occurrence of social learning. Just because participation has occurred this does not imply that social learning takes place, and vis versa the occurrence of social learning can occur even in the absence of a planned process for participation. In order to elucidate a learning-oriented analysis on social learning for sustainability, the case studies presented in this chapter are analysed in relation to key educational approaches to facilitate a more detailed investigation of the main elements of the social learning process and to extend beyond considering only the facilitative conditions for creating an environment where social learning may occur.

3 Case Studies on Community-Based Learning for Sustainability

The Regional Centres of Expertise (RCEs) on Education for Sustainable Development (ESD) are a global network of multi-stakeholder partnerships that are engaged in local initiatives and community-based learning for sustainable

development. The RCE concept was launched by the United Nations University in 2003–2004 as a mechanism for supporting the UN Decade of Education for Sustainable Development (2005–2014). As of June 2014, there are 129 RCEs active in over 50 countries globally. The RCEs address four key elements: governance, collaboration, research and development, and transformative education. They implement projects and initiatives that promote relationships, collaborative learning, networking, and systems thinking to foster sustainable communities.

3.1 RCE Greater Phnom Penh (Cambodia)—Project on Facilitating Sustainable Agriculture for Local Farmers and Enhancing Education on Food, Agriculture and Environment for Elementary Schools

This is a 5 year project started in April 2011 as a partnership between Japan International Cooperation Agency (JICA), Environmental Conservation and Rehabilitation, Japan (ERECON), ERECON Cambodia Branch (ERECON CaM), Tokyo University of Agriculture (TUA), and the RCE with financial support from JICA. The target learners of the initiative include local people from 11 villages (comprising 1,714 households) in Samroung Community, ten schools of Sro Nge school cluster (comprising 86 teachers and 2,714 students), and Samroung Prenprey AC, Cambodia. The sectors that the initiative addresses are primary education, teacher education, and non-formal education sectors. The main themes are overcoming poverty, environment, and sustainable production and consumption. The project goal is to promote sustainable agriculture based on building public awareness and perception of the importance of enabling harmony between agricultural development and conservation of the natural environment. This project was established against the backdrop that local agriculture has not been sustainable due to overuse of inorganic fertilisers and pesticides.

3.2 RCE Greater Sendai (Japan)—Ramsar Wetlands-Winter-Flooded Rice Paddies and ESD in Osaki-Tajiri Project

This RCE was established as one of the first in 2005 and has coordinated its ESD initiatives through multi-stakeholder collaboration at four locations including the location of this project which serves as an environmental learning site. It began with a citizens' movement to conserve wetlands and led to a participatory process involving the engagement of community members and external stakeholders to preserve the biodiversity of the natural wetlands and rice paddies. This project aims for mutual learning to enhance sustainable agriculture. It also involves

the joint promotion of ESD and Ramsar Communication, Education and Public Awareness (CEPA) in the region. The main partners of the initiative are the local authority of Osaki City Office as main coordinator and funder, NGOs including Rice Paddies (Tambo), Japanese Association of Wild Geese Protection, (JAWGP) and Kabukuri Wetlands Club (Numakko Kurabu), Community organisations and Miyagi University of Education's Environmental Education Centre who provide their teaching and research expertise as well as serving as the RCE secretariat. The target groups comprised farmers, teachers and students from the elementary, junior high and high schools in the area, local government officials and local citizens. All three educational settings namely formal, non-formal and informal education were utilised.

3.3 RCE Kitakyushu's (Japan)—ESD Outreach Project: Strengthen Capacity and Network of Communities

This project began in 2006 as one of the first initiatives of this RCE. The project goal is to strengthen the capacity and network of citizens and communities to promote ESD. Several activities fall under this initiative. They include the following: (1) Use of 132 community centres (citizens' centres) as the nuclei of activities and training of ESD facilitators to spearhead ESD promotion activities at the community centres; (2) Promoting ESD (e.g. cloth theatre) through developing educational aids in cooperation with formal education institutes, for example the Kitakyushu ESD Council provided lectures at a university consortium; (3) Building a sustainable community that is in harmony with nature, socially just and economically prosperous through the promotion of field activities such as tree planting, waste management and community beautification; (4) Capacity development of RCE Kitakyushu members through programme exchanges within and beyond the RCE community and exchanges with local community through an ESD café to meet and discuss on sustainability issues and ways to address them; (5) Use of various educational and capacity building approaches, based on collaboration, networking and other multi-stakeholder cooperative relationships to enhance the organisational and operational capabilities of RCE Kitakyushu.

3.4 RCE Penang (Malaysia)—Enhancing Sustainable Lifestyle Within Universiti Sains Malaysia and Its Surrounding Neighbourhood

The initiative lasted 1 year beginning April 2011. The main partners were the Centre for Global Sustainability Studies at USM (as leader), USM's School of Industrial Technology, RCE Penang, Penang Municipal Council, the Solid Waste and Public Cleaning Management Corporation, one secondary school and three

primary schools, three residents' associations, a Giant Hypermarket, Cincaria Sdn Bhd, Green Crusaders (community-based recycling activists), and the Consumer Association of Penang. The budget for the initiative was 350,000 MYR (US$112,000), provided as a research grant from USM. The target learners include the USM community of students and faculty, school students, neighbouring residents and public, as well as workers at SMEs. The initiative covered non-formal education, civil society and community engagement, and business and private sectors. The main themes include environment, climate change education, corporate social responsibility, economy, sustainable production and consumption, sustainable urbanisation, and responsibility in local and global contexts.

3.5 RCE Tongyeong (Republic of Korea)—Youth Program Bridge to the World, Tongyeong Youth Global Challenge Program

This project aims to present the vision of sustainable development to the youth who will become future leaders of the city and the region. It started from 2008 as an annual program to the present. The major partners are Tongyeong City Government, 17 middle and high schools of Tongyeong, mentoring groups, and the global RCE network. An annual funding of US$90,000 is provided by Tongyeong City Government. The themes addressed by this initiative include intercultural understanding, cultural diversity, citizenship, peace, human rights and security, environment, climate change education, biodiversity, sustainable production and consumption, sustainable tourism, responsibility in local and global context, and career development. The sectors covered are secondary education and non-formal education, and the target learners are the youth aged between 13 and 19 years. Being the first of its kind in Korea and solely developed and implemented by RCE Tongyeong, the program has offered opportunities to youth for self-designed research projects and study trips abroad to an RCE city of their choice to experience and study aspects related to the chosen topic. Over the past 4 years, the 'Bridge to the World' program has sent 13 teams (totaling 100 youth) to 13 RCE cities across the world.

4 Case Analysis—Understanding Conditions and Processes of Social Learning for Sustainability

One of the challenges identified in previous studies of social learning for sustainability is separating the facilitative conditions (or prerequisites) for social learning from the factors of effective social learning in the research-analysis process. In order to better explain how social learning takes place with an aim towards identifying the key factors of an effective social learning process, two different

analyses of case details are conducted in this study. Additionally, to strengthen the consideration of how learning is occurring in each case and in relation to the analysed factors, a link is drawn between the four stages of the experiential learning cycle and the four stages of participatory action research to create a conceptual idea of how collective action and reflection can stimulate a process of social learning. Kolb (1984) identifies four stages that create the experiential learning cycle: concrete experience, reflective observation, abstract conceptualisation, and active experimentation. While Zuber-Skerritt (1991) provides a simplified understanding of the participatory action research process as: observe, reflect, plan, and act.

Framework of Analysis First, initial case selection criteria were adapted from Tilbury's (2009) five key components of learning based change for sustainability and Keen et al. (2005) five key strands of activity integral to ecological/sustainability social learning. The adapted criteria used here are: (1) Community Engagement, Citizen Participation and Partnerships for Change, (2) Collective Learning and Critical Reflection, and (3) Vision Forming and Systemic Thinking. These criteria were initially examined across 12 potential RCE cases with five cases in total demonstrating appropriate levels of application for inclusion in this study. Case details in relation to these three criteria are reviewed in Table 3.

The second analysis draws on Community of Practice (CoP) theory to investigate the conditions of an effective learning community. CoP was developed by Lave and Wenger in 1991 and elaborated by Wenger in 1998, and this theory provides a valuable concept for understanding the important learning opportunities that exist in group settings and at a community-level. CoP has gained support in social, educational and management sciences as a valid approach to *situated learning*. "The overall apparatus of situated learning is a significant rethink of learning theory of value to anyone wanting to take learning beyond the individual… Part of its appeal is that a seemingly natural formation which enhances learning can be consciously developed, which is important for those implementing change" (Barton and Tusting 2005: 3). The learning process in CoP is dynamic in that renegotiation and change are a continuous part of such practice. *Reification* and *participation* are key aspects to this learning process as the main ways in which participants can influence practice. In the process of community practice, *reification* is the act of bringing concrete meaning to abstract concepts through their regular application and codification. *Participation*, on the other hand, is the process through which diverse ideas and concepts can be deliberated over to reach common understanding on which to structure practice (Wenger 1998: 88–93).

