

An Exploratory Journey into Sustainability Changemakers Learning Programs

Chieko Azuma, Elvio Coletinha, Pablo Villoch

School of Engineering
Blekinge Institute of Technology
Karlskrona, Sweden
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Abstract:

Humanity is facing highly complex challenges at a global scale. A new sort of conscious sustainability changemakers is needed to face the sustainability challenge. However the mainstream entrepreneurship education tends to focus on business as usual skills, with a significant lack of comprehensive understanding of the whole system and the inner work needed to face the mental barriers to become sustainability changemakers. While the Framework for Strategic Sustainable Development was used as a structured approach to the topic, the research design was based on a dynamic research interactive model. Theory U guided the data gathering process that included participatory observation, dialogues with the organizers and participants through the seven progressive schools in Europe. The research aims to identify the common assumptions that guide the design of leading edge learning programs for sustainability changemakers. Building on the findings, the authors present a prototype of a learning tool in a form of self-reflection card game with the intention of helping the next generation of changemakers in their learning journey towards sustainability. Conclusions detail specific guidelines to design a learning program of changemakers towards sustainability.

Keywords: Framework for Strategic Sustainable Development, Leadership, Learning, Changemaker, Sustainability, Theory U.

Statement of Contribution

This thesis was undertaken in a truly collaborative fashion with each of the three members bringing their respective strengths, skills and perspectives to the process.

Even though we come from a diverse set of educational backgrounds, professional experiences, and aptitudes – Chieko in Biology and Environment Science, Elvio in Introduction to Strategic Sustainable Development and Business Management, and Pablo in Intercultural Studies, Local Development, and Business Management – the group was formed based on our shared interest in Social Entrepreneurship and its potential to contribute to Strategic Sustainable Development.

Our learning journey through this thesis represented by the co-sensing synergy of our group, co-presencing reflections allowing our inner knowing to emerge and co-creating process has been an intense asserting and inspiring experiences for our group. It has been a genuine exploration of working within this perspective we describe. We honestly believe this to be the way forward if we are to make it through this time of institutional dysfunction and socio-ecological crisis.

While our learning journey was winding (or rather spiral) with many peaks and troughs, we are unanimous in our conclusion that our journey of writing a group thesis yielded far stronger results than any attempt to do so individually might have.

Sincerely,


Chieko Azuma


Elvio Colêzinha


Pablo Villoch

Executive Summary

Introduction

The World in a Funnel

Humanity, for the first time in its history, is facing highly complex and interconnected challenges at a global scale: climate change, poverty, terrorism and pandemics to name a few. There are two underlying trends that are shaping the opportunities to meet needs of our present and future generations: the systematic increase in demand that puts additional pressure on natural resources and the systematic decrease on the availability of natural resources and social capital. This sustainability challenge - commonly summarized by Strategic Sustainable Development practitioners with the metaphor of the Funnel - does not only imply environmental consequences but also constraining human society's future possibilities.

The Root Cause

At the root of such massive and profound institutional failure in our society lies our prevailing world view based on the main stream science. It has helped humanity in achieving the important technological advancement and obtaining physical comforts in industrialized parts of the world. However, its excessive application has also led to disintegration of society and doubt, complete alienation of man as an observer from himself as a being, leading to the sense of loss and dissatisfaction among the people.

Sustainability

In this study we adopt one functional definition of sustainability based on scientific consensus, which is defined by four non-overlapping principles as follows.

In a sustainable society, nature is *not* subject to systematically increasing...

I . . . concentrations of substances extracted from the Earth's crust;

II . . . concentrations of substances produced by society;

III . . . degradation by physical means;

and in that society...

IV . . . people are *not* subject to conditions that systematically undermine their capacity to meet their needs.

Sustainability changemakers

The authors of the study believe that one of the most effective and strategic ways to move our society towards sustainability is to help everyone with the motivation to become changemakers for sustainability. The most influential studies on leadership and sustainability indicate that for a person to become sustainability changemakers, a person should:

- Adopt and operate from the emergent understanding of the world,
- Have understanding of the functional definition of sustainability from a systemic and holistic perspective,
- Communicate and reach with highest future potential.

In order for the last element to happen, a person should:

- Sense and feel deep aspiration, vision, or dream (the future self that wants to emerge through you),
- Face and master voice of judgment (gate to open mind),
- Face and master voice of cynicism (gate to open heart),
- Face and master voice of fear (gate to open will).

Aim and Scope of the Study

This study seeks to identify commonalities and differences in the assumptions entailed in the mental models of the leading edge learning programs for people to become sustainability changemakers. It seeks to identify the guidelines for designing learning experiences that help people meet the previously mentioned definition of success. Based on the primary findings, it intends to develop a self-guided tool to help individuals learn to become changemaker for sustainability.

Methods

While the Framework for Strategic Sustainable Development was used as a structured approach to the topic, the research design was based on a dynamic research interactive model. Similarly, the Theory U guided the process of actual data gathering and formulation of the tool. The authors conducted dialogue based interviews and participatory observation in a group of seven educational programs (four of which are presented in this study) and analysed the assumptions that guide the design of learning experiences and compared them with the definition of success. The study utilized the visible practices and tools observed in the fieldwork to decipher the underlying mental models.

Findings

Exploration of the different leading learning programs for sustainability provided us with several primary findings and insights in light of our purpose of fostering a new generation of sustainability changemakers.

In order to foster future sustainability changemakers, the view of the system needs to be comprehensive and systemic. That is individuals within a society within the ecosphere within a funnel of dwindling natural resources and deteriorating social fabric due to the prevailing perception of the world as disconnected and mechanistic entity. In short, the fundamental cause of sustainability challenges needs to be incorporated in the mental model of the system.

The learning programs shared a set of assumptions that were used to guide the design of the learning tool. Some of these assumptions are: “Self-motivation and initiative for a purposeful learning”; “Learning should be connected with personal self-development, self-identity and vision”; “Trust in participants”; “Social systems have the capacity to self-organize themselves”; “Peer learning, team learning and team work help a fruitful learning”; “Learning happens through an experiential learning cycle”; “Learning by doing connected with real life”; “Fostering and holding a safe fertile space facilitate learning from taking risks and making mistakes”.

In addition to the findings presented above, several sources contributed to guiding the design of self-guiding learning tool developed through this study which is a set of self-reflection cards called “Your Journey”. The FSSD provided the overall framework for the contents to reflect on. Similarly, inputs and feedbacks from multicultural focus group and the external experts we surveyed provided valuable insights into the design and contents of the tool.

Conclusion

This study is an exploratory and hypothesis generative study which becomes the basis of further development and research rather than hypothesis testing confirmatory study. Thus our findings need external validation and further investigation into related fields. Similarly, the tool developed through this study is a prototype and would present a first step in developing a more refined tool.

Nonetheless, this study potentially contributes to the field of Strategic Sustainable Development (SSD) at the system level by suggesting incorporating explicitly a dimension of human perception or mental model of the world in the system. By presenting a learning tool designed for changemakers for sustainability, this study would also contribute to the SSD at the tools level. Finally, this study would contribute to the area of social entrepreneurship training/education by sharing a way to ensure their contribution to development that is not only socially sustainable but also ecologically sustainable.

Glossary

ABCD method: A strategic planning process used for backcasting from principles. It includes four steps: (A) understanding the system, (B) assessing the current reality, (C) establishing a vision of success and brainstorming solutions, and (D) prioritizing strategic actions.

Backcasting: A planning method in which planners envision having achieved success in the future, look backwards to today and plan strategically towards that vision from the current state by asking, —what do we need to do to get from here to there?

Backcasting from Sustainability Principles: A form of backcasting where “success”, sustainability, is defined at a principle level.

Basic Human Needs: A comprehensive set of nine fundamental human needs elaborated on by Chilean economist Manfred Max-Neef. They are finite, few, classifiable, interrelated and interactive, non-overlapping and non-substitutable. They are not culturally or historically determined and may be satisfied in an infinite number of ways. The nine needs are: Subsistence, Protection, Affection, Idleness, Identity, Freedom, Creativity, Participation, and Understanding. There are no hierarchies within the system, except the need for subsistence. Transcendence has been added as a tenth human need.

Framework for Strategic Sustainable Development: A theoretical framework designed to support clear, rigorous planning and decision-making leading towards sustainability that can be used for planning in any complex system. It can be applied in two basic methods: 1) for planning to guide decision-making, or 2) as an analytical tool to carry out a systematic and neutral analysis of an existing planning effort. The five levels are: *System, Success, Strategic Guidelines, Actions, and Tools*.

Mental model: It is a set of deeply held images, assumptions and stories of how the world works including us, other people, institutions, and every other aspect of the world. Hence, mental models determine how we make sense of the world (i.e. what we see). People with different mental models can observe the same phenomenon taking in the same basic sensory data and describe it differently because they focus on different details. They function as a cognitive mental model for human to make sense and navigate

through the complexity of our world, and thus they have strong influence on how we take action.

Theory U: It is a social technology of transformational change to break the patterns of the past and tune into their highest future possibility-and begin to operate from that place that will allow all people who engage in creating change or shaping their future, to meet their existing challenge.

Metaphor of the Funnel: Metaphor represented by the systematic increasing pressure on society through the decline of resources, purity, biodiversity and so on, as well as the growing population, global demand, and so forth.

Strategic Sustainable Development (SSD): a sustainable development planning approach based on scientific principles and a holistic understanding of sustainability designed to support decision making towards a sustainable society.

Sustainability: a state in which the four principles for sustainability are not violated.

Sustainability Principles (SPs): in a sustainable society, nature is not subject to systematically increasing...

I.... Concentrations of substances extracted from the Earth's crust;

II.... Concentrations of substances produced by society;

III. ...Degradation by physical means;

and in that society...

IV. People are not subject to conditions that systematically undermine their capacity to meet their needs.

The Generic Five-Level Framework (5LF): A generic framework for planning and decision- making in complex systems utilizing 5 distinct, non-overlapping levels: (1) System, (2) Success, (3) Strategic Guidelines, (4) Actions, and (5) Tools.

Acronyms

5LF: The Generic Five-Level Framework

BTH: Blekinge Tekniska Högskola, Blekinge Institute of Technology

FSSD: Framework for Strategic Sustainable Development

KP: KaosPilots

MSLS: Master's Program in Strategic Leadership towards Sustainability

MTA: Mondragon Team Academy

Q1: Research Question number 1

Q2: Research Question number 2

SP: Sustainability Principle

SSD: Strategic Sustainable Development

UN: United Nations

VOJ: Voice of Judgement (Scharmer 2009, 40-41)

VOC: Voice of Cynicism (Scharmer 2009, 40-41)

VOF: Voice of Fear (Scharmer 2009, 40-41)

YIP: Youth Initiative Program

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1. Introduction

1.1. The World in a Funnel

*“We live in an era of intense conflict and massive institutional failures,
a time of painful endings and hopeful beginnings.”
(Scharmer 2007)*

Humanity, for the first time in its history, is facing highly complex challenges at a global scale: climate change, poverty, terrorism or pandemics to name a few. There are two underlying trends that are shaping the opportunities to meet needs of our present and future generations: the systematic increase in demand that puts additional pressure on natural resources and the systematic decrease on the availability of natural resources (Robèrt et al. 1997) This sustainability challenge does not only imply environmental consequences but also constraining human society's future possibilities.

However, as Paul Hawken suggests in his book "Blessed Unrest" (Hawken 2007), there is light for hope in thousands of worldwide distributed grassroots initiatives led by local leaders and entrepreneurs towards a more sustainable future.

1.2. Root Cause of Institutional Failure

“Climate change is like a fever that is symptomatic of an underlying disease, which must be cured before the fever dissipates. The underlying cause is the belief that humans are separate from and superior to nature and that more

is better. These beliefs have fuelled the misconceived and doomed attempts for industrialized, consumer-oriented societies to achieve lasting human well-being by exploiting and damaging Earth.”

-Pablo Solón, Bolivian Ambassador to the United Nations-

At the root of such massive and profound institutional failure in our society lies our prevailing world view, the Cartesian-Newtonian understanding or rather hypothesis of how the world works in modern science (Hay 2005; Capra 1997; Scharmer 2009).

A number of assumptions and beliefs arises from this world view including the universe as a mechanical system composed of elementary building blocks, human body as a machine, the belief in unlimited material progress through economic and technological growth (Capra 1986, 6), unconditional faith in objective reality, and complete dependence on general and rationally knowable laws (Havel 1994), as well as implicit human dominance over and essentially independence from nature (Raymond et al. 2000).

These assumptions and beliefs implied in the modern science have helped humanity in achieving the important technological advancement and obtaining physical comforts in industrialized parts of the world (Havel 1994). At the same time, blind and excessive application of such assumptions and beliefs as well as the inability of modern science to provide true inner understanding of phenomena in our experience of the world (the nature of people's "reality") have led to disintegration of society and doubt, complete alienation of man as an observer from himself as a being, leading to the sense of loss and dissatisfaction among the people (Havel 1994; Morgan 2003). Hence the mainstream scientific paradigm

together with the assumptions and beliefs it entails has become root cause of the present environmental and social crisis rather than blessing (Hay 2005).

However, growing number of people are becoming aware and start addressing this profound cause of the institutional failure in our society by embracing the emergent world view and scientific paradigm which recognize interconnectivity, systems thinking, non-linear process, wholeness or emergent property of a complex system, self-organization, and human experience as a legitimate means to approach scientific deciphering of how the world works. Lastly but not least importantly, it recognizes the so called interaction of mind/consciousness and physical reality. A number of scientists from diverse areas, for instance, Bohm and Hiley (1993), Bortoft (1996), Capra (1996, 2002), and Varela, Thompson and Rosch (1992) have been investigating these aspects of the world. Experts in organizational management and leadership such as Scharmer (2009), Wheatley (2006), Macy and Brown (1998) have been presenting their studies based on the emergent paradigm. Similarly, emerging methodologies of facilitation such as World Café (Voldtofte 2005) Open Space (Owen 2008) and Art of Hosting (Art of Hosting.org 2010) appear to be based on the same understanding. Furthermore, educational institutions such as Schumacher College (Schumacher College 2010) and Waldorf schools (Barnes 2010) incorporate holistic understanding of the world into their educational practice.

1.3. A Sustainable Society

“The systemic understanding of life that is now emerging at the forefront of science is based on three fundamental insights; life’s basic pattern of organization is the network; matters cycles continually through the web of life; all ecological cycles are sustained by the continual flow of energy from the sun.”

(Capra 2005)

The term “sustainable” has been used everywhere without a clear and common understanding (Capra 2005; Robèrt 2009). One of the most frequently cited definition of “sustainability” would be the one and its variations from the Brundtland Commission, formally convened by United Nations as World Commission on Environment and Development (Brundtland 1987): “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” While it is an important and inspirational moral statement, Capra (2005) and Robèrt (1997) identify the need for a functional definition of sustainability which gives us guidance on how to build a sustainable society.

With the intention of creating a scientifically robust, functional and consensual definition of sustainability, a group of numerous scientists have developed a definition that has been peer-reviewed, refined and retested by scientists and practitioners worldwide. It comprises four basic principles, or conditions, that work as boundaries within which individuals, organizations and society at large can operate sustainably (Holmberg and Robèrt 2000; Broman et al. 2000; Ny et al. 2006):

In a sustainable society, nature is *not* subject to systematically increasing...

I . . . concentrations of substances extracted from the Earth's crust,

II . . . concentrations of substances produced by society,

III . . . degradation by physical means,

and in that society...

IV . . . people are *not* subject to conditions that systematically undermine their capacity to meet their needs.

While first three principles address the way our society undermines the inherent ability of ecosystem to sustain itself, the fourth principle addresses the way our society undermines its inherent ability to sustain itself.

What is implied in the functional definitions of sustainability is an understanding of the world as a whole system where individuals live within society, and society is embedded within the ecosphere, which in turn is embedded in the solar system.

Robèrt et al. (2002) further propose the Five Level Framework for Sustainable Development (FSSD) based on a framework to plan strategically in any complex system, to plan strategically towards sustainability using the above four principles with a method of *backcasting*¹ from the desirable future state that is social and ecological sustainability. This will be described in more detail in the section 2.2.1.

¹ Backcasting is a way to plan from the desirable state of future to get there from the current status, in contrast to the forecasting of predicting the future based on the current state. This concept was originally proposed by John Robinson (1990).

1.4. Beyond Social: Sustainability Changemakers

1.4.1. Sustainability Changemakers

“Leadership exists when people are no longer victims of circumstances but participate in creating new circumstances.”
(Senge 1998, 3)

An understanding of the root cause of the institutional dysfunction in our society and the functional definition of sustainability gives us some clues to requisites of changemakers or leaders who contribute to moving our society towards comprehensive sustainability where people have sense of identity and connectedness as opposed to sense of loss and disconnection, have their basic needs met without disrupting the capacity of ecosystems to sustain life including our own.

In other words, such changemakers for sustainability would:

- a) On an intuitive-emotional dimension: have a sense of identity, sense of connectedness, sense of ownership to own life,
- b) On an intellectual-cognitive dimension: see the world as interconnected whole, understand the functioning of society, natural ecosystem, and their interaction in a systemic manner including how they become dysfunctional (i.e. unsustainable),
- c) On a physical-action dimension: have a strong orientation towards realizing their vision.

Diverse authors have emphasized the need of integrating those dimensions - heart, head and hands- (Hay 2005; Pigza and Welch 2009). In summary, those changemakers would have as pre-requisites:

1. a world view based on the emerging scientific paradigm, particularly an authentic whole system view;
2. an awareness of the world that is sufficiently expansive (i.e. sufficiently broad system boundary);
3. an understanding of sustainability based on the functional definition;
4. orientation towards realizing their vision (i.e. taking necessary actions to realise the vision).

In this study, leaders with the stated qualities are defined as sustainability changemakers.

1.4.2. Social Entrepreneurs and Sustainability

One of the most promising candidates of sustainability changemakers as defined above would be social entrepreneurs. Although the exact definition varies across literature (CASE 2008), social entrepreneurship is recognized as a type of changemaker that catalyzes social transformation (Alvord et al. 2004), which contributes directly to goals of sustainable development by meeting basic human needs (Seelos & Mair 2005). Similarly, ASHOKA (2010), one of the most influential social enterprise founded by one of the most distinguished social entrepreneurs Bill Drayton, calls social entrepreneurs as changemakers who are innovators for public.

However, 'by meeting basic human needs' implies that their valuable

contribution towards sustainability more often than not ends at society level. Thus it is likely that sustainability is not addressed in a comprehensive and systemic manner. For those entrepreneurs who only focus on the social dimension, the absence of a systemic understanding of sustainability that considers the complexity of interactions between environmental dimension and social issues, might lead to trade-offs between poverty alleviation and ecological damages. For instance: a mobile based microfinance project of Yunus (2003) would likely contribute to disperse heavy metals of cell phone batteries in Bangladesh as there appears to have no recovery program of the phone in place at the moment, even though carbon footprints of their operation is now addressed through a new initiative as part of their corporate social responsibility (Grameen Phone 2009).

1.4.3. Everyone can be a Sustainability Changemaker

*“Who wants to be an object when they could be changemakers,
when they could live lives far more creative and contributory
and therefore respected and valued?”
(Drayton 2006)*

If leadership is, as Senge (1998) says: about learning how to shape the future and about creating new realities (and not about positional power; not about accomplishments; ultimately not even about what we do), then change-making for sustainability can also be learned by anyone who so wishes. Therefore, we believe that any individual who operates from the emerging world view, thus have whole hearted sense of connectedness to larger whole (heart), has an authentic whole system view and a systemic

and functional definition of sustainability (mind), and orientation towards taking action (hands) could contribute to moving our society towards comprehensive sustainability addressing the deep rooted cause of unsustainability.

Furthermore, being sustainability changemakers could potentially be a way to fulfil most of human needs as described by Max-Neef² (1991, 32-33) such as understanding, participation, creation, identity, freedom, and transcendence (i.e. finding meaning in life) and even subsistence, protection, and affection. For instance, Seelos and Mair (2004) state that social entrepreneurship is a way for individuals to strike the balance between the need to make a meaningful contribution to the society, the need to make a living from professional activity. Works of many authors and practitioners including Drayton (2006), Freire (1970), Wheatley (2009) and Scharmer (2009) indicate that being a sustainability changemaker³ is likely to be inherent in human.

These give more reasons to believe that sustainability changemaker is who we need, if our society were to move towards comprehensive and holistic sustainability before our society collapses.

1.4.4. Principles of becoming Sustainability

² Manfred Max-Neef is a Chilean economist who proposes nine to ten principled basic human needs which are universal across culture and time periods and concept of satisfiers (a way to meet the needs) which changes according to cultures and time periods. His concepts are extensively used by the practitioners of the FSSD .

³ In this paper, the words changemaker and entrepreneurship are used interchangeably to refer to a type of leadership to bring change in the status quo.

Changemakers

“At a certain point in our lives, we lose control of what’s happening to us, and our lives become controlled by fate. That is the world’s greatest lie.”

(Coelho 2004: 18)

If anyone can potentially become sustainability changemaker, how come we do not see so many sustainability changemakers? What prevents people from reaching their higher potential and have fulfilling life?

Although anyone has potential to become sustainability changemaker, more often than not this potential is not unleashed because of many barriers. Some of them are economic barriers to doing what they envision (e.g. limited access to finance), institutional barriers (e.g. disarticulation of the existing networks), or cultural barriers (e.g. insufficient visibility of positive role models and formal training programs) (CASE 2008). However, among the barriers, most profound and yet least resource intensive to be mastered would be psychological barriers created by what a person constantly tell or think unconsciously of oneself and his or her relationship with the world (Senge 1990).

A study of Scharmer (2009, 40-41) based on the interview with 150 experts in the field of innovation creativity and leadership identifies these psychological barriers to be: voice of judgment (VOJ), voice of cynicism (VOC), voice of fear (VOF). These are Scharmer’s theoretical constructs to call the inner dialogues that prevent people to access their highest potential through the Open Mind, Open Heart and Open Will, respectively.

According to Scharmer (2009) mastering these three voices and

communicating with highest future potential of self is one of the essences of leadership of having a sense of ownership to the circumstance and shaping the future rather than being a victim of circumstance.

Even if one could face and master the first three barriers of being changemaker for sustainability, his or her vision of highest future potential would be incomplete to move our society towards comprehensive sustainability if it lacked appropriate assumptions and beliefs (i.e. mental model) of the world and how it works. Because it is the mental model that governs one's habitual action (Senge 1990), less comprehensive understanding of the world would lead to less comprehensive actions.

In principle, for a person to become changemaker for sustainability, a person should:

- Adopt and operate from the emergent understanding of the world
 - o Sufficiently inclusive world view as a system
 - o Authentic whole system view
- Have understanding of the functional definition of sustainability from a systemic and holistic perspective,
- Communicate and reach with highest future potential.

In order for the last element to happen, a person should:

- Sense and feel deep aspiration, vision, or dream (the future self that wants to emerge through you),
- Face and master voice of judgment (gate to open mind),
- Face and master voice of cynicism (gate to open heart),
- Face and master voice of fear (gate to open will).

1.5. Facilitating a Process of Becoming

Sustainability Changemakers

*“What we must do now is increase the proportions of humans
who know that they can cause change”
(Drayton 2006)*

As discussed earlier, the closest kind of sustainability changemaker is social entrepreneur. Numerous articles have been published investigating different aspects of social entrepreneur such as the definition (e.g. Dees 2001), supporting ecosystem (e.g. CASE 2008), personal traits (e.g. Bornstein 2004), their contribution to sustainable development (e.g. Seelos and Mair 2005), and its implication for societal change (e.g. Alvord et al. 2004). However, there is little study that investigates aspects of facilitating individuals to become and act as changemaker for society or for sustainability.

Drayton (2006) presents some principles of fostering social entrepreneurship as change maker in everyone and especially youth: practicing being powerful and acquiring the required three underlying skills including applied empathy, teamwork, and leadership. Yet the focus is primarily on social sustainability and its scope or awareness may need to be widened in terms of comprehensive sustainability.

Numerous initiatives, organizations, and practices exist in supporting changemakers for social sustainability. Nonetheless, the great majority of support is focused on financial support (e.g. Ashoka, Sköll Foundation), business models creation and scalability (e.g. NESsT, Artemisia), physical space (e.g. The Impact HUB network) or providing other tangible support

(e.g. Olszak and Sidorick 2003). Furthermore, increasing number of MBA programs now offers courses on non-profit sector or even social enterprise. For sustainability leadership, there are numerous schools, programs, coaching service are emerging and rapidly increasing (AASHE 2010). This trend is extremely important in moving our society towards socio-ecological sustainability. Nevertheless, we need additional effort if we were to turn as many individuals as possible into sustainability changemakers in time. This is because most of such programs are institutionalized and thus limit access in terms of time and finance. Hence we need a tool that could facilitate anyone wishes to self-guide to become and act as sustainability changemaker regardless of their accessibility to numerous institutionalized programs.