Communities of practice are especially valuable because they allow for both the acquisition of existing knowledge and the creation of new knowledge through the dynamic process of mutual engagement in a shared practice. In designing a learning architecture for communities of practice, Wenger (1998: 273–9) introduces three modes of belonging as central pillars of this design: *engagement*, *imagination*, and *alignment*. Hung and Chen (2001: 7) also identify four dimensions of an effective learning community: *situatedness* puts forth that learners obtain both implicit and explicit knowledge when learning is embedded in rich social contexts; *commonality* expresses the importance of a shared sense of purpose and common

Table 3 Case selection criteria—key components and actions of social learning for sustainability

	Community engagement, citizen participation and partnerships for change	Collective learning and critical reflection	Vision forming and systemic thinking
RCE Greater Phnom Penh	The RCE organised trainings for farmers and school teachers in sustainable agriculture	The RCE organised workshops by members of the farmer groups for their peers who were non-members which resulted in non-members acquiring sustainability competence through the transfer of new knowledge and skills	Formation of farmer groups and continuation of the activities means farmers benefit from learning new skills and approaches
			Stronger linkages established between sustainable farming and livelihoods
	The RCE promoted participation (including students) and engagement through establishment and management of school organic gardens		Increased motivation of farmers and teachers to adopt practices and leading to further training, for example "Education for agricultural successors" for future farmers
RCE Greater Sendai	RCE facilitated strong engagement of multi-stakeholders and actors in the community (e.g. Osaki-Tajiri area) for building capacities and competencies of people to adopt ways to co-exist with nature and to meet their human needs	Multi-stakeholder team project involving co-production and use of ecological knowledge through collective experimentation on the effect of fallowed winter-flooded rice fields for enhancement of biodiversity and improvement in agricultural land quality compared to conventional fields	Socio-economic and environmental benefits accrued from learning sustainable management of wetland paddies and wise use of resulting goods and services
			Understanding the diverse roles wetlands play in local livelihoods and provision of information to local decision makers for appropriate policy formulation
			The Osaki-Tajiri "socio-ecological system" serves as an ongoing ESD learning experiment on integrating biophysical and social sciences to address complex intersecting sustainability problems based on constructed knowledge that transcends knowledge of (ecosystem) structures to include knowledge of processes

(continued)

Table 3 (continued)

	Community engagement, citizen participation and partnerships for change	Collective learning and critical reflection	Vision forming and systemic thinking
RCE Kita-kyushu	Use of the community learning centres (CLCs) as the nuclei for engagement in ESD activities through citizen participation and also for training	The CLCs facilitated collaborative and cooperative learning among the local community members	RCE Kitakyushu envisions making the city a "world capital of sustainable development". Through its ESD activities, the RCE engages a diversity of stakeholders and actors from the city's population
		Collective learning through (experience) field-based activities and site visits	It seeks to empower them to engage in pro-sustainability lifestyle choices as their region transitions towards sustainability
		Group members engage community with teaching, lectures and facilitation	It engages them to identify new practices and opportunities for this transition
RCE Penang	The university community engaged with the surrounding neighbourhood in a participatory action research, which includes knowledge co-production and exchange on reducing the amount of solid waste going into landfills and learning how to conduct organic waste composting	Participatory action research, collective learning and knowledge co-production were used to increase knowledge and practices on waste reductions	The initiative promoted learning on transformations to sustainable lifestyles and a zero waste society, and engaged the community in identifying pathways
		Various collective learning approaches were used depending on the context and group size of the engagement	The initiative led to the strengthening of the social cohesion between USM and the neighbouring community and thus laid the foundation for future collaboration on collective experiential learning and other activities between university students and the wider community
RCE Tong-yeong	Participants (secondary school students) collaborate with NGOs, schools and institutions of Tongyeong as well as their chosen counterpart RCE city to determine a common project and theme for investigation	Partner groups share expertise and knowledge with the participating youth through study visits, consultations and lecture	The action-based youth program provides direct engagement with real life problems and supports students in identifying solutions to contribute towards the sustainable future of the target communities
		In return the youth share the knowledge/experiences gathered in their trips with the general public	

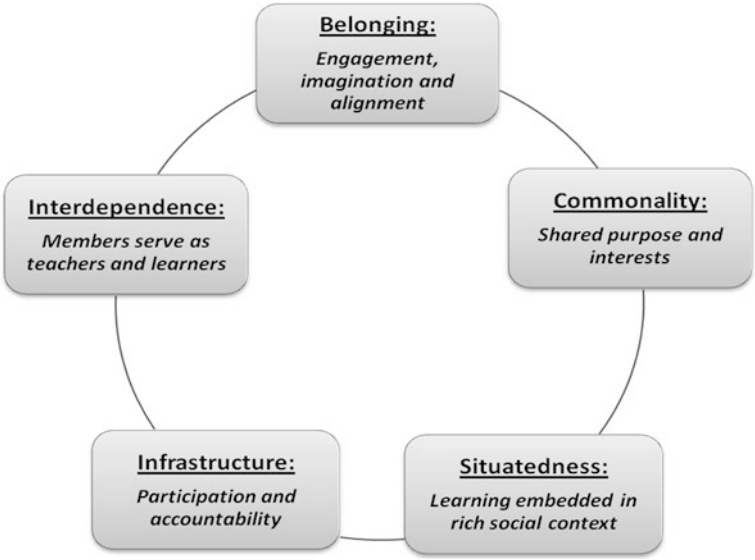

Fig. 1 Five conditions for an effective learning community

interests among a group of participants to engage in reflective practice; *interdependency* is established when the various members of a group of learners bring to the group both unique skills and expertise and differing demands on the group; *infrastructure* that promotes and facilitates participation and ensures accountability is important for the long-term continuation of communities of practice. By adding *belonging*, as elaborated by Wenger and explained above, as a fifth dimension of an effective learning community we further strengthen the understanding of its basic architecture (see Fig. 1). The second analysis utilises these five conditions for an effective learning community and are indicated in Table 4.

5 Findings and Conclusion

Each of these cases demonstrates the achievement of a participatory learning cycle. In all cases, commonality was established through a process of reflective observation, i.e. examining the current situation and considering how to improve or address current problems/challenges. The learning process was also situated in real-world experience, practical experimentation and in the context of local lifestyles and livelihoods. Belonging was strengthened in each group as they collectively envisioned and planned for the type of change they desired, and in doing so also recognized the importance of partnerships for achieving this change. The interdependence of group members was enhanced through the process of taking action and implementing plans where the diversity of stakeholders and expertise was essential for holistically enacting the plans.

Table 4 Five conditions for an effective learning community, as achieved in the RCE cases

	Belonging	Commonality	Situatedness	Infrastructure	Interdependence
	Engagement, imagination and alignment	*Shared purpose and interests*	*Learning embedded in rich social context*	*Participation and accountability*	*Members serve as teachers and learners*
RCE Greater Phnom Penh	Engagement of members of farmer groups with non-members to share their knowledge and skills on sustainable agriculture enhanced their mutuality	Stakeholders including RCE GPP, members of farmer groups and non-members, the local schools and local people shared the commonality of practicing sustainable agriculture and environmental conservation for realising economic and social well-being, human and ecosystem health	The challenge of health-related problems due to soil pollution by pesticide and fertiliser overuse in the locality (that had led to disharmony between agricultural development, nature conservation and human well-being) was addressed through integrative education and learning approaches	The involvement of the RCE GPP provides an "infrastructural platform" for the continuation of activities with guaranteed financing for 5 years (minimum) from JICA	Farmers groups formed and received training on sustainable agriculture. In turn, they transferred their knowledge and skills to non-group members. Farmer groups offered practical help to teachers to manage school organic gardens
	The overall competence of the local farmer population was improved and served as a basis for continuity of the learning related program				Teachers also acquired teaching skills on food, agriculture, and environmental education through training. After receiving training, teachers held workshops for students/youth in the local area

(continued)

Table 4 (continued)

	Belonging	Commonality	Situatedness	Infrastructure	Interdependence
	Engagement, imagination and alignment	*Shared purpose and interests*	*Learning embedded in rich social context*	*Participation and accountability*	*Members serve as teachers and learners*
RCE Greater Sendai	A sense of belonging in the context of "sense of place" in nature achieved, and enhanced competence in the sustainable use of natural resources acquired	Although the expected benefits of the participating stakeholders (local authorities, students, farmers, NGOs and university researchers) differed, there was a common interest that the socio-ecological system balance be maintained for them to realise their respective expectations	The learning process occurred within the context of the "socio-ecological system" of wetlands and winter-flooded rice paddies where the introduction of new, co-produced knowledge and skills would be most needed	RCE Greater Sendai and the local city's environmental bureau have been actively involved in encouraging the participation and engagement of people. In addition the city provided funds to support these initiatives	University and NGO staff, in addition to learning with others to receive local/traditional knowledge, felt a sense of satisfaction from being "of good use" to society
	The combined expertise of multi-stakeholders on ESD was mobilised towards the shared goal of sustainable livelihoods of farmers within the area and through conservation/wise use of ecological resources, including wetlands				Farmers, students and the local citizens learned about how they can co-exist with an ecological system in a co-beneficial manner and in turn cooperated with university and NGO staff for smooth implementation and management of the initiative

(continued)

Table 4 (continued)

	Belonging	Commonality	Situatedness	Infrastructure	Interdependence
	Engagement, imagination and alignment	*Shared purpose and interests*	*Learning embedded in rich social context*	*Participation and accountability*	*Members serve as teachers and learners*
RCE Kita-kyushu	The coming together of the members of RCE Kitakyushu and other stakeholders/partners for ESD promotion in the region such as the university community provides a sense of being part of a wider social movement seeking to maintain the integrity of the planet and improving human well-being	The awareness of the citizens of Kitakyushu increased. They became empowered through acquisition of knowledge and skills in order to make the city a global beacon of sustainable development. This provides a motivational factor for them to participate in the RCE's activities	The promotion of ESD through learning-related activities was conducted in the local area to address local situations A typical example is the revitalisation of the Edamitsu community	Increase in the levels of public awareness on ESD has heightened the prioritisation of ESD as an agenda item for the city government and led to the increase in financing to help promote ESD	The CLC setting provides a space for people to come together to seek solutions to problems without ready answers. Deliberations based on individual contributions through learning from each other results in mutual production of knowledge and skills that can be used to address relevant issues. RCE Kitakyushu members teaching at the university consortium provides the space for teachers to also become learners

(continued)

Table 4 (continued)

	Belonging	Commonality	Situatedness	Infrastructure	Interdependence
	Engagement, imagination and alignment	*Shared purpose and interests*	*Learning embedded in rich social context*	*Participation and accountability*	*Members serve as teachers and learners*
RCE Penang	The coming together of the USM community and neighbouring communities to mutually engage and participate in locally relevant problem-solving activities provides them with a sense of purpose and belonging	Participants from both the USM community and the surrounding neighbourhoods focused on reducing solid waste that goes to landfills in order to enhance sustainable lifestyles on campus and in the surrounding neighbourhoods	Stakeholders participated in action research and learning on the local issue of reducing solid waste to the landfills They experimented with composting options to convert a part of the waste into usable resource. These activities increased competency for practicing sustainable lifestyles	The establishment of a collaborative relationship between USM and the wider community serves as a secure platform for continuous/future participation and engagement of residents to address issues facing the communities	University staff, in addition to transferring expertise, incorporated knowledge and best practices co-from this project into their teaching at the university. Enhancement of social connections between the university community and neighbouring communities through participation and engagement to solve common relevant problems engenders an atmosphere of common interdependence
RCE Tong-yeong	The youth research teams of RCE Tongyeong efforts to mutually learn and share for a sustainable future and to support each other towards a happy and lifelong learning society should provide a sense of belonging	The youth in RCE Tongyeong and youth in host RCEs collaborate and learn through research on common themes and sharing diverse perspectives. Back home, students share findings with their local communities	Identifying learning as a place-based, situated process both in the local RCE Tongyeong and in the RCEs visited overseas	Adoption of the program by the city and government guarantees its continuity. This is a type of program the youth are interested in and are willing to participate annually	The youth learned from resource persons provided by the local RCE They in turn gave back to the community on return from their study trip by sharing their experiences, knowledge and skills with the local community

In all cases, the groups were also engaged in a "partnership for change" and were actively working to not only address current problems but to also envision new opportunities and solutions for improving the overall quality, health or well-being of their locality, community and local environment. This in turn, naturally led the groups to reflect across the situation and context in a whole systems manner to understand the inter-linkages between seemingly disparate features. Pragmatic validation played an important part in groups' efforts to develop and substantiate new knowledge through the use of real world application and testing of new ideas, concepts and approaches.

Engagement and participation also played a key role in these learning processes. It is important to note that in all cases group members were self-selecting and thus can be understood to have a "personal interest" in the project from the outset. All cases were led by a central organization and/or a core working group who initiated a wider participatory approach. These central organizations also provided the cases with a level of accountability by having a central group holding overall responsibility for follow through on various projects and activities. One aspect that was variable across the cases was to what level the initial focus and objectives was either set by the central organization or by all participating in the project.

This last point provides an important policy finding that demonstrates that it is possible for an influential actor (e.g. a local government) to initiate a social learning for sustainable lifestyles process. In doing so, not only do the factors of an effective learning community need to be supported, but efforts must also be taken to engage participants in a participatory learning cycle where cooperative inquiry and critical reflexivity are common features. This learning cycle can be initiated through a collective stock taking to identify key areas for improvement, and from this establish a level of commonality. Forming the vision of the change that is desired and/or setting goals and objectives furthers this cycle towards one aimed at transformative learning, and in so doing strengthens the sense of belonging to a shared endeavor. New concepts, ideas and solutions are explored and tested through real-world application and pragmatic validation. While it is consensus validation and deliberative discourse that aid the group in looking beyond current *modus operandi* and defining a plan for how to achieve the envisioned change. Through taking action on this plan, the group can solidify its interdependence while also initiating the next round of the learning cycle which is enriched by their own actions and become the subsequent focus of the observation and reflection stages. In noting the links between the participatory learning cycle and the influence the various stages may have on enhancing the factors of an effective learning community, one may want to mobilize a few quick initial cycles through the relevant observation—vision forming—pragmatic testing—planning—acting stages if one is trying to initiate such a social learning process.

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Envisioning as an Enabling Tool for Social Empowerment and Sustainable Democracy

François Jégou and Christophe Gouache

Abstract The future is commonly acknowledged as important to investigate and discuss for the sake of society whereas we can, at the same time, acknowledge how public discourse in our contemporary societies is only offering poor, stereotyped and often negative visions of future. This paper reframes the evolution of attitudes towards the future in our recent history through technological positivism, acknowledgment of a complex and unknowable future, emphasis on marketing reactivity in place of anticipation, and increased development of dystopic visions of threatening unsustainable future. It will review the current situation where the future is omnipresent in media stressing its poor, uniformed, technology-driven form lacking creative imagining, accessible and attractive envisioning and rich public deliberation. The authors then build on a series of recent sustainable visioning activities (i.e. public cultural exhibition, digital interactive media, foresight visualisations for public authorities, projection exercises involving youths in schools and universities, etc.) to show how emerging practices involving designers skills to generate participative visioning processes resulting in concrete forms of anticipation accessible to all and likely to enable both formal deliberative processes and informal social conversations on the future, as well as empowerment of citizens in education for responsible living and democracy.

Keywords Foresight · Sustainability · Scenarios · Visualization · Envisioning

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© Springer International Publishing Switzerland 2015

V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_16

1 Introduction

> We need to know where we are going. We need to have vision. And that vision has to be articulated, it has to be socially shared, and discussed, and formulated (Meadows 1994).

We generally agree quoting Seneque that "To the person who does not know where he wants to go there is no favourable wind." We can at the same time acknowledge how public discourse in our contemporary societies is only offering poor, stereotyped and often negative visions of the future unlikely to support forward-looking social conversation.

To begin with, here are some of the main steps that contributed to building our current perception of the future. With the scientific and the industrial revolution, society began to evolve at an accelerated pace. Before modern times, the future was predictable as a quasi reproduction of the past only with slow and minor changes taking progressively place at historical rhythm. With the increased evolution brought by continuous technological progress, the future became more and more significantly different from the past and synonymous to improvement and better life. At the same time societal change, continuously accelerated by combinations of technological innovations, began to blur the perspectives of evolution in all sectors and the understanding of the future on the basis of technological evolution (Cazes 1986).

The 60s mark the passage from the vision of a future oriented by technological positivism to the acknowledgment that the future is complex and unknowable. This fundamental change leads to two different and opposite attitudes in front of the complexity of the future in contemporary society: on one hand, the acknowledgment that societal evolution is too complex to be accurately predicted. Only the development of a quick reactivity allows economic actors to face the versatility of the on-going evolutions. On the other hand the future is often a missing dimension in education (Hicks cited in Wayman 2009). Citizens have been even systematically "untrained" to imaginatively build and share visions because of our very pragmatic, rational and scientific-oriented western training and education (Meadows 1994). Foresight methodologies and futures studies developed as an attempt to overcome the complexity of future thinking and professionalization of forward-looking activities made the future only accessible to dedicated experts.

Finally in the last decades, the future has been increasingly dominated by awareness raising campaigns on environmental concerns and so-called *grand challenges* fed by continuous diffusion of dystopic visions of threatening unsustainable futures.

This short and simplified review of the evolution of attitudes towards the future in our recent history in the western world is an attempt to better understand how the current discourse on future seems to emerge as a mix of persistence from the previous ones listed absolve.

Let's try to describe what the perception of the future is made of for a mainstream citizen nowadays.

The future in the media is omnipresent as a marketing argument and mainly based on reminiscence of technological positivism. Opposing this techno-driven

future, long-term visions are mostly populated by the raise of environmental concerns and wicked societal problems depicting for the first generation in history a future that is likely not to be an improvement from the past situation. Beyond dialectic between technological hope and unsustainable degradation, the mainstream discourse on the future in the media is rather poor and uniformed lacking of visions to debate, creative imagining and disruptive perspectives. Moreover, the more or less general acknowledgment that the future is unknowable and reserved to experts induces that it is hardly debated by a large share of the population accessing only partial information and stereotyped visions on future challenges and opportunities. This situation calls for creative imagining, accessible envisioning process and evolution towards richer and wider public deliberation as a necessary condition for democracy.