1.5.1. Existing Learning Tools for Sustainability Changemakers

There is a wide range of tools that are used to facilitate learning in the fields of Sustainability and Entrepreneurship (Galea 2007): case studies, experiential workshops, guidebooks, role playing and active learning exercises, to name a few. In that range, learning games can be highlighted as a powerful learning tool that is used across cultures to facilitate learning for children and adults. Druckman (1995) stated that games seem to be effective in enhancing motivation and increasing student interest in subject matter. Learning games are used in experiential learning workshops by facilitators and consultants worldwide.

In the field of sustainability, there has been some development of games to facilitate learning about sustainability. The Natural Step® designed a table game on Sustainability and distributed it in Sweden in the nineties. Some

online simulation based games, such as the African UrgentEvoke.com, have been created to promote social entrepreneurship among African youth. Additionally, the Flow Game is being used by practitioners of The Art of Hosting community to ground, strengthen, and bring clarity and flow to human beings, their life, leadership and actions (Flow Game 2010). There is also a simple Sustainability Card Game focused on teaching the science behind the Sustainability Principles (Galea 2007). However, the few existing learning games seem to be highly dependent on the availability of authorized facilitators, the accessibility of online networks or enabling infrastructures, what makes them inaccessible for the majority of the potential changemakers that might need them.

1.6. Aim, Goal, and Scope of the Study

“Real learning gets to the heart of what it means to be human. Through learning we created ourselves. Through learning we become able to do something we never were able to do. Through learning we re-perceive the world and our relationship to it.”

(Senge, 1990)

1.6.1. Aim of the study

This study ultimately aims to create a prototype of self-guided learning tool in a form of game to facilitate individuals become and act as sustainability changemakers regardless of the accessibility to institutionalized programs. Accordingly, this study aims to explore and investigate the following questions related to facilitating everyone to become sustainability changemakers in light of the principles described above.

Primary Question: “What tool can we design for individuals to become a sustainability changemaker, regardless of their accessibility to institutionalized programs, which reflects the assumptions of the leading-edge learning programs for changemaker?”

Secondary Question: “Which of the assumptions that guide the design of some of the leading-edge learning programs for changemakers best serve for everyone to become a sustainability changemaker?”

1.6.2. Goal of the Study

“The millennium when only a tiny elite could cause change is coming to an end. A generation hence, probably 20 to 30 percent of the world’s people, and later 50 to 70 percent, not just today’s few percent, will be changemakers and entrepreneurs. That world will be fundamentally different and far safer, happier, more equal, and more successful place.”
(Drayton 2006)

The ultimate goal of study is to help a new generation of conscious changemakers starting a lifelong journey towards sustainability; first by producing our thesis intended for academia, practitioners and entrepreneurial training programs for sustainability; and, second by producing a tool to help individuals become changemakers for sustainability.

1.6.3. Scope of the Study

This study seeks to identify the assumptions entailed in the design of leading edge programs to facilitate individuals to become sustainability changemakers, to distil those assumptions and beliefs most adequate for designing a learning program that help people to become and act as sustainability changemakers. Building on these findings, the study also seeks to develop a self-guided tool to help everyone learn to become sustainability changemakers.

This study is an exploratory and hypothesis generative study which becomes the basis of further development and research rather than hypothesis testing confirmatory study.

2. Methods

2.1. Underlying Scientific Paradigm

*“The ability to perceive or think differently
is more important than the knowledge gained.”*

(David Bohm)

This research explicitly applies the resurgent or more commonly described as emerging scientific paradigm that acknowledges the importance of influence that our act of cognition has on our experience of the world, and that embraces subjective experience as valid scientific information. As discussed in the first chapter, this emerging approach is called by various names including Goethean science (e.g. Bortoft 1997), holistic science (e.g. Schumacher College 2010), or science performed with the mind of wisdom (Rosch quoted in Scharmer 2009, 168, 13-14).

This emerging scientific paradigm is considered more adequate for this study for two primary reasons. First, it is imperative for us to start operating now from the emerging paradigm to be part of solution to sustainability challenges rather than keep operating from the prevailing paradigm of reductionist science which is one of the most profound root causes of dysfunction in our society (Jaworski 1998; Hay 2006; Scharmer 2009). As Einstein said, we cannot solve the problems by using the same kind of thinking we used when we created them. Second, this emerging scientific paradigm renders itself more readily to qualitative research with a goal of deciphering common qualities of most innovative educational design and practices of changemakers for sustainability.

The authors admit that we are not absolutely certain about how to apply this paradigm to our research. However our methodological frameworks and

process are carefully chosen and crafted in order to allow us to apply and operate within this emergent scientific paradigm to the best of our knowledge.

2.2. Methodological Frameworks

Three different approaches were taken in the elaboration of this study. Each of them had a unique purpose and provided the foundation of the study. Each of them contributed to the study from the beginning and throughout the entire research process. The *Framework for Strategic Sustainable Development* (FSSD) (Robèrt et al. 1997) was used to define the scope and aim of the study and to strategically achieve the definition of success “sustainability changemaker” as described in the introduction (Section 1.4.4), which will be discussed in more detail below. The *Interactive Model for Research Design* (Maxwell 2005, 5) served to conceptually map the structure of the thesis. Once the scope and aim of the study was clarified by applying the FSSD, the practices suggested by Theory U⁴ (Scharmer 2009) guided the authors through the data collection process.

⁴ Independent from its application as a method, the theory U also appears in the introduction as it identifies some of the important barriers within individuals to connect to their highest future potential or vision and start shaping actively the circumstances rather than being a passive victim of it. For this reason, elements of theory U (i.e. voice of fear, voice of judgment, voice of cynicism) appear in findings and discussion section as well.

2.2.1. Framework for Strategic Sustainable Development

In this study, the *Framework for Strategic Sustainable Development* (FSSD) was used as a structured strategic approach to the topic for overall planning of the study. The FSSD was used in order to define the scope and strategic data collection of the study (table 2.1). In addition, the FSSD provided a structure used to understand and develop the research questions

Table 2.1. Framework for Strategic Sustainable Development (FSSD)

	Framework for Strategic Sustainable Development
<i>System</i>	Society within the ecosphere, including the social and ecological laws/rules/norms which govern this system.
<i>Success</i>	Society within the ecosphere compliant within the four sustainability principles
<i>Strategic Guidelines</i>	Backcasting from success for socio-ecological sustainability and the associated 3 prioritization questions as a minimum: (i.e.) “Does this action help move towards the success?”, “Does this action give sufficient return on investment?”, “Does this action provides flexible platform in moving strategically towards success?”
<i>Actions</i>	The actions that help move the global socio-ecological system towards success.
<i>Tools</i>	The tools that support efforts to achieve global sustainability.

The FSSD is composed of five levels as shown in Table 2.1. The first level (i.e. *System*) includes the understanding of the system from a whole system perspective, understanding the interrelationship between social and ecological systems including the fundamental laws, rules and norms in the society that governs the system. At the second level (i.e. *Success*), the

desired future outcome for all of society within the ecosphere is defined as being in compliance with four basic principles of sustainability mentioned in the introduction (Section 1.3) based on a whole-systems understanding of global sustainability. The third level is called ‘Strategic Guidelines’ and includes ‘backcasting’⁵ from the desired success (i.e. global socio-ecological sustainability) and then using three prioritization questions⁶ along with other guidelines to select actions which help strategically move towards success. The fourth and fifth level respectively includes actions and tools whose selection is informed by the first three levels of this framework (Table 2.1.; Robèrt et al. 2002).

Application of FSSD as overall planning of this research. The FSSD is not only applicable or useful at the level of global socio-ecological sustainability; it can also be used when scoping down an endeavour into smaller efforts (e.g. organizations, projects, etc.) that aim to contribute to a sustainable society. Thus, in this study the System (the first level) was scoped down and described as individual people around the globe, who have some potential (seen or yet unseen) to become sustainability changemakers. The system takes into account individuals within society within the ecosphere, along with all the social and ecological laws/rules/norms which govern the system. In this system we see that sustainability changemakers are called to play a fundamental role. This role

⁵ *Backcasting* was first introduced by John Robinson (1990) as a theory of planning. (See Robinson 1990 for more detail).

⁶ Three prioritization questions are: “Does this action help move towards the success?”, “Does this action give sufficient return on investment?”, “Does this action provides flexible platform in moving strategically towards success?”

was defined by the sustainability challenge outlined at the introduction; essentially that these individuals can help to create positive change, which can help lead global society towards socio-ecological sustainability.

The desired future Success (level 2) was defined as a new generation of sustainability changemakers (i.e. individuals operating from the emerging world view, who have a vision and will to act for the vision for oneself and for global sustainability) committed to a lifelong journey for sustainability (refer to introduction Section 1.4.4 for more detail).

If we were to Backcast from this stated vision of Success (i.e. a new generation of sustainability changemakers), we wanted to be strategic in finding some actions or tools which could help the average individual. We wanted to explore some of the best, leading educational programmes to distill their underlying assumptions and key tactics, so that we could then prepare a free, open-source tool to facilitate individuals worldwide. Our planned outcome would then serve as a tool to help individuals take action to be strategic in their personal movement (and hopefully leadership) towards success in the system. In other words, we hope that individuals will play our game and have insights that lead them to set their own personal sustainability-oriented visions, and then take strategic steps to move towards a more sustainable future.

2.2.2. Interactive Model for Research Design

As an overall conceptual map for the research design process, we apply the Interactive Model for Research Design

The Interactive Model for Research Design. The interactive Model for Research Design is used to guide us in creating more coherent and robust thesis balancing the connecting logics between research methods, questions, goals, conceptual framework and validity (Maxwell 2005). It is an ongoing process that involves a continuous interaction between the five components of the research design: goals, questions, conceptual framework, methods and validity (see Figure 2.1). This model is built on the fact that collecting and analysing information, developing theory, defining the research questions and ensuring validity are part of the systemic process that occur iteratively and simultaneously in an ongoing manner (Maxwell 2005).

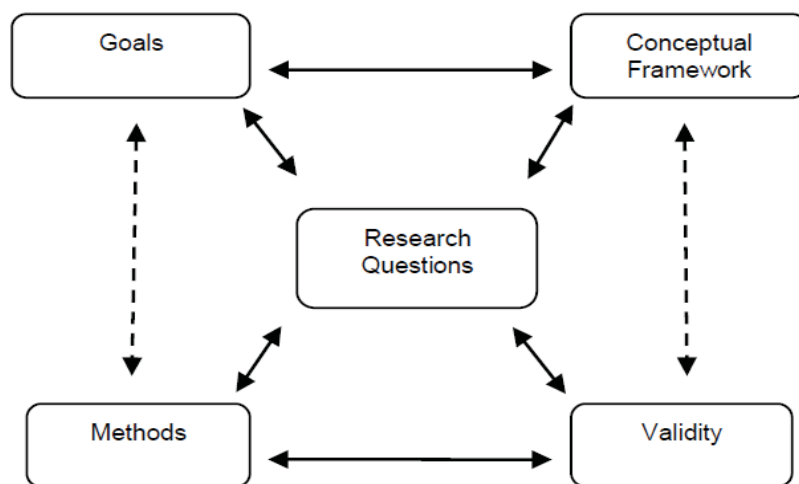


Figure 2.1. Interactive Model for Research Design (Maxwell 2005)

2.3. Research Process – Theory U

In this study, we chose to use the theory U to guide us through the actual data gathering process for the following reasons. First, it allows us to find answers to the primary question. Second, it is based on the emerging scientific paradigm. Third, it is an effective “social technology”⁷ that allows a group of people to collectively lead profound innovation and change. Finally, it has been used as the basis of one of the most influential leadership training programs adopted by global institutions around the world such as Fujitsu, Daimler, and PricewaterhouseCoopers (Scharmer 2008).

Actual application of theory U in our research followed four of the five steps described in the Chapter 21 ‘Principles and Practices of Presencing for Leading Profound Innovation and Change’ of the Theory U book by Otto Scharmer (2009, 377-378: See Appendix A for comprehensive list of the practices and principles applied in the process):

- Co-initiating: listen to others and to what life calls you to do
- Co-sensing: go to the places of most potential and listen with your

⁷ The Theory U is built on extensive interviews with leading thinkers and practitioners in leadership, innovation and science (Scharmer 2009). The effectiveness of this technology is becoming more and more evident by the large number of applications (Scharmer 2008). For further information refer to: the Presencing Institute (<http://www.presencing.com/>) and Scharmer, C.O. 2009. Theory U: Leading from the Future as it Emerges. Berrett-Koehler Publishers, U.S. (Paper Back).

mind and heart wide open

- Co-presencing: retreat and reflect, allow the inner knowing to emerge.
- Co-creating: prototype a microcosm of the new in order to explore the future by doing
- Co-evolving: grow innovation ecosystems by seeing and acting from the emerging whole.