2 Methodology and Key Concepts

A series of interaction exercises carried out within the last 10 years by the authors in different professional contexts at Strategic Design Scenarios will be reported hereafter as cases of different participative forward looking methodologies and activities.

Those cases are building on two key concepts that will be clarified in this section. They are an attempt to overcome the democratic deficit of our societies—especially at EU level—(Follesdal et al. 2006) in particular when talking about foresight:

- **Stakeholder engagement in forward-looking activities**
  The engagement of stakeholders ensures the legitimacy of decision-making processes. In particular it ensures that the voices of those who may be affected by the decision are heard and possibly taken into account. Forward-looking activities are preparatory activities mainly aiming at informing decision-making processes. Stakeholders are described as "persons or groups who are directly or indirectly affected by a project as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively" (IFC 2007, p. 10). Stakeholders—and to an extent, citizens—are therefore legitimate to take part on "equal terms" with experts and politicians (Olsen 2003) to foresight and future studies likely to affect their conditions in the future. The definition of expertise is therefore becoming broader (Cuhls 2003) and widens the spectrum of potential participants to future discussion processes. The cases of different participative forward looking methodologies and activities presented hereafter in this section explore practical solutions to engage stakeholders in forward-looking activities.
- **Expression of visions in explicit everyday practices and end-users terms**
  To ensure a qualitative and wider stakeholder engagement, studies (and in particular here, future studies exploring challenges likely to affect these

> stakeholders), should be more systematically communicated "in a format and language that is readily understandable and tailored to the target stakeholder groups" (IFC 2007, p. 29, Stakeholder engagement). The level of the technical details, the "foresight jargon", the cultural sensitivity, the literacy levels, the capabilities of the various stakeholders should be carefully taken into account to ensure the accessibility of the future study and offer a greater opportunity for stakeholders to be informed properly and therefore to be able to contribute in the most pertinent way. Beyond making the foresight understandable and reachable by everyone, foresight studies tend to result in generic description of futures and policy recommendations. They often end-up in visions or scenarios that don't express explicitly the consequences of those scenarios for the end-user. They do not respond to the question: what is it really going to change for me in concrete terms? The forward-looking activities do not appear, consequently, actionable for stakeholders. The cases of different participative forward-looking activities presented hereafter propose different approaches through narratives forms and visualisations processes to enable stakeholders to project themselves within those scenarios, experience and express their views on the different envisioned futures.

This deficit of democracy in forward-looking activities is therefore partly related to a lack of accessibility between these forward-looking activities and stakeholders. In the different cases presented hereafter the interaction exercises are showing different attempts to reduce this gap.

On the one hand they explore different approaches and methods to organise participative foresight involving any stakeholders and in particular laymen to input as experts of daily living and co-design the visions that may orient—in a way of another—their future.

On the other hand, they aim at producing explicit envisioning. Through the means of visualizations and narratives, they aim at providing different settings where citizens can experience the alternative futures and effectively express their own choice between them.

3 Cases

3.1 CORPUS Workshops

The context of the first case is the CORPUS European research project (funded under FP7) developed between 2010 and 2013. CORPUS intended to develop a knowledge-brokering platform on sustainable consumption and production between scientists and policy makers based on a series of off-line interaction exercises and online knowledge sharing processes. In particular a series of 3 workshops focusing critical consumption areas respectively of food, mobility and housing explored the potential of collaborative scenario building as a knowledge

Fig. 1 Forward-looking workshops starting with the opening of an immersive and teasing exhibition which depicts visions from 2030 on sustainable food, mobility and housing in the framework of the CORPUS research project

brokering approach. The workshops consisted in around 40 European scientists and policy makers developing in one day a shared understanding of the strategic context, building together visions of desirable and possible sustainable futures and backcasting a shared agenda of research and actions.

The forward looking methodology in which we are interested here is the initial step of these 3 workshops organized as an internal exhibition suggesting a sustainable society in the horizon 2030 (Jégou et al. 2013). The aim was to facilitate and speed-up the engagement of participants joining the workshop, from different professional and socio-cultural contexts in Europe, into the forward looking exercise.

These light exhibitions consist each of 30 posters presenting a panorama of different possible sustainable visions of food, mobility and housing. These visions result from previous steps of the CORPUS project involving the same groups of participants. The kick-off of the workshops consists in an informal opening of the exhibition set up in the workshop room (see Fig. 1). Participants where encouraged during a 30 min visit to tag the posters with their comments and discuss them with others. Then, the following steps of the workshops took place within the same exhibition setting so that participants could find stimulation when looking for ideas, refer to the visions to discuss theirs views and support their discussions all day long.

3.2 Global Survey on Sustainable Lifestyles Online Survey

The context of the second case is the setting of the online Global Survey on Sustainable Lifestyles launched by the United Nations Environment Programme and the Swedish Task Force on Sustainable Lifestyles (UNEP 2011). More than 8,000 young adults ranging from 18 to 35 years old from 20 countries took part to

Fig. 2 Extracts from a selection of 9 scenarios suggesting sustainable ways of living were included in the survey in order to feed youths understanding of sustainable lifestyles with examples and prompt their reactions

the study asking them to express what a more sustainable way of living could be like starting from their current context and experience. The survey was translated in 10 languages and contributions were collected and analysed by an international network of 45 partner organizations, including the International Association of Universities, 28 universities and higher education institutions, research centres and experts, civil society organizations, communications agencies and youth groups.

The projective approach in which we are interested in is the particular setting of the survey. Asking youth worldwide to react and comment on sustainable lifestyles was pointed as a difficulty: most of these youth had a very vague idea of what sustainable lifestyles could be inducing the risk of getting only generic and superficial answers and finally flat results for the survey. In order to overcome this problem and stimulate the online interactions with the questionnaires, nine scenarios proposing visions of sustainable lifestyles were used as an invitation for reactions and comments.

The 'scenarios' depict a range of sustainable solutions for food, mobility and housekeeping based on the work done with students from 16 different design schools across the world within the 'Creative Communities for Sustainable Lifestyles' previous worldwide network project supported by UNEP and the Swedish Taskforce. Each scenario includes social, institutional and/or technical innovations (e.g. urban gardens, car sharing and farmers markets) likely to affect everyday life in a sustainable way. It was presented in a short animated narrative based on comic-stripe style drawings to facilitate its readability from any culture (Fig. 2).

3.3 Sustainable Everyday Interactive Exhibitions

The third case is based on a travelling exhibition entitled Sustainable Everyday (Quotidiano Sostenibile) developed and first inaugurated at the Triennale di

Fig. 3 Visitors using bare-code tickets interact with the proposed set of visions and formed their own combination, their personal sustainable way of living

Milano in 2003 (Manzini and Jégou 2003). The exhibition was then set up in various venues in Belgium, Italy, India, France, Netherlands Canada and Japan until 2010. The exhibition presents a series of 18 short video clips showing different and more sustainable ways of living.

The particular design process of the scenarios presented in the exhibition is the forward-looking approach we want to focus here. A collaborative process was organized to progressively co-design the sustainable scenarios with different samples of their potential users. At start a small group of 8 families in Brussels, Milan, Chicago and Hong-kong were involved online to develop the sustainable solutions initiated by the design team, to progressively refine them and to present them in the form of 18 short self-explanatory video-clips. The first venue of the exhibition in Milan was then designed as a follow-up and enlargement of this collaborative design process.

At the entrance, visitors were given bare-code tickets (Fig. 3) and used them to choose along the visit of the exhibition between the different sustainable solutions expressed in the 18 video-clips. At the end of the visit each visitor had formed his/her personal sustainable way of living through his/her own combination of single solutions. The different combinations were then displayed and commented to each visitor. They were then recorded in a database enriched with each new venue of the exhibition in a different socio-cultural context worldwide and discussed on the sustainable-everyday-project.net platform.

The complete collaborative forward-looking process on sustainable living was then based on a mix of off-line interactions with users in the suite of travelling exhibitions and online animation of discussions.

3.4 Collaborative Services Social Innovation Based Design

In this case, the particular sustainable forward-looking process is a series of workshops held in design schools worldwide and building on social innovation to co-design new and more sustainable ways of living.

Fig. 4 The scenario is presented through a matrix showing different categories of Collaborative Services inspired by social innovations and different profiles of users likely to adopt them

This series of workshops first took place within the EMUDE research project at European scale and then within the Creative Communities for Sustainable Lifestyles follow-up project supported by UNEP, UN-DESA and the Swedish Taskforce on Sustainable Lifestyles in Brazil, China, India and Africa between 2004 and 2009. A similar workshop process was held in local design schools in 25 cities of the participating countries. Students were involved in finding and investigating cases of social innovation in their cities and document them with pictures and interviews.

The projective activity we are interested in here consists in a design exercise organized to infer collaborative services from the cases of social innovation collected. All participating students were induced to select from their different socio-cultural standpoint social initiatives suggesting new and more promising sustainable ways of living.

Then, they develop the underlying solutions as new forms of services delivered in a participative way. In particular they orient their design action in order to make new services more accessible and desirable to a larger share of the population while keeping or reinforcing their sustainable qualities. The complete process in the different schools generates an articulated scenario based on a large range of collaborative services addressing all dimensions of daily living and depicting a new form of society based on services largely co-produced by the people who benefit from these services encouraging sharing of resources, mutual help and in general more sustainable results (Fig. 4). This scenario of sustainable collaborative services elaborated from grassroots creativity worldwide was then presented through series of articulated story-boards showing bits of life integrating these collaborative services developed for different population profiles (Jégou and Manzini 2008).

3.5 Disruptive Imaginings Mashup Workshop

The context of the fifth case is the Disruptive Imaginings retreat that took place in Canada in June 2014 and focused on bringing together experts and practitioners

from the three fields of sustainability, future(s) and art(s). 20 international participants working at different levels and organizations (professors, consultants, artists, curators, futurists…) shared a full week to imagine and experiment a way of building capacity for imaginative foresight and world making as well as engaging people in immersive experiences of sustainable futures.

The forward-looking methodology in which we are interested here is an experimental *scenario mashup workshop* held within the Disruptive Imaginings retreat and aiming at involving all the participants in a collaborative scenario building process. As stated above, most of the experts involved all had some expertise on forward-looking activities whether directly in the foresight discipline or indirectly involved in the production of research, professional studies or intellectual work on future implications of Grand Challenges. They all represent an extensive background of knowledge and experiences of visions, scenarios or foresights exercises built in different areas and contexts, generic or sector specific (i.e. food, mobility, energy, etc.), worldwide or geographically localised and at various levels (local, regional, national, European). The aim of the *scenario mashup workshop* was then to organize a mixing process between all these different partial conjectures on the future available through the participants—to literally mash-up them—to generate tentative meta-scenarios.

Technically, visions issued from the different scenarios were printed on separate cards and spread on the floor in order to allow participants to choose, pick, re-combine and mix the pieces (Fig. 5). The purpose was to build on the richness and variety of the experiences available to foster the strategic conversation on the future and possibly obtain more accurate and pertinent visions to be debated. The very fact that inputs came from different sources following different aims allow to step back from too focused and sometimes narrow visioning processes and to consider the issues from many different technological, social, economical, sustainable, etc. contexts. The visions that emerged from that exercise were lacking of maturation due to the time constraints and the experimental character of the workshop but it confirmed the interest of a mash-up process in order to build more articulated and hopefully less naïve conjecture.

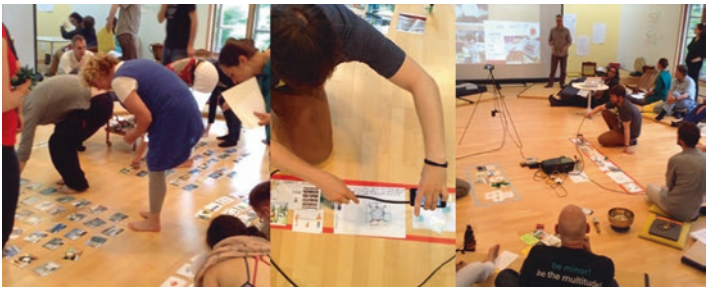

Fig. 5 The scenario mashup workshop builds on the mixing of different sources and natures of foresight materials presented on a large series of single cards spread on the floor in order to reach more articulated and accurate visions to debate

3.6 New Skills for Sustainable Living Workshops

The sixth case takes place in the context of the Partnership for Education and Research for Responsible Living (PERL) international network focusing on consumer citizenship, education for sustainable consumption, social innovation and sustainable lifestyles. In particular, one of the PERL workgroup was focusing on: New skills for sustainable living. This workgroup activities intend to investigate sustainable living starting from the necessary skills: initial basic skills on which primary education is based (i.e. collaboration instead of competition) to enable the emergence of sustainable citizens and life long learning skills to facilitate the development of green jobs and the greening of professional competences in all professional sectors.

The forward-looking methodology that interests us here is a series of workshops held in different professional arenas and aiming at debating the possible evolutions of jobs towards the emergence of a more sustainable society. Concretely each workshop gathers between 10 and 15 professionals in different hosting institutions such as a public administration, a non-profit or a business organisation to work together for half a day. Participants are first familiarized with Grand Challenges at the horizon of 2030–2050 and with sustainable scenarios hypothesis drawn from recent research projects including SPREAD (see Sect. 3.9). Then, a series of specific challenges derived from main sustainable challenges and focused on the particular professional area they are working on are presented and shared with the group. Then, subgroups work and try inferring from this particular challenges the possible responses likely to emerge from their professional sector: evolution of professional skills to align sustainable requirements; new jobs profiles emerging to tackle sustainable issues.

Each workshop ends with the creation of a series of updated professional skills or new profession profiles (Fig. 6). These new sustainable professions are presented as patchwork of current, updated and new sustainable skills and visualized as a form of Archimboldo picturing the new professional as a collage of sustainable competences.

Fig. 6 Workshop process involving interactions between participants with cardboard blocks presenting futures challenges and already existing visions in order to build their own vision of new job profiles and professional skills

3.7 Agenda 21 VISIONS+21 Workshops

Our seventh case is the *Rio+20 and after: Agenda 21 of tomorrow* task force set-up by the French Ministry of Ecology, Sustainable Development, Transport and Lodging together with the National Agenda 21 Committee and sectorial associations to envision and outline possible evolution of the Agenda 21. The aim of this foresight exercise was to question the principles emerged from the World Summit in 1992 and to propose scenarios of adaptation of local governance towards local sustainable transformations. SDS supported the organization of the participative and creative scenarios building process through a progressive process including strategic mapping, projective challenges, video sketching, and backcasting steps with a group of about 30 experts working with Agenda 21 at local or national levels. Three future scenarios presented through video animations were built collectively and covered different aspects of Agenda 21: citizen engagement, societal activities (Engagements 21), the right to experiment in terms of policy and governance (Democities 21) and hybrid task-forces of public-private-citizen partnerships (Pact 21).

The particular forward-looking methodology that interests us here is the development of a toolbox that was co-designed as a follow-up kit to enable local Agenda 21 to perform a similar range of creative and projective exercises within their own context (Fig. 7). The toolbox was then tried out and refined within a series of 5 territorial experimentations in France.

The VISIONS+21 toolbox ended up being co-designed with its potential users and civil servants (especially Agenda 21 coordinators) and disseminated through a national training process to allow them to facilitate local visioning exercises. This project evolved from an initial group of experts (about 30) and reached out, through the 5 territorial experimentations, to more than 100 stakeholders from diverse sectors (city authorities, departmental, regional and national ones, private sector, NGOs, etc.).

Fig. 7 The VISIONS+21 toolbox co-design with local Agenda 21 coordinators and local sustainable development experts to stimulate through a series of simple collective exercises, visioning activities at territorial level

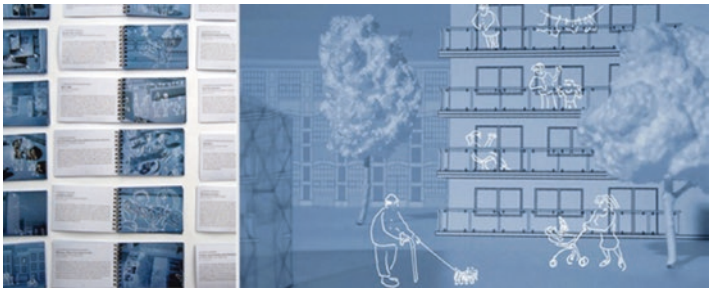

Fig. 8 A collective story-telling process involving stakeholders in the city of Saint-Etienne and beyond allow to co-produce and agree on a collective projection defining the basis for the new *Cité du Design* institution

3.8 Cité Du Design Story-Telling Process

The eighth case takes place in Saint-Etienne, a medium-sized town in the Rhône-Alpes region hosting in 2008 the Biennale Internationale du Design, a fair that has established itself, over the last 10 years, as one of the major design events in France. The city and surrounding metropolitan decided to follow this trend and create a permanent institution, called la *Cité du Design*, including research and design facilities, a design school and exhibition halls in order to boost the struggling local social and economical fabric and promote Saint-Etienne as the major capital of design. Beyond the construction and refurbishment of an industrial infrastructure to host the new institution, a debate was needed to define the functionalities and living systems of the new institution (Jégou 2010).

The forward-looking activity we are looking at here is based on a large participative story-telling process. Multi-stakeholders ranging from the city council, the cultural institutions of the region, the design community, local and national industrialists as well as inhabitants and shopkeepers from the very neighbourhood were asked to tell short stories on how they imagine their daily living with the future *Cité du Design*. The over 150 collected stories were re-combined into 40 stories presented as a booklet and turned into a series of short animated video-sketches constituting a true collective projection (Fig. 8). The shared vision was then used to define the specifications of the macro-service and largely communicated to the multiple audiences of the *Cité du Design*.