The fifth step was considered beyond the scope of our study. Therefore it was not followed. The detailed research method and phases are presented respectively to each of the two research questions in subsequent sections. They are also presented in accordance with the five distinctive movement of U process along with the main principles and practices we use (Figure 2.2.).

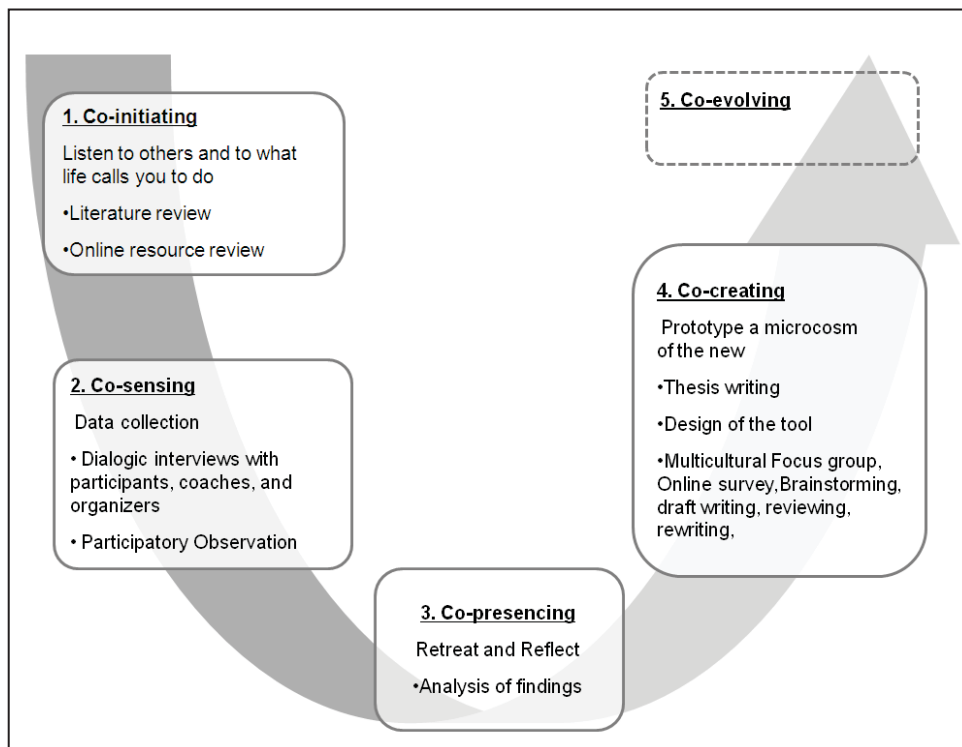


Figure 2.2. A schematic diagram describing the actual research process in relation to the five phases of the U process (Scharmer 2009) and its main principles and practices. Note: the final phase of the U co-evolving is presented to show the U process in its entirety. However it was not exactly within the scope of our study.

Co-initiating. First, through sharing life stories, the research team clarified the source of inspiration based on which our research purpose, scope, and goals were developed. Second, the research team primarily relied on reviewing the relevant literatures in the field of social entrepreneurship and leadership. Similarly, the team conducted online research on a selection of leading edge learning programs of sustainability changemakers.

Co-sensing. Throughout the research, the team continuously revised and clarified research questions through dialogue and collective thinking as an ongoing process. In order to take deep dive journeys to the places of most potential, the research team selected seven of the most progressive learning programs for sustainability changemakers - based on either one of the following reasons; personal comment of Peter Senge during a Webinar at Art of Hosting Karlskrona on February 20th 2010; presentation at the European Conference on Education for Sustainability in 2009 (“Lund Calling”); presentation at RR (“Reinventing Reality”) that is a conference on the largest innovation network in Spain; or words of the mouth reputation from other social changemakers. The learning programs for deep diving are presented in the table below (Table 2.3). Assignment of deep dive study was determined according to availability of research team members.

The research team conducted participatory observation, dialogues with the participants and organizers of the educational programs with our mind, heart, and will wide open. Regarding the MSLS program the authors based their results on their own perspective as current students. In total, 19 program participants, coaches and organizers contributed to our study. Each of the research team members kept their own notes as a way of recording (See Appendix B for complete list of people with whom we dialogued). After each immersion experience in the programs, the members engaged in sharing thoughts and reflections for collective sense making and thinking together.

Table 2.2. The learning programs for changemakers that were deep dived during this research.

Period of deep diving	Name of the program	Location
August 24 th 2009 to June 6 th 2010	Masters in Strategic Leadership towards Sustainability (MSLS)	Karlskrona, Sweden
March 1 st and 2 nd 2010	KaosPilots (KP)	Arhus, Denmark
March 9 th and 10 th 2010	Mondragon Team Academy (MTA)	Irun, Spain
March 9 th to 31 st	Artemisia*	São Paulo, Brazil
March 10 th and 11 th 2010	Innovandis	San Sebastian, Spain
March 22 nd to 24 th 2010	Youth Initiative Program (YIP)	Järna, Sweden
March 26 th 2010	Global College	Stockholm, Sweden

*NB:**online investigation / interview

Co-presencing. When all the research team members reunited nearly after two weeks of completing the learning journey, the team reflected on the journey, shared reflections and thoughts, and assessed the research questions and findings, adjusted the research and presentation of its outcome in light of what was emerging. Throughout this process, the team frequently held the moment of silence, deep listening⁸ and feedback in order to create a space to prepare us to work with our highest future intention as a research team that is to help a new generation of conscious sustainability changemakers starting a lifelong journey towards socio-ecological sustainability through the publication of the thesis including a guiding tool. Our regular check-in practice at the beginning of the meeting also contributed to the practice of creating places of presence⁹.

Co-creating. Following the co-sensing process, we clarified the purpose scope and outcome of our research. Accordingly, the team made a conscious choice of trusting the learning that took place through the journey, let emerge through each team member key concepts, practices, mental models which are believed to be the principal elements of the learning programs visited through the learning journey. Concurrently, those findings were organized according to their assumptions about the worldview, the vision of successful outcome as a learning program, and those directly

⁸ Deep listening is a practice to detach from and eventually silence our ongoing internal dialogue (i.e. thoughts), to clear our mind and be fully present in the moment that help to connect to our highest future potential.

⁹ This is the 13th practice of the theory U which is to create space in which we hold one another in the highest future intention (Scharmer 2009, 410-412).

underpinning the program design. Those assumptions were systematized in a table for a comparative analysis that would guide the design of the tool.

The primary research question was answered based on the answer to the secondary research question and as a part of *co-creating* process as follows. In order to create the learning tool to facilitate the self-learning process of the emerging conscious sustainability changemakers, the research team started backcasting from a principle-based definition of success, asking ourselves the question “What tool can we design for individuals to become a sustainability changemaker, regardless of their accessibility to institutionalized programs, which reflects the assumptions of the leading-edge learning programs?”

After a first Brainstorming session with the research team, the team agreed that whatever the tool, it should be self-applicable, enjoyable, self-reflective, accessible, open-source, free-downloadable, action oriented and inspiring. The tool is intended to help individuals to become and operate as sustainability changemakers (See section 1.4.4 for definition) by helping them:

1. to expand their awareness about self, the world, and their interactive relationship,
2. to operate from such world view (i.e. understanding of how the world works),
3. to have a systemic understanding of the global sustainability including the issue with the prevailing worldview,
4. to have a functional definition of sustainability based on 3 to backcast from to plan and move strategically towards sustainability,
5. to have a sense of deep aspiration, vision, or dream (the future self that wants to emerge through you),

6. to face and master voice of judgement (gate to open mind),
 7. to face and master voice of cynicism (gate to open will),
 8. to face and master voice of fear (gate to open heart),
- so that through 6. 7. 8., one can communicate and act for vision for one's self, for society, and for the ecosphere.

Once analyzed the assumptions found in the learning programs, they were used as elements for designing the tool. The second brainstorming session was held in order to create potential contents for the learning tool. After grounding and a motivational introduction we came up with approximately one hundred self-adhesive notes, which was intended to reflect the findings from the secondary question.

Those self-adhesive notes with questions and advices were transcribed into a spreadsheet and printed in paper cards –as a first prototype¹⁰-, to be used during the Multicultural Focus Group. Nine people -four men and five women- attended the Multicultural Focus Group. They were from nine different countries: Ethiopia, Nigeria, Israel, Ukraine, Italy, Pakistan, China, India, and Iran. All of them were Master's students at the Blekinge Institute of Technology. The main focus of the meeting was to test the cultural sensitivity of the prototype and receive their feedback from their

¹⁰ Prototyping means to present your idea (or work in progress) before it is fully developed. The purpose of prototyping is to generate feed- back from all stakeholders (about how it looks, how it feels, how it connects with people's intentions, interpretations, and identities) in order to refine the assumptions about the project (Scharmer 2009, 417)

perceptions about the content, format and potential rules and settings for the learning game (Appendix A, practice 16). While one member of the team facilitated the session, the other one took notes to record the main ideas. Participants were also asked to write down their thoughts and reflection for a more efficient systematization and harvest of the results.

Inspired by Edgar Schein's response to Scharmer's question (Scharmer 2007, p.56), "An action researcher knows that he knows when his knowledge is helpful to the various practitioners in the field", the team decided to test the relevance of the content of the cards within a network of 160 sustainability practitioners, social entrepreneurs and experts. A questionnaire was designed using the online tool provided by Google Docs and was sent to them. Forty people (25% of the population) answered the online survey, providing highly valuable feedback (see Appendix C). This response rate was considered sufficient considering the average response rate of online surveys of approximately 20- 30% and the length and the purpose of the survey.

The feedback and comments provided by both the focus group and the online survey were used to refine and redesign the content and the format of the learning tool.

Although the presented process appears to be linear due to the constraint of two dimensional space on a research paper, the entire research process was dynamic and worked as a whole involving constant interactions among different phases of the process with constantly shifting focus (Scharmer 2009, 44) much like the other two methodological framework we used in this study.

2.4. Expected Results

Primary Outcome: The expected outcome of the primary question is a self-guiding tool that helps individuals become “sustainability changemakers” that reflects on the assumptions that guide the design of the leading-edge learning programs for changemakers. The description of this learning tool, in a form of a game, should include some rules, content, format and guidelines.

Secondary Outcome: The expected outcome of the secondary question is a set of assumptions held by each of the selected leading-edge changemaker programs that could be used to design the learning tool for sustainability.

3. Findings

In this section, the study presents the findings for the two research questions. These findings are presented as outlined below corresponding to the order of our research process described in the previous section. Here findings from the four out of the seven programs we visited are considered to be the most relevant, and hence presented.

3.1. Co-sensing the learning programs for changemakers

Which of the assumptions that guide the design of some of the leading-edge programs for changemakers best serve for everyone to become a sustainability change maker?

For each of the learning programs, the set of assumptions is described providing evidences carefully selected after the analysis of their learning tools and practices, marketing materials and our field notes from the dialogic interviews and participatory observation.

3.1.1. KaosPilots

World View. Their understanding of the world appears to be self-motivated creative independent thinkers within business and social innovation field within a society as an interdependent system. Thus their worldview seems to be based on the system view. These can be inferred based on the followings. For instance, they describe in their web site, “Everything starts

with the individual and the individual passion and drive and then spreads with the knowledge of our interdependence” (KaosPilot, 2010). Similarly, key words that emerged from our deep dive experience with KaosPilots in relation to their system indicate the stated system view including: social innovation, business and society, design, chaordic, esthetics, boosting self-confidence, provocative, cutting edge, student centered, constant ongoing feedback, shared mental model, existential experiential learning, and self-motivation.

Vision of the Program. The KaosPilots seems to strive for preparing the program participants professionally as well as personally by helping them; develop their vision and identity; knowledge, skills and attitude as proactive learners; independent thinkers; value-based leaders; and creative entrepreneurs who can navigate change for the benefit of themselves and society as a whole. This was inferred from the following. Through our deep dive journey into the program, we found that the participants of the KaosPilots are extremely welcoming, independent, creative, confident and self-aware, while having a strong identity as a KaosPilot. According to their website, they “envision a school that empowers its students to consider what kind of society they want to be part of, teaches them how to utilize their abilities to help create the change they wish to see, and gives them the skills to act on their dreams”. This is crystallized in their vision statement ‘the best school for the world’ (Ebaek, 2006).