3.9 SPREAD Scenarios

The ninth and last case is part of the SPREAD Sustainable lifestyles 2050 FP7 European research project running from 2011 to 2012. The SPREAD project intended to develop a social platform and to identify research and policy needs for sustainable lifestyles. Various stakeholders from business, research, policy

and civil society explored four aspects of sustainable lifestyles: moving, living, consuming and society. This process resulted in four scenarios: Empathetic Communities, Governing the commons, Local loops and Singular Super Champion (Rijnhout and Goicoechea 2013). The interesting forward-looking approach here is the originality of the way the four scenarios were presented. Each one was showcased in a 5 min 'video clip' giving the 'spirit' of each of the SPREAD scenarios and working as teaser to the complete scenario reports.

The videos were built like short *telenovelas*, a feuilleton that shows "bits of daily life" in a narrative way with only one or two characters having apparent mundane discussions but within a daily "future" sustainable lifestyle set (Fig. 9). The short and visual formats of those video clips reach a wider audience and help "incarnating" the scenarios with a day-to-day language and setting.

The sustainable lifestyles aspects are not shown as the front content but as a more disguised element incorporating in the background themes like technology-driven daily life, collaborative ways of living, locally-centred lifestyles or sustainable excellence and efficiency. The four *telenovela-like* clips are contrasted but complementary and are an invitation for discussion and reaction in the same way soap operas provoke family and relatives conversations. It also allows taking the scenarios out of the hands of the experts and to share them with a wider audience.

The selection of nine interaction exercises reported above is the result of independent research projects. They are also linked one to the other by the fact that they have been developed in the same professional framework of the Strategic Design Scenarios consultancy. They therefore build on each other. Although they generally don't relate to each other, they inspire and influence each other. They develop as a larger and iterative participative forward-looking process.

In the first half of this loop process, groups of diverse stakeholders in collaboration with Strategic Design Scenarios share their knowledge and expectations to build scenarios of a desirable sustainable society. Then, in the second half of this loop process, the outputs of their work, the possible new sustainable ways of living they invent are used as stimulation inputs to kick-start a new loop

Fig. 9 The different sustainable scenarios that emerged from the SPREAD research project were presented in the form of *telenovelas-like* short video clips in order to picture the resulting changes of lifestyles at family everyday level

and further explorations of sustainable ways of living and societies. For instance different of the forward-looking exercises presented focus on the question of food. Each time the question of getting more healthy and quality food in the future emerges from different points of view: sustainable food policy making in Sect. 3.1 build on the interaction with youths in Sect. 3.2, that was building on investigation of social innovation by household in Sect. 3.4, etc. The different projects and studies engaging various stakeholder groups capitalise over years. They blur between the various iterative loops processes, cross-fertilize, mutually enrich and generate more complex and articulated visions of sustainable society.

4 Results

These series of cases of forward-looking interaction exercise as introduced in the Sect. 2, tends on the one hand to explore different approaches to organise participative foresight involving stakeholders to co-design future visions. On the other hand they aim at producing explicit envisioning where citizens can experience and assess between alternative futures.

This suggests 2 different axes along which this selection of forward-looking cases could be mapped. These 2 axes are presented below in Fig. 10:

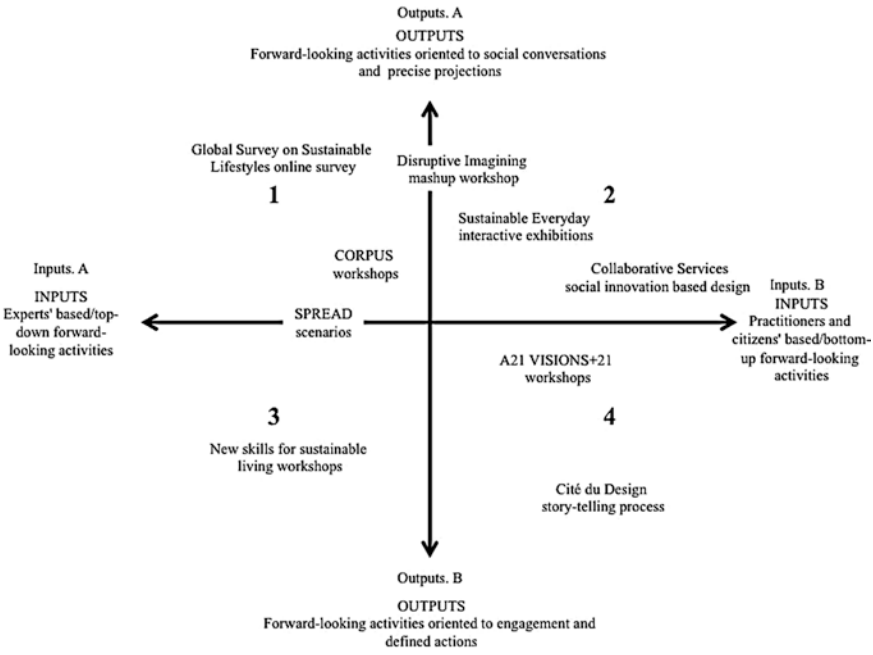

Fig. 10 Mapping of the selection of cases of forward-looking activities according 2 axes: input origins of material used to initiate the forward-looking activity and output purpose of the result generated

- A first axe describes the inputs of the forward-looking activity: the inputs is either top-down and driven by the work of a small number of sustainability foresight experts or bottom-up and based on aggregation of experiences from a larger number of stakeholders or citizens.
- A second axe describes the outputs of the forward-looking activities: the outputs is either oriented to stimulate more reflexion, engagement and social conversations based on the sustainable visions or aimed at triggering more concrete projections and defined actions.

The scheme showed in Fig. 10 is the combination of 2 axes that includes the input (the origins of material used to stimulate the interaction) and the output (the purpose of the result generated). It describes 4 quadrants representing 4 characteristic typologies of forward-looking interaction exercises where the cases presented in the previous paragraph can be mapped.

4.1 Quadrant 1: Loading the Future Buffer

The first quadrant describes forward-looking exercises where available knowledge on future challenges, existing scenarios and promising solutions are shared between foresight experts in order to emulate more reflections on the future in order to generate more precise projection or to stimulate social conversation and debates.

In the CORPUS workshops case (Sect. 3.1) participants were specialized and very knowledgeable experts or practitioners in their respective fields and local contexts but lacking from an integrated understanding on sustainable living all over Europe. Stakeholders take part to a forward-looking exercise with their socio-cultural and professional points of view and bias. The main issue is then to bridge the knowledge between the participating experts and to support them in forming together a shared and richer vision of the future.

It's even more the case for laymen who often react on the basis of a very partial knowledge and thoughts on the topic. Youths worldwide involved in the case of the Global Survey on Sustainable Lifestyles (Sect. 3.2) had very little and partial in-sights on what sustainable lifestyles in their own living contexts could be and needed suggestions and ideas prior to take part to the survey.

There is therefore a need to 'load participants' buffer with food for future thoughts in order to kick-off an imaginative visioning process, and enable a richer deliberation between them.

4.2 Quadrant 2: Co-inventing Discontinuities

The second quadrant describes forward-looking exercises where the expert community input is very limited and a wider collaborative field process that includes civil society and citizens is required to generate visions.

In the Sustainable Everyday case (Sect. 3.3), the purpose was primarily to use a travelling exhibition as a pretext for triggering social conversation between visitors on sustainable everyday life in different socio-cultural contexts worldwide and generate new promising sustainable solutions (products, services, neighbourhood infrastructures) beyond the established experts' knowledge. In the Collaborative services case (Sect. 3.4) a large Europe-wide investigation of social innovation helped to uncover the entire emerging new arena of collaborative consumption and shared economy. Finally in the Disruptive Imaginings case (Sect. 3.5) the initial knowledge of the participating foresight experts was not low but the purpose of the workshop was to go beyond their single knowledge and to cross-fertilize each other with the multiple experiences and the different forward-looking studies everyone has conducted over the last decade and to generate experimental scenarios building approach and to combine the most promising ones.

In all 3 examples of this quadrant, the visualized scenarios generated along the process both trigger and catalyse a forward-looking activity among participants and present the advanced vision emerging from their interaction.

4.3 Quadrant 3: Translate and Catalyse New Meanings

The third quadrant describes forward-looking exercises aiming at combining the current expert community knowledge on sustainable living or to translate it from an area of expertise to another in order to facilitate the implementation of scenarios, the definition of precise and concrete solutions and the involvement of stakeholders on the field.

In the New skills for sustainable living case (Sect. 3.6), the workshops built on existing knowledge and assumptions on sustainable lifestyles generated in previous foresight projects to translate them from the user to the provider point of view. They stimulate the generation of new professions and jobs likely to generate and enable the sustainable lifestyles considered at start. In the SPREAD case (Sect. 3.9) *telenovelas*-style short videos picturing different sustainable ways of living allowed to support the dissemination of the scenarios that emerged from the SPREAD research project beyond the researcher community and mainstream. They use a popular TV format to suggest and trigger behaviour change towards sustainable ways of living.