Assumptions directly underpinning the Program Design. ‘Self-motivation’: The key word ‘student centred’ and the fact that the program is not officially recognized as academic qualifications and lasts for three years suggest that self-motivation is a key requirement.

‘Self as primary instrument of learning and learning by doing’: One of the most intriguing keyword emerged through our deep dive into KaosPilots experience was ‘existential experiential learning’ (Natorp 2010). This suggests that they consider learner’s self and experience (doing/hands) play a key role in the learning process to be a changemaker for the world. Their emphasis on self as a key component of learning process is apparent from the following episodes.

‘Vision and Identity’: “What is your dream?” is one of the first questions being asked to new participants and being asked repeatedly. It presumably facilitates them connect with their deeply embedded aspiration and help them start communicating with their highest future potential. Another action/tool they use to help cultivate their sense of identity as a changemaker for the world would be the fact that they call the participants KaosPilot rather than students or learners from day one, and give a set of business cards with their name, the “corporate” logo and their new e-mail *name@kaospilot.dk* that will be available for their whole “professional” life. Furthermore, an alumnus we interviewed recalled that they push the participants to take responsibility on what matters to them (Patarroyo 2010).

‘Trust in Participants’: Giving the key of the building to students from the first day (Gross 2010) and inviting the students to explore the founder’s home (Patarroyo 2010) are gesture of trust in their participants (Natorp 2010). Trust is important in so many ways such as building a sense of community and more importantly to develop self-worth, which leads to self-confidence.

‘Challenge the mental construction of self, the world, and their relationship’: One of the highlight of their three year training is “OutPost”, three months real world overseas hands-on project (Sims 2010). According

to the director, it is designed to experience different culture and operate in unfamiliar environment as a team. It seems to serve to challenge participants' existing values beliefs and assumptions (i.e. their mental models) about themselves, society, and their relation to it among others.

'Peer learning for self-reflection and mutual learning': The heavy emphasis on team project provides opportunity for peer learning. Based on personal experience, we can say that peer learning not only serves to facilitate mutual self-learning but provides ample opportunities to self-reflect. Furthermore, it is a powerful way to develop relational skills, which is one of the most important skills in effective leadership (Bárcena et al. 2009).

'Learning by doing (hands-on experience)': On the other hand, their belief in the efficacy of experiential learning is reflected by their emphasis on real project with real clients throughout the program period (Gross 2010; Sims 2010; Patarroyo 2010). This allows the participants to 'be' social change agents and act 'hands-on' to try and learn from their errors as well as success which presumably is fed back to the subsequent learning cycle.

'Holding a safe and fertile space of self-learning': The key word 'student centred' suggests that it is the participants who are the main driver and thus take responsibility of learning process. The comments we repeatedly heard during our visit such as constant dialogue, flexibility, talk with students, continuous feedback and adjustments also suggest the same. At times this may cause chaos in the learning process and design, as it forces them to change constantly their curriculum. Yet it also helps them to fine tune and cater for the learning needs of the participants. This in turn suggests that the participants are trusted for their self-learning potential and thus positioned at the centre of the programme design. A comment of Paul Natorp (2010),

“we should trust their own learning process, trust their maturity and intuition” was embodied in the design of their learning process. It also implies the organizers’ commitment to creating an environment that ensures participants’ self-learning and self-development process as a professional and a person. The staff members who work as mentors are called team leaders. They play key roles in setting up optimum conditions for the self-learning process of the participants. Similarly, physical space and decoration of learning spaces help to create sense of belonging, co-identity, leading to mutual trust and safe environment to experiment existentially (being) and experientially (doing).

3.1.2. Mondragon Team Academy (MTA)

World View. We inferred that their understanding of the system is focused on individuals within teams within self-learning school within a cooperative business which interact with wider social arena. Through our deep diving participatory observation and dialogues spanning two full days, we realized that their focus is primarily on business and team work. The Team Academy Finland from which the rest of the Team Academy was born, is considered to be the most innovative business school in the world by the Society for Learning Organization (SoL) (Society for Learning Organization 2010). It is also known to be a school that learns where there is no teacher, and the learning process is driven by students (Heikkinen 2003). Nonetheless, the history and culture of cooperative deep rooted in their locality appears to have strong influence on their world view, which seems to distinguish Mondragon Team Academy (MTA) from the rest of the Team Academy network.

Vision of the Program. Definition of success of MTA appears to be passionate and enthusiastic self-motivated people with professional as well as personal competencies to realize their dreams through team entrepreneurship. Following data appear to indicate this, for instance, “create the dream job for your-self” and “personal mastery/development”. According to the book describing theories and practices of Team Academy’s learning design, the aim of Team Academy is to train people to allow them to develop into competent professionals. Therefore their emphasis and focus is on each student’s professional development (Neinonnen et al. 2002). Heikkinen (2002), a coach at the Team Academy Finland states that their aim is to help people to grow to their full potential by enabling them to take responsibility for their own learning processes. Similarly, one of the key elements of learning process the organizers stressed during our dialogue was ‘passion and enthusiasm’. Altogether they suggest the stated definition of success.

Assumptions Directly Underpinning the Program Design. The keys to the MTA learning process described by one of the staff members (Veripää 2010) we dialogued were: Team Academy Model, team learning, real experiences, international experiences (consisting of three overseas trips), and passion and enthusiasm. Similarly, Team Academy Model describes Team Academy’s learning methods. The model has been developed through their experiments (experiential learning) while their theories are based on the organizational learning theories of Peter Senge and the knowledge creation theory of Ikujiro Nonaka and Hirotaka Takeuchi (Heikkinen 2002). This model guides the overall learning design.

‘*Vision*’: A tool that best represents their learning model would be the *Learning Contract*. It is a tool to build personal learning plan and to monitor learning process (Leinonen et al. 2002, 119) which consists of five

primary questions; (1) where have I been; (2) where am I now; (3) where do I want to get to; (4) how will I get there; and, (5) how will I know if I have arrived. The first question serves to explore one's background and past experience, while second question serves to examine learner's strength and weakness, current skills, know-how, personal and professional qualities in order to know the learning needs. Third question helps to clarify a learner's vision of future, what a learner wants to be to set goals and objective of learning. The fourth question deals with the way to achieve the goal and realize the vision, while the fifth deals with evaluation of the learning process.

'Team learning': This tool to guide self-learning is not only used individually but also as a team by sharing the contract among the peer, which helps to motivate each other. One of the coaches at MTA and an alumnus of Finnish Team Academy (Veripää 2010) told us "What really transformed me was the feedback from my peers".

'Learning by doing': Another key aspect that MTA focuses on is real experiences or learning by doing although basic are taught in structured and lecture/workshop basis. As soon as the learners enter the program, they form a team which receives a certain amount of budget, and start working on their business project with real clients to raise enough funds to travel overseas at the end of the study. The real life project allows student to learn a theory, experiment, error and/or succeed and learn. The learning appears to be enhanced by evaluation/self-reflection tools such as Motorola test that asks: "what went well", "what went poorly", "what did you learn", and "what will you do differently next time." Similarly, it seems to help cultivate sense of responsibility to their learning process as well as the outcome.

‘Self-motivation’: As one of the coaches (Pillado 2010) we dialogued puts it: “Team Academy opens doors of opportunities. But it is the students who have the responsibility of making money to make it happen.”

‘Identity, Self-confidence, Let them be and become the vision’: Another noteworthy observation is that the Team Academy tells their students from their first day that they are entrepreneurs and not students. It helps them to ‘be’ the entrepreneur, their vision, which seems to be a very empowering experience as one alumnus stated. “From the very first day, we are told that you are not students any more. You are Entrepreneurs. And that is really empowering” (Henna Kaarianen 2009). It most likely helps to change the learners mind set from being student to entrepreneur (i.e. mental model about themselves), which in turn affects their attitude and actions. It presumably help them to believe in themselves diminishing their voice of fear, judgement or cynicism.

‘Challenge the mental construction of self, the world, and their relationship’: Another key component is international experience. This consists of one month in Finland during the first year, one month in USA during the second year, and one month in China, India or Brazil during the third year. However during our deep dive journey into MTA, we did not have opportunity to obtain enough information to infer confidently the implications of this overseas exposure. However the personal experience of one of the authors and fore mentioned observation in KaosPilot indicate that the overseas experience challenge the mental construction of self, the world, and their relationship.

‘Fostering a safe and effective self-learning environment’: An evidently important aspect of their learning process is student centred /driven process. Though some workshops and lectures are given, basically there is no teacher at Team Academy and are only coaches. One of the coaches and alumnus we dialogued explained the roles of coaches as: to help learners connect to each other, to facilitate the learning process, foster a learning environment, and to make themselves eventually unnecessary, and to act as models for the students (Pillado 2010). According to the Team Academy book, the coaches have to be able to operate in various situations, and to sense when to intervene and when to let the situation develop by itself (Leinonen et al. 2002).

3.1.3. Youth Initiative Program (YIP)

World View. We inferred their system to be: self-motivated young people who are aware of inner and outer aspects of life, within local communities, within global society, within natural environment, all interconnected as a whole, yet having been perceived more and more disconnected over the last 100 years or so. In addition, the dimension of human perception, consciousness, or awareness seems to be well recognized as an integral part of the system.

Vision of the Program. Their definition of success appears to be young people who are aware of inner and outer aspects of life, equipped with the attitudes, habits, skills and knowledge needed to recognize social challenges and use entrepreneurial principles to organize, create, and manage an initiative for social change to enrich their lives and the lives of

all those with whom they come into contact, to make a positive contribution in today's society.

The understanding of the system along with comments made by Reinoud Meijer (*personal communication*, March 22, 2010) during the dialogue such as follows gave us insights into the successful outcome of their learning program.

- "If your eyes aren't meant for seeing yourself, you are blind. You need to sustain yourself (means) to find purpose to larger society."
- "You are very balanced person when you know yourself and the world: where you stand, where the world is, how the world is."
- "Your belief and understanding of the world (including self)¹¹ dictates your actions. The more comprehensive your understanding of the world is, more comprehensive your act would be."
- "Change for sustainability is about changing habits, changing attitudes, and changing people."
- "We do training in tools/hard skills such as fund raising, proposal writing, etc."

Assumptions Directly Underpinning the Program Design. An excerpt from the brochure (YIP 2010) well describes their understanding of the system, and how that understanding dictates their design of learning program. "Your understanding of yourself and the world directly influences your actions. Thus the results of what you do can only be as sustainable and comprehensive as your understanding of yourself, humanity and the world."

¹¹ Note in the parenthesis was added by the authors.

'Self-motivation and initiative': One of the most important focus areas in the YIP program seemed to be self-motivation and initiatives. First, they seek self-motivated people to begin with by providing application form which is time consuming thus needs self-motivation to fill in according to Meijer (*personal communication*, March 22, 2010). Second, they place great emphasis on learners' initiative. According to Pieter Ploeg (*personal communication*, March 22, 2010), one of the participants we dialogued with, "everything starts from and depends on initiative, and it is reflected in every aspect of their learning experience at YIP including daily life, and it comes at again and again and again and again in every step starting from doing dishes. The same participant stated, "Initiative is the same force at all levels." Furthermore, it is entirely up to students to choose where they do their international internship, whether to do it as individual or as group, and whether to produce intellectual report or artistic report of their experience.

'Trust in Participants': This emphasis on learners' initiative seemed to help communicate sense of absolute trust in the learners as well. We observed participants freely leaving or coming into the workshop, and one participant leaving the circle and laying down at the back still apparently being attentive to what is going on.

'Self-reflection': Another important aspect of this focus area which we repeatedly encountered was 'self-reflection' as evident from Meijer's comment introduced above such as; "If your eyes aren't meant for seeing yourself, you are blind"; and, "You are very balanced person when you know yourself and the world: where you stand, where the world is, how the world is."

‘Peer learning serving multiple functions’: The comments from a number of participants indicate that ‘peer learning’ played an important role in their learning process as well. It served to be transformational as it helped them learn from what peers do as well as from their feedback. It also helped change one participant’s mental model on how things should be (Markus Shoestring, personal communication, March 22, 2010). The same participant commented that peer learning helped develop relationship skills such as seeing others as legitimate being, or how to work with each other. Regular check-in session driven by students also seemed to serve for this purpose.