In both cases presented in this quadrant, the visualization material generated allow to embody the outputs of the forward-looking exercise and make them more concrete and tangible in order to stimulate their implementation by the stakeholders involved.

4.4 Quadrant 4: Securing Engagement

The fourth and last quadrant is focussing on forward-looking exercises that aim at facilitating the appropriation and local adaption of visions towards stakeholders engagement and implementation of solutions.

In the the VISIONS+21 toolbox case (Sect. 3.7), the issue is less to invent or explore the future rather than reviewing broad scenarios emerging from foresight activities at national or European level. The tools from the toolbox question and engage local stakeholders (i.e. citizens, municipalities, companies, non-profits, etc.) to produce their own vision adapted to the local territory and catalyse their commitment to collaborate for its implementation. In the Cité du Design case (Sect. 3.8), a large story-telling process among local population and local stakeholders has allowed building a collective projection and a common understanding bridging divergences prior to agree collectively on a shared program for this new public institution.

In the cases reported in this quadrant, the participative generation of visions by a large number of stakeholders aims at both generating their own personalized vision or adapt it to the local context and so doing, catalyse these stakeholders to take immediate concrete actions and implement the visions that emerged.

5 Conclusion

The classification of the 9 cases of forward-looking exercises along the nature of inputs they are based on and the purpose of the output generated will be discussed in the conclusion. In particular 2 aspects of the initial hypothesis of the paper focusing envisioning as enabling tool for social empowerment and democracy will be presented:

- the challenge of making the discourses on the future visible and accessible to support democratic social conversations;
- the promotion of envisioning as a daily life personal and societal activity to support social empowerment.

5.1 Future Visualisations to Support Democratic Social Conversations

All examples described in part 2 are presenting different forms of visualizations of the proposed scenarios and visions. These visualization techniques derived from designer skills projecting conceptual visions into a range of new products, services and infrastructures. They simulate the interaction between the resulting new material environment and potential users. A number of iterative loops characteristics of design approaches allow mutual adaptation between users and the designed environment.

The resulting participative visioning processes provide concrete forms of anticipation accessible to all publics. Moreover they show along the first axe in Fig. 10, tentative integrations of top-down expert-driven forward-looking researches with

more bottom-up stakeholder and citizen-based envisioning processes. So doing, they constitute forms of mediation readable both by professional experts and laymen. They facilitate the debate on the future between each other and in general they assume a brokering effect between stakeholders in society. When pointing desirable scenarios and plausible solutions they also facilitate the engagement of stakeholders.

5.2 Daily Life Envisioning for Social Empowerment

Forward-looking activities are traditionally located in the top-left part of the scheme Fig. 10 consisting of expert-based studies and aiming at questioning *grand challenges* at societal level. Moving from top-left quadrant to bottom-right one, forward-looking activities are more based on stakeholders and citizens experiences and oriented to foster the same stakeholders and citizens to engage and take action. They tend to feed from daily life and feedback in daily life.

Moreover, the use of daily life scenes as a mean to express, communicate and share discourses on the future make them not only more understandable but also meaningful and actionable in daily life. Beyond policy making, forward-looking activities are then addressing a new posture at daily living level. The same anticipation and foresight tools make sense to support social conversation at local level, help individual actors to question and orient their action. People's images of the future affect actions in the present, as people either try to adapt to what they see coming, or to act in a way that creates the future they wish for (Schreiner and Sjøberg 2004).

In a fast-moving environment, families, citizens prior to make personal choices (i.e. changing job, orienting kids' education, moving to another location on the territory, etc.) could question their future options in the light of different personal scenarios. The role of the futurist, then, is to encourage people to explore alternative futures and to construct images of the future. And in so doing, people become more competent, effective and responsible actors, both in their personal lives and in their organizational and societal roles (Bell cited in Kickerin 2009). Daily life envisioning emerges then as a determinant asset for social empowerment towards responsible living.

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Part V
Special Interview

Reflections on a Dedicated Partnership

An Interview with Victoria W. Thoresen

Siri Wieberg Klausen

The following is an interview by Siri Wieberg Klausen with Victoria W. Thoresen who holds the UNESCO Chair for Education for Sustainable Living at Hedmark University College, Norway. Victoria W. Thoresen is the founder and director of The Partnership for Education and Research about Responsible Living (PERL) and of its predecessor, The Consumer Citizenship Network (CCN). CCN and PERL have concentrated on research and education about consumer citizenship, sustainable lifestyles and responsible living for more than a decade.

1 What Is Your Background?

I am a teacher and teacher-trainer by profession and have worked as an international education consultant in many countries. I have been extremely fortunate to have experienced the wonderfully rich diversity of people, cultures and nature to be found all over the globe.

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V.W. Thoresen et al. (eds.), *Responsible Living*, DOI 10.1007/978-3-319-15305-6_17

2 What Motivated You to Begin with Work Related to Consumer Citizenship and Education for Responsible Living?

Although I found teaching to be an inspiring and challenging task, I was deeply concerned by how education, on all levels, so often failed to prepare learners for a constructive, creative and contented life in modern society. Children were seldom helped to identify or articulate the values that formed the foundations of their cultures. Schools did not succeed in giving pupils sufficient self-confidence to withstand commercialization and peer-pressure. Knowledge was, to a large degree, served encased in theory and divided in piece-meal fashion rather than in an integrated manner. And people everywhere continued to ignore the increasing destruction of their natural environment and of the bonds that united families and communities. It did not seem to me that we educators were helping global citizens to emerge. Instead, we were facilitating young people to become self-centered, competitive materialists unable to deal with the rapid changes and demands of a highly interconnected world community.

3 What Did You Feel Needed to Be Done?

Many things needed to be done. I was given the opportunity to specialize in consumer education but it did not take long before I realized that the traditional emphasis on consumer rights overlooked the need for consumers to also recognize their responsibilities. By working with the development of the ISO guidance standard on social responsibility, it became more and more evident to me that consumer education, important as it is, had not yet taken fully on board awareness of the impact our consumption has on the environment and on other people. Nor had civic education evolved from concentrating on governmental structures and voting procedures to deal in any significantly broader sense with stakeholder involvement in decision-making processes. Additionally, core life skills, which in many ways lead to the heart of being truly human, were still relegated to short, often non-obligatory, health courses if they, indeed, were taught at all.

4 How Did You Feel These Shortcomings Could Be Dealt with?

First and foremost, these shortcomings could be dealt with by developing an attitude, a language and a culture of solidarity with people everywhere, with Nature, and with future generations. Consisting of non-material as well as material aspirations, such a culture would need to include the concepts of equity, empathy,

well-being and environmental stewardship. It would be based on a definition of prosperity not measured only by monetary wealth but by integrity, knowledge and wisdom as well. Developing a culture of solidarity that could lead to responsible living would involve doubting many existing habits and paradigms; discovering alternative pathways; daring to be different than those around one by proceeding along the new pathways; and consequently doing what we often fail to do: reflecting upon the results, initiating possible adaptations and trying again.

To enable the actions mentioned above there was and still is the need to emphasize systems thinking that helps people recognize and understand dependencies and interrelationships in all aspects of life. This leads to greater interdisciplinarity which strengthens holistic learning perspectives. Of course, increasing hands-on-active-learning in the classroom or taking the classroom out into the community makes school-based learning more relevant and interesting, while increased individual empowerment through collaboration and cooperation can make social learning processes more effective.

5 How Did You Go About Working with These Issues?

We tried to create both top-down and bottom-up approaches. In other words, we worked with research, policy creation and curriculum reform on international, national and local levels. Capacity building was a central focus, particularly as regards to teacher training and in-service teacher training. But we also concentrated on developing methods and materials that educators could use "on the ground" in the classroom. Through national projects, Nordic projects, European and international projects both CCN and subsequently PERL were able to carry out research, initiate creative student activities, create courses, test materials, showcase alternative lifestyles and involve educators and learners around the world in the on-going process of defining and trying to implement responsible living.

CCN and PERL have not been alone in their efforts to develop a culture of solidarity and stimulate reflective social learning. For this reason, one central activity which the partnerships have carried out has been to build bridges between ourselves and other like-minded groups. Sharing research, discussing perspectives and combining insights with others have been important ways of dealing with these issues.

6 Who Did You Collaborate with in the Beginning?

The Hedmark University College in Norway has been the hub of our activities. The University College housed our first significant initiative which was a distance-learning graduate course entitled, "Needs and Desires". The administrative centers for CCN and PERL have been at Hedmark University College. A long-lasting

collaboration evolved with the Norwegian Ministry responsible for consumer education (at present entitled The Norwegian Ministry for Children, Equality and Social Inclusion). Thanks to the opportunities provided by the European Commission's Erasmus Thematic Network Program our network grew and more researchers, teacher trainers, practitioners, consumer organizations, and school teachers joined to form a large, diverse and dedicated group of change agents. Because CCN and PERL were committed to contributing to change on a global scale, we also collaborated with UNEP and UNESCO from the beginning. After a short while, collaboration also developed between CCN/PERL and two of the international Marrakech Task Forces on Sustainable Consumption and Production, namely the Task Force on Sustainable Lifestyles led by the Swedish government and the Task Force for Education about Sustainable Consumption, led by the Italian government.