‘Self-development to be fully human (head, heart, hands)’: At YIP, self-development seemed to be part of the most important ground work in fostering social entrepreneurs for comprehensive sustainability (their successful outcome.) As Meijer (*personal communication*, March 22, 2010) stated during the dialogue, they are educating a whole human being: hand, heart, and mind. One participant stated, “Social Entrepreneur is holistic thing. It requires personal development as a whole human being. And it is an ongoing process that goes on for life” (Mark Shoestring, *personal communication*, March 22, 2010). Similarly, Meijer commented “Being the change is about growing and being simultaneously.” What we repeatedly heard during our deep immersion was to develop fully human, (by developing hands through the means of arts and doing, mind through means of intellectual learning, and heart through means of self-development). This is well reflected in their curriculum which incorporates subject of arts, politics, business, practical entrepreneurial skills, Goethean science including sacred geometry.

‘Learning by doing’: Experiential learning appeared to play another fundamental part in their learning design. Community engagements and international internships serve for real life experiential learning to try, experiment with what they have learned and then learn further from the real life experience. The experiential learning did not stop at the level of entrepreneurial skill but went further. By making “YIP is life style” as Meijer (personal communication, March 22, 2010) put it, their world view was embodied and embedded in every step of the learning program including their everyday life. As yet another participant described “Here, everything is related in one way or other. It is holographic like theory U, personal development and world view development are interrelated like two spirals” (Nathan Daniel Heller, *personal communication*, March 22, 2010).

‘Holding a safe and fertile space for self-learning based on trust and freedom’: In house facilitators like Reinoud Meijer design the course and bring the contents in. Participants can also influence the course. Another role they play is mirroring them to help the participants figure out by themselves. They do not provide answer but help the participants find their own answer. Similarly their role is to let them know that “the process that those students are living is OK.” All of these are related to “holding the space” as we repeatedly heard during our deep dive journey. Many participants gave us similar comments regarding YIP as a learning space and the role that facilitators play (Anon, personal communication, March 22, 2010)¹². “They hold the space totally free from their own agenda.” “It is

¹² A fika was held to interview a group of students who came and go. These comments are based on their own notes on a sheet of paper to harvest they conversation in a self-organized manner. Thus individual name is not assigned to each of the comments.

a dream freely space.” “Freedom.” “So many ways you can choose to learn in another way.” “YIP is a gateway to opportunity.” One comment given by a participant from 2009 summarized it all (Moonen, personal communication, March 24, 2010) “It is like a trampoline. You can try to reach a star without being afraid of hurting yourself. And if you fall, you can try again.”

The impression we got from YIP was that the program invests in the ground work of holistic human growth and hold a space for such growth.

3.1.4. Master’s Programme in Strategic Leadership towards Sustainability (MSLS)

World View. In the Strategic Leadership towards Sustainability, it seems to have a whole system understanding of the world as individual within a society within ecosphere in a condition of systematically deteriorating state of the global ecosphere and social capital (See section 1.1). In the brochure it says “The world we live in today is increasingly complex. Our tendency to view and explain it in a linear, static way is insufficient to deal with today’s challenges, and a new ‘whole-systems’ way of planning and problem-solving is necessary.”

From a perspective of learning program specifically, the view of the system seems to be individuals within organizations such as a community, business or any other complex human system within a society within the ecosphere facing unsustainability. Karl Henrik Robèrt (one of the founders of the

MSLS) frequently mentioned “drill holes¹³” to exemplify prevailing lack of systemic understanding of the world (i.e. disconnected world view). Nonetheless, recognition of the prevailing world view as the fundamental root cause of unsustainability appears to be kept at intellectual (head) level and not explicitly extended to levels beyond such as emotion and feeling (i.e. heart).

Vision of the Program. The successful outcome of the program was considered to be a global network of individuals equipped with a science based and systemic understanding of sustainability, strategic and structured approach for planning towards sustainability based on backcasting, as well as leadership skills to translate intellectual understanding into actions within an organization such as communities and businesses and alike.

This assumption was made based on the two integrated themes of the programme:

- strategic sustainable development (SSD) – a science-based, strategic approach for planning towards sustainability; and
- organisational learning and leadership – practicing leadership to effectively create change towards sustainability (BTH 2010).

Similarly, the brochure states that the synergy from this combination generates uniquely-skilled graduates with fluency in both sustainability and leadership (BTH 2010). Furthermore, Waldron et al. (2008) stated that the

¹³ ‘Drill holes’ represent the situation of increasingly specialized and compartmentalized status of the society with little cross communication. Thus they describe the situation of a society of disconnection failing to perceive the system as an interconnected whole.

purpose of the programme is to develop a network of leaders capable of leading society towards sustainability.

Assumptions Directly Underpinning the Program Design. 'Self-motivation': Application that includes two letters of recommendation and 2500 words essay explaining applicant's interest in the programme seem to help attract self-motivated people with interest in sustainability. (BTH 2010)

'Personal development, Provide necessary and basic practical tools and skills': Self-reflection is used in some of the assignments along the program, but mainly in the leadership thread which takes place one day a week when participants experientially learn leadership and coaching skills and tools such as World Café, Open Space, and Deep Listening.

'Holding a safe and fertile environment for self-learning': As described in the student brochure, initial phase of the learning process is driven primarily by the staff and, following a spiral process, gradually shift towards more and more student driven until it becomes completely student driven in the last period of the programme when the students engage in independent research project as a team of three to four students. Similarly, most of the contact time is with the academic staffs who assume the roles as academic mentor as well as colleague. This may serve to change our mind set as student from passive learner waiting for the information to be fed to proactive learners taking responsibility of own learning. The academic staffs are committed to help the students learn and grow both personally and professionally.

'Team work (serving multiple purposes)': In the programme, significant emphasis is placed on team work. This seems to serve multiple functions.

First it helps to experientially learn what organizational learning is about and gain valuable insights including human dynamics and group process in multicultural contexts. Similarly, it helps to develop leadership/facilitation skills as well as interpersonal skills. It also helps to learn from each other (peer learning) intellectually, emotionally, and even spiritually for instance, inspire and being inspired by the peer.

‘Learning by doing’: The programme does emphasize on experiential learning from real world and does its best, given the constraints set by the conventions of academic institutions. However our impression is that the learning process is more intellectual based (mind) than experiential (doing/hands) compared to other programmes we studied.

3.1.5. Synthesis of the Assumptions of the Learning programs

Once merged some of the duplicate ideas, the authors present in the following Table 3.1, a synthesis of the main assumptions found in the learning programs for changemakers that best serve to design a learning tool for individual to become sustainability change makers as described in the previously stated definition of success. The grey cells mean that the assumption was found in the learning program.

Table 3.1. Synthesis of the assumptions found in the Learning programs for Changemakers

Assumptions	KP	MTA	YIP	MSLS
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Assumptions	KP	MTA	YIP	MSLS
Human Society is facing a complex Sustainability challenge				
The deeper root cause of unsustainability is the sense of “separateness” embedded in the reductionist mechanistic world view.				
Success is defined as a sustainable society living within the four sustainability principles				
A backcasting from sustainability principles perspective can help society to move strategically towards sustainability				
Self-motivation and initiative: Learning must be purposeful				
Learning should be connected with personal self-development, self-identity and vision				
Trust in participants: Social systems have the capacity to self-organize themselves.				
Challenging the mental construction of self, the world, and their relationship expands awareness				
Peer learning, Team Learning and Team work helps a fruitful learning				
Learning happens through an experiential learning cycle: learning by doing connected with real life				
Fostering and holding a safe fertile space, providing basic tools facilitates learning from taking risks and making mistakes				
Learners’s Self is the primary resource for learning: both intuition and logic are necessary for meaningful self-reflective learning				

Assumptions	KP	MTA	YIP	MSLS
Learning is deeper and more authentic when head, heart and hands are integrated in the learning process.				
Learners need a non-judgmental space where they can open their mind				
Learners need a safe space where they can open their heart to connect with what really matters for them				
Learners may face fear in their learning journey that prevents them to move towards their vision.				
There is diversity in learning styles and how people process new ideas and knowledge, so learning experiences should be inclusive with that diversity				

3.2. Co-creating a learning tool

In this section, the authors introduce the learning tool in a logical flow, and show how the assumptions of the leading-edge programs are reflected in the elements of the tool design.

In order to answer the primary research question, the authors created a prototype of self guided learning tool on a game format, built on the assumptions found in the learning programs. The name of the game is “YOUR JOURNEY” and it is composed by three basic elements: rules of the game, the gameboard template and the set of cards

3.2.1. Rules of the game

The rules of the game are built on a core purpose and six guiding principles. The main purpose of this game is to facilitate learning experiences to help individuals to become changemakers for sustainability. “YOUR JOURNEY” is an open-ended game. It is not a competitive game. There is no need of referees or facilitators. The only condition to end the game is that the participants have gone through the whole ABCD process of developing awareness of the whole system (A), defining an inspiring vision, framing it within the four Sustainability Principles, backcasting from it to their current reality, conducting a baseline analysis of their project (B), creating compelling actions (C) and prioritizing on their next steps according to the strategic guidelines (D). That is why we suggest to pick the cards following the structured logical flow suggested in the template: Awareness cards– Baseline cards – Vision Cards - Creative action cards – Decision Cards. The Inspiration cards can be picked in any moment of the game.

The six guiding principles for the game are:

- *Intuition*. Follow your intuition to interpret the connections among the cards; listen to your body and what life calls you to do in each moment
- *Authenticity*. Be true to yourself.
- *Safety*. Create a safe, respectful and inclusive environment that embraces diversity in all its forms.
- *Purposeful learning*. Learning process is more meaningful when there is an understanding of the underlying purpose.

- *Commitment with real life*. This game is not a fantasy world. It deals with real people who bring real questions about real problems in real life.

- *Challenge by choice*. If someone prefers not to participate, he or she can pass the turn to the next player. There should not be group pressure to force individual choices.

Regarding the players, the game can be played both individually and in groups. Individuals can use the card sets to develop an inspirational daily or weekly self-reflection practice. Groups can play the game within formal organizations or even informal settings.

Regarding the space where the game is played, the game is designed to be applied in learning spaces for sustainability changemakers, such as educational institutions, social and sustainability incubators, social innovation centres, entrepreneurship training programs and social entrepreneurship networks. However, it can be played wherever there are people interested or with the intention to learn and reflect on their learning journey as changemakers for sustainability. This means that it can also be played indoor and outdoor, at home or in natural spaces.

Similarly, the designed tool (i.e. the card set) can be used to play a wide range of games, depending on the player's intention. If the player's intention is just focused on finding inspiration, then a random use of the cards is accepted. However, the authors recognize that a random use of the card set cannot guarantee a strategic approach towards sustainability. Therefore, the authors suggest following the structured version of the game when the player's intention is to assure that the changemaker's initiative will be contributing to move society towards sustainability.

3.2.2. The game board template

The game board template represents the learning journey of the changemaker within a metaphoric funnel that represents the Sustainability Challenge. (See Appendix E)

On the upper left corner of the template, there is an icon with a flamed heart that represents the individual with the inner desire of becoming a changemaker. On the upper right corner, there is a cloud that represents the vision (changemaker's definition of success) framed within the four sustainability principles. Between the changemaker icon and its vision, there is a U-like path that represents the process of fulfilling the vision. The downside part of the U path shows a brain, a heart and a hand, as icons that refer to the need of having an open mind, an open heart and open will in order to find a truly connected and inspiring vision. The bottom part of the U path shows some metaphoric stepping stones, meaning the creative solutions towards the fulfilment of the vision.

Therefore, the gameboard template is structured to guide the reflection process according to the Backcasting from Sustainability Principles and the Theory U process.

3.2.3. The cards set

There are six sub-sets of cards. Four sub-sets are designed specifically for each of the steps or the ABCD method. The other two sub-set are Inspiration Cards and Vision Cards. (See Appendix D)

The cards contain questions, inspirational quotations, icons and invitations to reflect and discuss on each one of the steps of the ABCD method.

Most of the ABCD cards are mainly questions oriented to think and reflect from the intellectual cognitive perspective. They refer to mental models, assumptions, and paradigms that might be embedded on people's minds. Some of the Inspiration Cards contain icons that were created by MSLS students and or extracted from Picturepedia (Bigger Picture, 2009). Some other Inspiration Cards include quotations and questions that appeal to the emotional and spiritual dimensions. There are cards with specific invitations to take concrete, specific and meaningful actions in real life, in the real world.

4. Discussion

In this section, the authors discuss how the findings of the secondary research question (i.e. the assumptions of the leading-edge learning programs for changemakers) are reflected on the learning tool that was designed to answer the primary research question.

The following Table 4.1 synthesizes how each of the assumptions found in the learning programs for changemakers are reflected on the designed tool.

Table 4.1. Assumptions found in the learning programs for changemakers reflected on the designed tool

Assumptions	Elements of design of the game
Human Society is facing a complex Sustainability challenge	The template includes a metaphoric funnel to depict the Sustainability challenge at a global scale
The deeper root cause of unsustainability is the sense of “separateness” embedded in the reductionist mechanistic world view.	The cards include cards that invite to think, feel and act according to the emerging holistic world view of interconnectedness
Success is defined as a sustainable society within the four sustainability principles	The template frames the vision within the four sustainability principles. Cards invite to reflect on participants dreams and their definitions of success and to frame them within the four sustainability principles
A backcasting from sustainability principles perspective can help society to move strategically towards sustainability	The template includes a backcasting from sustainability principles’ perspective and frames the vision within the four sustainability principles
Self-motivation and initiative: Learning must be purposeful	The instructions invite the participants to start the game with a clear purpose and intentions.
Learning should be connected with personal self-development, self-identity and vision	The cards include questions to reflect on their own life, their role in the real world and their own projects
Trust in participants: Social systems have the capacity to self-organize themselves.	The game does not provide strict rules, but defines a core purpose and guiding

	principles.
Challenging the mental construction of self, the world, and their relationship expands awareness	The cards include questions that invite to reflect on participant's mental models
Peer learning, Team Learning and Team work helps a fruitful learning	The game can be played in groups. The instructions suggest participants to hold the space for the one who is asking for help.
Learning happens through an experiential learning cycle: learning by doing connected with real life	The game is designed to be played and experienced, not to be taught.
Fostering and holding a safe fertile space, providing basic tools facilitates learning from taking risks and making mistakes	The guidelines for the game suggest to create a respectful and inclusive environment that embraces diversity in all its forms where participants can feel safe to commit mistakes without being judged
Learners' Self is the primary resource for learning: both intuition and logic are necessary for meaningful self-reflective learning	The game is a learner-centered game. The game contains cards that encourage self-reflection on different levels
Learning is deeper and more authentic when head, heart and hands are integrated in the learning process.	The game combines thinking, feeling and doing through the questions, icons, quotations and suggestions in the cards
Learners need a non-judgmental space where they can open their mind	The cards contain inspirational quotations and powerful questions to help participants to reflect and overcome their voice of judgment.
Learners need a safe space where they can open their heart to connect with what really matters for them	The game includes cards that encourage authenticity to overcome the voice of cynicism.
Learners may face fear in their learning journey that prevents them to move towards their vision.	The cards include questions and quotations that help participants to open their will by facing the voice of fear
There is diversity in learning styles and how people process new ideas and knowledge, so learning experiences should be inclusive with that diversity	The cards contain both visual icons and written language to activate both right (intuitive) and left (logical) hemispheres of the brain. The game is inclusive with diversity of learning styles

4.1. Complementary approach

In this segment, the authors demonstrate six complementary elements based on the set of assumptions found in the table 4.1 to illustrate how program participant can enhance their learning experience.

Self (Heart). Across the programs, learners' 'self' was considered as the core instrument of learning. For instance, all put emphasis on self-motivation as well as ownership and responsibility to their own learning process. Similarly, facilitating the participants explore and find vision of self (e.g. self-identity, aspiration) and the world played an important part of all of the programs. Furthermore, self-reflection (by way of different tools and peer learning) played a significant part in all of the programs to different degrees. All of these aspects help potential entrepreneurs start clarifying or connecting with their highest future potential in mutually reinforcing manner. Especially self-reflection helps not only to assess learner's current reality but also to surface mental models about how the world works as well as about themselves. This in turn helps learners to face and master three voices that prevent them from 'being' and 'becoming' (i.e. communication with) their highest future potential as Scharmer (2009) describes.

Theory (Head). Not surprisingly, all of the programs put an effort in fostering intellectual understanding and basic theory of professional skills (e.g. functional definition of sustainability, economics, business, fundraising skills, coaching skills, among others) and leadership skills including some element of personal development (e.g. self-reflection, vision searching and creation, self-discipline). The topics covered reflected their view of the world such as business orientation for KaosPilot and MTA,

organizational learning and sustainability of MSLS, and arts, sports, agriculture, business, fundraising, storytelling, nature observation, sacred geometry of YIP, to name a few.

Experiential Learning (Hands). All the programs into which we dived implemented real life projects and peer learning, while not all but most adopted overseas project as well. They are meant to provide the learners with safe space to apply heart (your ‘being’ and ‘becoming’) or who you have grown to be and head (intellectually learnt theory) into practice, experiment and learning. This allows the program participants to learn on the full range of human existence beyond purely intellectual learning. In addition, they serve to challenge the participants’ mental models about self and the world. This is one of the most fundamental parts of learning as it allows learners to re-create themselves, find new meaning to be human, and find new ways to relate to the world as well as determines individual actions (Senge 1990).

Holding the Space (Ground Work): The most unexpected and thus interesting findings of this study is the commonality in the role of coach (MTA), team leader (KaosPilot), facilitator (YIP), and academic staff (MSLS). All of them were committed to create a space which is based on their trust in the participants (in their potential, and in their will to learn) that allows self-learning process to unfold itself. So that the participants can start consciously the cycle of ‘being’ and ‘becoming’ their vision which is the personal growth described by Meijer (2010) which mirrors the definition of learning by Senge (1990).

Framework for Strategic Sustainable Development. The application of this methodology allowed the authors to plan the design of the tool considering

backcasting from a principle based definition of success. Playing the game, following the suggested structured flow, players will be able to understand the backcasting process, the ABCD method, and will hold reflections and conversations related to their understanding of the system, their vision of success, their current reality and decide their potential actions.

Multicultural Focus Group. This instance was a key step in the co-creation of the learning game, because it enabled the authors to design a first prototype and test it in a safe and strategic microcosm. The inputs generated by the focus group motivated the authors to keep working on the game. The key insights of the Multicultural Focus Group were: the importance of using icons to enhance learning (e.g. in words of the participants; “Symbols and images are powerful” “Visuals trigger and ignite imagination”); the relevance of bringing people together around the game; although the game may be played individually, it should encourage individuals to engage and connect with other people; the need of creating an atmosphere for the game. There was a general consensus that the wisdom in the cards was common to diverse cultural backgrounds (e.g. in words of the participants: “Most of your cards are global in their wisdom”). The group encouraged the research team to rephrase the advices into the form of suggestive questions and invitations to action. (“Sometimes people are more open for ideas if they are phrased in questions or quotations, not order nor advice”)

4.2. Final considerations

The authors feel proud of their proposed learning game that serves as the response to the primary research question. The authors invite individuals and groups of potential sustainability changemakers to play the game for

feedback. The authors recognize though that there are many other tools that could provide an answer to this research question, such as a guidebook or an online game or a workshop. However, the authors' intention was to create a simple, affordable, accessible and open source game that could reach any individual, and not be limited to the availability of facilitators or any other enabling infrastructure.

The authors recognize that the assumptions found in the MSLS program were inferred from their own experience as students of the program and the evidences of the program website and brochure. Hence the perspective of the academic staff and program director who are responsible for the designing of this learning program is lacking. This lack makes our argument with MSLS rather weak. Further research should include interviews to include the perspective of the academic staff and the program director.

The authors recognize that the tool presented is still a prototype. Further testing in different contexts and eventual improvements need to be done in the future. According to its foundational open-source philosophy, the prototype intentionally includes some blank cards in order to let future players to write their own quotations and questions and draw their own icons. However, the authors are confident that the learning game reflects the learning principles common to the innovative programs studied: self-reflection, social interaction, safe space, integration of the three dimensions: intellectual-cognitive-theory (head), emotion-intuition-self (heart) and physical-experiential-action (hand).

As far as we know, this is the first attempt of creating a free, accessible, self-applicable card game specifically designed for the learning of

sustainability changemakers, based on the guidelines of the leading edge educational programs in the field. We recognize some similarities in terms of format with the Flow Game (The Flow Game 2010) – in fact, it was an explicit source of inspiration. However, “Your Journey” is widely different in the sense that includes backcasting from sustainability principles approach, the three learning dimensions (head, heart and hand) and in the sense that the game can be played without certified hosts.

Consequently, the authors affirm that the primary research question is satisfactorily answered with the proposed learning tool and encourage further research to test this prototype version in diverse contexts to assess its contextual sensitivity and measure the effectiveness of the learning that the game can facilitate.

5. Conclusion

In this study, the Framework for Strategic Sustainable Development is applied as a strategic structured approach to the overall planning in which the authors defined success as a new generation of conscious changemakers committed to a lifelong journey for sustainability as defined by the four principles and apply a backcasting perspective to identify what is needed to reach that success. During the study, an exploration of different innovative learning programs provided us with several findings in light of our purpose of fostering a new generation of sustainability changemakers.

- **Mental model of the system:** In order to foster future sustainability changemakers, the view of the system needs to be comprehensive and systemic. That includes individuals within a society within the ecosphere within a metaphoric funnel of dwindling natural resources and deteriorating social fabric due to a prevailing perception of the world as disconnected and mechanistic entity. In short, the fundamental cause of such complex sustainability challenges needs to be incorporated in the mental model of the system.
- **Successful outcome:** The successful outcome of changemakers learning process for sustainability would be a self-motivated and action oriented person with self-awareness including connection to the higher potential, which has comprehensive and systemic understanding of the system including the functional definition of sustainability by head, heart, and hands, is equipped with necessary professional and leadership skills.
- **Strategic guidelines:** the following set of beliefs emerged as a strategic guideline in designing a learning process for changemakers for sustainability:

- Hold a safe and fertile space based on trust in the learners and free will of the learners for self-learning to unfold itself.
- Use learner's 'self' as primary instrument of learning.
- Design the learning process in a way to support the learners to overcome their mental barriers to reach their highest future potential by helping clarify their identity and vision, and helping them face their mental barriers.

Building on described findings, the authors present a prototype of a learning tool in the form of a card game, called "Your Journey". The card game is intended to help self-reflection, expand awareness and facilitate learning of the new generation of changemakers in their learning journeys to move society towards sustainability.

This study contributes to the field of Strategic Sustainable Development at the system level by suggesting incorporating explicitly a dimension of human perception of the world in the system or world view. Similarly, by presenting a learning tool, this study contributes to the SSD at the tool level. This study would also contribute to the area of social entrepreneurship training/education by sharing a way to ensure their contribution to sustainable development both socially and ecologically.

5.1. Further Research

The authors admit that this study was purely exploratory and our findings need external validation and further investigation into related fields especially in relation to different leadership theories such as authentic leadership, servant leadership, as well as leadership development training.

Similarly, it would be interesting to investigate how our study relates to different didactic theories such as transformational learning, social pedagogy, critical pedagogy, adult learning, and dialogue education. Related to that, the authors encourage further research to test the prototype version of the “Your Journey” card game in diverse contexts to assess its contextual sensitivity and measure the effectiveness of the learning that the game can facilitate.

Since the Framework for Strategic Sustainable Development has been proven to be a useful approach to transform the existing organizations, there is a big opportunity to research how the FSSD can be incorporated in the Entrepreneurship Training programs since the very early stages of the business idea and business model generation.

Since the focus of this study was educational services that support social and sustainability entrepreneurship, there is still space for research other global supporting ecosystems for such entrepreneurs, for instance, the microfinance sector or the social entrepreneurship networks including Ashoka or the Impact Hub Network.

It will also be worthwhile to investigate the topic in relation to many human development theories such as Ken Wilber’s integral theory, as essentially the theme of our investigation encompassed diverse areas among leadership development, learning, and human development in addition to sustainability.

Finally, the authors acknowledge that the end of this learning journey is just the seed of many other learning journeys to come in the emerging fertile field of sustainability entrepreneurship education.

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Appendix A: Movements of U Process

The five movements of U process, the 24 principles and practices.

Note: Shaded cells represent the movement and corresponding principles and practices that were not applied in this study.