7 Has the Partnership Changed Much During the Decade?

Amazingly enough, no. But the partnership has expanded to include representatives of outstanding groups of individuals and professionals who we wanted to work more closely with because of their expertise in such fields as scenario development, collective consultation, social innovation, art, design, climate change education and global education. As interest in sustainable consumption and responsible living has grown in different parts of the world PERL has been able to establish regional networks in Africa, Asia and Latin America which have attracted new partners from many diverse backgrounds.

8 Who Has Been Supporting/Sponsoring the Work?

Though it may be hard to believe, the largest resource we have had has come from the voluntary input of time and energy of the partners which they offered above and beyond their salaried jobs. Many hours of hard work have been taken from weekends and holidays to accomplish what has been done. Many low-budget meetings have been held. However, there has been funding from the Norwegian, Swedish and Italian governments, the Nordic Council, the European Commission, UNESCO and UNEP.

9 What Kinds of Problems Did You Encounter Along the Way?

One of the greatest difficulties has been the lack of sufficient scientific data about factors motivating behavior change and about the consequences of alternative lifestyles on individuals and the environment. Research in general has, to a great

extent, analyzed the commercial aspects of consumerism. It has measured the outward manifestations of civic involvement. It has looked at the destructive impact of production and consumption on the climate. CCN and PERL have sought to identify and evaluate examples of constructive action towards sustainable lifestyles and responsible living. They have worked deliberately to overcome the cynicism, pessimism and passivity which has grown during the last decade due, in part, to the reports of doom and gloom often spread by the media or conveyed, albeit unintentionally, by teachers. There is no denying that time is short and the world is in an extremely critical situation that demands urgent and significant changes. Nonetheless, heightened risk awareness is constructive only to the extent that it motivates rather than paralyzes.

Another dilemma has been how to address the inherent hesitance many have towards change itself. The apparent need of many to cling to habits and information whether they are proven positive or not is a condition that education for responsible living must deal with. CCN/PERL has investigated and tested several approaches to diminishing the "knowledge-action" gap. One of them has been that of developing values-based indicators for use in schools.

10 Why Did You Choose to Focus on Values, Social Responsibility and Innovation?

We realized that informed policies and greener technologies—though they are valuable and necessary as steps along the path towards a more sustainable tomorrow—are in themselves not enough. A deeper transformation is needed if the people are to move towards responsible, sustainable living—a transformation which requires a serious re-examination of our understanding of what it means to be human, what allows us to flourish and achieve dignity and well-being, and what will lead to a more peaceful, united future for humankind. Therefore, it was essential to gain a better understanding of what cultural frameworks drive governments, businesses, education and media. It has been necessary to help individuals consider their purpose in life and the roles they can have in building a just and sustainable society not only for themselves but for people everywhere.

Additionally, it has been vital to further education which stimulates a curiosity and creativity which allows the reimaging of reality and the reconstructing of relationships. Continuing as we have will not make the world a safer, more equitable, more environmentally balanced place. CCN/PERL has tried to stimulate curiosity and creativity by experimenting with the use of images and objects in active learning settings, and by using interviewing, story-telling, backcasting, scenario thinking and co-creating. The partnerships have refined and disseminated toolkits and guidelines which assist teachers in helping learners discover and use their hidden resources.

11 What Were the Partnership's Main Achievements?

The CCN and PERL partnerships have had many achievements. One was to help draw attention not only to how lifestyle choices and patterns of overconsumption affect the environment, the lives of workers around the globe and our own health and contentment but also to draw attention to the potential for positive change residing in each person's everyday decisions. This CCN/PERL has done, in part, through research and, in part, through active participation in the ongoing public discourses.

But recognizing this potential is only a part of the process of transition. Unleashing the potential and assisting learners to use their powers of analysis, consultation, creation, action, reflection, adaptation and renewed action is also necessary and this has been the goal of the social learning methodologies CCN and PERL have developed.

The partners also developed the basis for the UNEP publication, "Here and Now! Education for Sustainable Consumption", which is an international core curriculum and political roadmap. This core curriculum has attracted much interest and has been used in several countries such as Indonesia, Chile and Tanzania to develop national curricula for education for sustainable consumption.

Giving visibility to creative communities and examples of sustainable responsible lifestyles has been another of CCN/PERL's achievements. Through publications, presentations, conferences and other means, the partnerships have shared "good practices" with teachers, students and the public at large thereby encouraging and inspiring others to dare to be different and dare to make a difference.

12 How Did the Work on Consumer Citizenship and Responsible Living Connect with the Goals of the UN Decade on Education for Sustainable Development (DESD)?

Responsible living, with its emphasis on sustainable consumption, is an integral part of sustainable development. It connects change on the micro level with the larger, more overarching transformations on the macro level. Although education for sustainable development (ESD) concentrated in the early years of the decade on environmental education, emphasis gradually moved to encompass both individual and collective social processes. By 2008 education for sustainable consumption was recognized as an essential dimension of ESD. PERL intensified its activities and has assisted UNESCO in the evaluation of the DESD and in the preparations of the upcoming Global Action Program.

As the DESD unfolded, the Cycles 18–19 of the UN Commission on Sustainable Development (CSD), that were taking place in parallel with the preparatory work for Rio+20, were reviewing and trying to improve a number

of issues related to sustainable development, among which was the 10YFP on Sustainable Consumption and Production. During these cycles CCN and PERL provided professional input to expert panels, to seminars and workshops held at the UN for delegates and other participants and also had the chance to get involved in the discussions for the drafting of "The Future We Want" document, that was the substantive base for the governmental discussions at the Rio+20 Conference.

13 Why Did You Get Involved in Global Processes and Policy-Making Related to Sustainable Development?

CCN/PERL partners have long been aware of the extremely critical and urgent need for significant change. The international community reached a point during the recent years where concern on the part of some leaders and pressure from many civil society actors converged to create a window of opportunity for initiatives that could advance responsible living. Trying to take advantage of this window of opportunity, PERL contributed to the global processes defining "The Future We Want". We participated actively in the CSD sessions and at the UN Conference on Sustainable Development (Rio+20). At the Rio+20 Conference the world's leaders agreed that "sustainable lifestyles are a prerequisite for sustainable development". PERL partners have researched the present state of sustainable lifestyles and have assisted UNEP in the preparation of the 10-Framework of Programs on Sustainable Consumption and Production's program on Sustainable Lifestyles and Education (Photo of PERL partners).

14 What Are the Three Most Important Lessons Learned from the Work You Have Coordinated?

One lesson is about building bridges and cooperating. Put together researchers, academicians, educators, civil society activists and representatives of small businesses and you have a potpourri of diverse mindsets and frames of reference. Add to that the fact that many of the researchers and academicians come from different disciplines and you have a recipe for confusion. However, the CCN/PERL networks managed to establish respect and trust between its many partners as well as to find ways of helping each other see issues from different perspectives.

A second lesson has been the realization of the necessity of constantly staying updated on the issues related to responsible living. Changes occur very fast and keeping abreast of new developments, be they social, technological, economic or environmental is a prerequisite for continuing to be able to play a useful role in the transition to more sustainable, responsible living.

A third, and perhaps most important, lesson learned is about the virtues upon which responsible living rests. Though they are numerous, the most essential seem to be moderation, empathy, trustworthiness and generosity. Without nurturing these characteristics, the negative forces of greed, corruption, self-centeredness and fear strangle all efforts to move towards more responsible living.

15 What Impact Have CCN and PERL Had?

Measuring empowerment resulting from education and awareness-raising is a difficult and controversial task. Social change occurs over long periods and the effects of education on attitudes, behavior and skills are not easy to identify. Nonetheless, we can see that much of what CCN/PERL has done has had noticeable impact on local, national and international levels. PERL has helped stimulate relevant policy and research, has made valuable contributions to public discourse; has motivated many institutions of higher education to concentrate interdisciplinarily on issues related to education for sustainable lifestyles; and has been the source of numerous well-rated courses, conferences, seminars and workshops that have attracted extensive attention around the world.

But perhaps the greatest impact has been on those who have come in contact with the PERL partners and recognized the importance of the fundamental focus of the partnership: that of understanding interdependencies and developing empathy for fellow humans everywhere.

16 What Plans Does the Partnership Have for the Coming Years?

On a personal level, it appears that many of the CCN/PERL partners will continue to try to improve their own lives. The starting point for responsible living is in one's own heart and home. Quite a number of the PERL partners are actively involved on local and national levels with curriculum development and teacher training that incorporates the approaches PERL has worked with. Many of the PERL partner institutions have also committed themselves to further collaboration as a part of a UNITWIN network which will focus on contributing to the implementation the 10-Year Framework of Programs on Sustainable Consumption and Production's Program on Sustainable Lifestyles and Education and to assisting with UNESCO's Global Action Program.

PERL will continue its efforts to encourage and empower people to re-examine their present lifestyles; to explore new ways of promoting moderation, generosity, unity and contentment; and to become examples of courage and perseverance.