The five movements of U process	Principles and practices of the U (Chapter 21, Scharmer 2009)	
Co-initiating	1	attend: <i>listen to that which life calls you to do</i>
	2	connect: <i>listen to and dialogue with the interesting players in the field</i>
	3	co- initiate <i>a diverse core group that inspires a common intention</i>
Co-sensing	4	<i>form a highly committed team and clarify essential questions</i>
	5	<i>take deep-dive journeys to the places of most potential</i>
	6	<i>observe, observe, observe: suspend your voice of judgment (VOJ) and connect with your sense of wonder.</i>
	7	<i>practice deep listening and dialogue: connect to others with your mind, heart, and will wide open</i>
	8	<i>create collective sensing organs that allow the system to see itself</i>
Co-presencing	9	<i>letting go: let go of your old self and stuff that must die</i>
	10	<i>letting come: connect and surrender to the future that wants to emerge through you</i>

	11	intentional silence: <i>pick a practice that helps you to connect with your source</i>
	12	places of presence: <i>create circles in which you hold one another in the highest future intention</i>
	13	places of presence: <i>create circles in which you hold one another in the highest future intention</i>
Co-creating	14	power of intention: <i>connect to the future that stays in need of you crystallize vision, intent</i>
	15	form core groups: <i>5 people can change the world</i>
	16	prototype strategic microcosms <i>as a landing strip for the emerging future</i>
	17	integrate head, heart, & hand: <i>seek it with your hands; don't think about it, feel it.</i>
	18	iterate, iterate, iterate: <i>create and adapt and always be in dialogue with the universe</i>
Co-evolving (Out of the scope of this research)	19	co-evolve innovation ecosystems <i>that connect and renew by seeing from the emerging whole</i>
	20	create innovation infrastructures <i>by shaping rhythm and safe places for peer coaching</i>
	21	social presencing theatre: <i>evolve collective awareness through level 4 media</i>
Root Principles	22	intentional grounding: <i>always serve as an instrument for the whole</i>
	23	relational grounding: <i>connect and dialogue with the global social field</i>
	24	authentic grounding: <i>connect to your highest self as a vehicle for the future to emerge</i>

Appendix B: List of Interviews

List of interviewees of the dialogic interview conducted during the deep dive journey into the places of most potential

Interview	Role, Institution	Date
Zulma Patarroyo	KaosPilot Alumnus from Colombia	February 19 th
Lauren Gross	KaosPilot student	March 1 st
Peter Sims	Team Leader at Kaospilots	March 1 st
Paul Haaversen	Student, Kaospilots	March 2 nd
Paul Natorp	Former Head of Studies, Kaospilots	March 2 nd
Jose María Larrañaga	Senior Lecturer at Mondragon University	March 9 th
Jose Mari Luzarraga	Lecturer, Coach, Mondragon Team Academy	March 9 th
Maitane Aramburu	Student, Mondragon Team Academy	March 10 th
Liher Pillado	Coach, Mondragon Team Academy	March 10 th

Sari Veripää	Coach, Mondragon Team Academy	March 10 th
Isabel Fernández	Coach, Innovandis	March 11 th
Paul San Sebastian	Coach, Innovandis	March 11 th
Carolina Pereira	Training Center Analyst, Artemisia	March 15 th
Reinoud Meijer	YIP founder / coordinator	March 22 nd
Markus Shoestring	YIP participant 2010	March 22 nd
Silvia Angel	YIP participant 2010	March 22 nd
Thijs Moonen	YIP participant 2009 and staff	March 22 nd
Nathan Daniel	YIP participant 2010	March 22 nd
Pieter Ploeg	YIP participant 2010	March 22 nd
Charlotte Waller	Global College natural science teacher	March 26 th

Appendix C: Online Survey Feedback

The summarized feedback and suggestion from online survey from multi-cultural contributors.

Name	Country	Positive Feedback
Jose Mari Luzarraga	Spain	Congratulations, Looking forward to see the results soon
Viviana Lopez	Colombia	I really like what you are doing! Keep working!
Crystal Grover	USA	Good job! These are great! Just a thought, but I like the questions and the reflection value of them!
Marita Oosthuizen	South Africa	Excellent - I'd like to play this game!
Carlota Cattaldi	Italy	It's a wonderful idea, I love it! So while I was clicking away I was imagining to be playing, and the impression that I would get myself from the cards. Some are incredibly inspirational, and you know what, these game is not only for sustainability practitioners, it could be for students of many different ages at school or at college, and also for 'normal' people like our friends that still don't know what to do of their lives and are unhappy. Congratulations, super good job
Zhuona Li	China	Thanks, great work, I love what you are doing!
Juan C Kaiten	Mexico	Good luck with the design of the game. I hope to play the game soon!
Nathan Stinette	USA	Some nice ideas and questions here!
Regina Rowland	Austria	Great job you guys!
Shahla Rajae	Iran	I think the questions are valid and appropriate in all cultures (...) Looking forward to enjoy using it
Pravin Mallick	India	It is evident lots of thought has gone in to create them in the first place. Good wishes!

Name	Country	Suggestions
Crystal Grover	USA	I wonder if there is an option in the game to 'pass' on a card if you feel you do not connect with the question.
Filipe Rodrigues	Portugal	I strongly suggest you to dig into phenomenological studies. I can see a lot of phenomenological thinking beneath this queries
Zhuona LI	China	Consider that you want to reach different people, plain and simple language might be good. You could group some items of similar themes to be more readable.
Luis Cespedes	Bolivia	I think that some phrases seem to be saying/seeking the same as others. I think that the phrases should encourage passion, self-motivation and the value of knowledge, planning, analysis (trying not to get paralysis by analysis).
Nathan Stinette	USA	It's important to make people feel inspired, at the same time its also important to honestly address the challenges that people face to break out of established paradigms and do something new. (...)So more focus on overcoming challenges, learning from successful example
Shahla Rajaei	Irán	In wordings some words need to be a little more clear for users.
Georgina Guillén	México	Have you thought on the setting of the game? Will people speak up about these issues or how's that gonna look like? What's the purpose of the game? some more info about the guidelines, rules and setting of the game will make choosing the right phrases an easier process and perhaps a more helpful one.
Fernando Ojeda	Chile	This survey requires a good knowledge about oneself. You should said that.
Chris Hogan	Australia	Many items require a lot of thought

Appendix D: “Your Journey” Game –

This table shows the content of the cards, separated by sub-set.

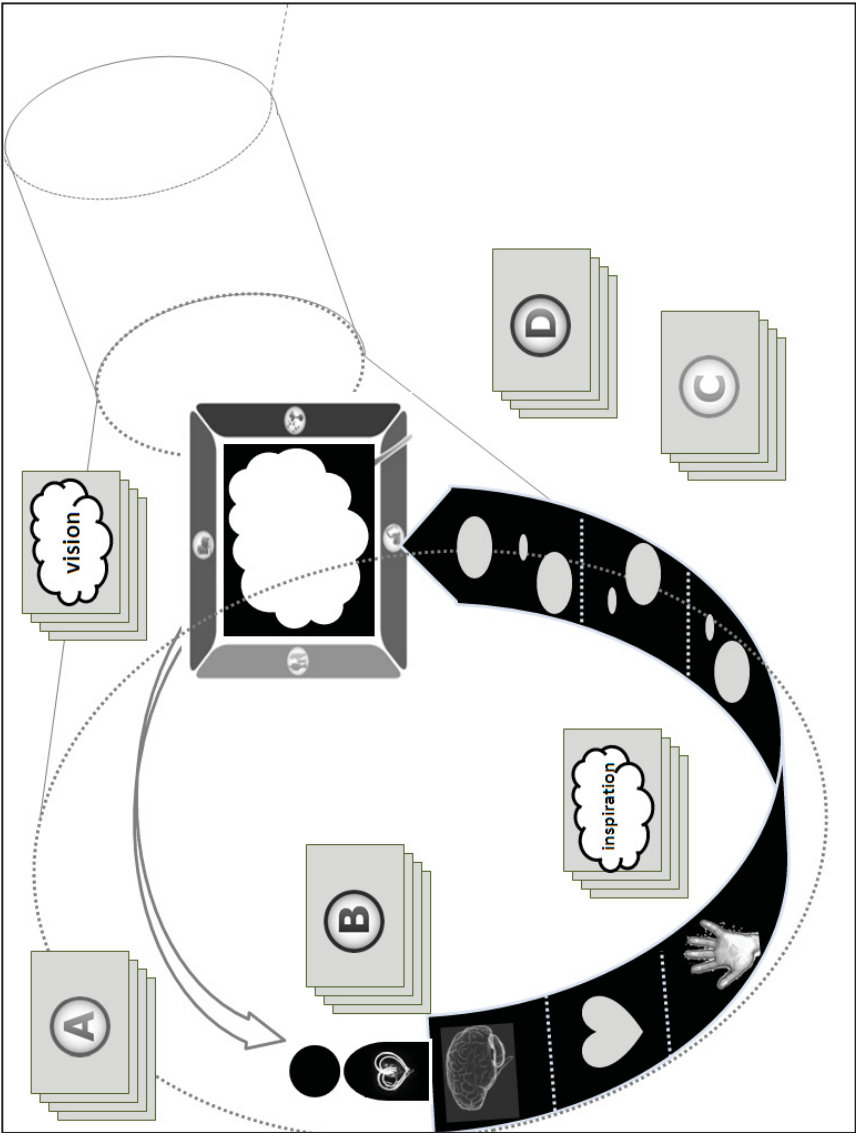
“Your Journey”	CONTENT
AWARENESS CARDS (A-STEP)	<p>What does the world look like for you? Can you describe or draw a picture? Where are you in that? Do you feel that you can somehow influence it?</p> <p>Who is your community?</p> <p>Observe, observe, observe</p> <p>Walk into the nature and feel the interconnectedness of the whole.</p> <p>What do you think of yourself? Why?</p> <p>Where is your home?</p> <p>Who am I? What is my work?</p> <p>What does your intuition tell you?</p> <p>Listen. Listen carefully. Listen again. Keep listening.</p> <p>Connect to others with your mind, heart, and will wide open.</p> <p>First look within</p> <p>Learn to learn from everyone.</p> <p>What are the rules of your game?</p>
INSPIRATION CARDS	<p>“In order to discover new oceans, the sailor must leave the seashore” (Anonymous)</p> <p>Appreciate the Beauty of Simplicity</p> <p>“Future needs you to come into reality” (Otto Scharmer)</p> <p>Your learning journey will not be a linear process</p> <p>‘Never doubt that a small group of committed citizens can change the world. Indeed, it’s the only thing that ever has.’ (Margaret Mead)</p> <p>Your way forward is a journey that only you can discover. The essence of that journey is a gift that can come into the world only through you.</p> <p>What if life was a learning journey?</p> <p>Are you walking the path of your heart?</p> <p>What in your life and work are the situations, practices, and activities that connect you most with your best sources of energy and inspiration?</p> <p>What prevents you from doing what you really want?</p> <p>“Who has why to live can bear almost any how” (Nietzsche)</p> <p>Always be in dialogue with the universe.</p> <p>"You must be the change you want to see in the world" (Gandhi)</p> <p>“Wherever you go, go with all your heart” Confucius</p> <p>“Do what you love, Love what you do” (Michael Ray)</p> <p>Trust yourself. Trust People. Trust the process.</p>

	<p>"A ship is safe in harbor, but that's not what ships are for." (William Shedd)</p> <p>"I went to the woods because I wished to live deliberately, to front only the essential facts of life, and not, when I came to die, discover that I have not lived." (Henry David Thoreau)</p> <p>"Only those who will risk going too far can possibly find out how far one can go" T.S. Elliot)</p> <p>"Walker, there is no path. Path is made by walking" (Antonio Machado)</p> <p>"Find the place beyond hope and fear" (Margaret Wheatley)</p> <p>If someone had designed your current challenges in order to teach you an important lesson that is connected to your forward journey, what would that lesson be?</p> <p>What were the moments you felt greatest joy and gratitude? Can you describe those moments?</p> <p>How will you keep the flame of your passion alive in the moments of darkness?</p> <p>What do you need to do to transcend your fears?</p> <p>Where do you find the courage you need to face the challenges you meet?</p> <p>Find a mentor or a coach, or at least someone more experienced willing to share knowledge with you.</p> <p>Find your source of inspiration and renewal.</p> <p>Write your reflections, insights, and "A-ha! Moments" in your learning diary</p>
BASELINE CARDS (B-STEP)	<p>In what ways are you contributing to destroy nature?</p> <p>In what ways are you contributing to undermine people's capacity to meet their needs?</p> <p>In what possible ways can you support people in other places?</p> <p>Who are your key stakeholders?</p> <p>What do you deliver?</p> <p>What does your operation look like?</p> <p>What do you depend on?</p> <p>What is left as unintended result of your project?</p> <p>What forces may help you towards your vision?</p> <p>What are the hindering forces that you will face in your way to your vision?</p> <p>How can your stakeholders help or hinder you in reaching the vision?</p> <p>Who should you build partnerships to advance your movement towards your vision?</p> <p>When you think about your current reality, what aspects are significant for becoming more sustainable and living up to your vision?</p>

VISION CARDS	<p>What is your definition of success?</p> <p>What is wealth for you?</p> <p>What question would you ask of your highest future Self?</p> <p>What is life calling you to do in the world?</p> <p>Invite your friends to co-create something meaningful</p> <p>What does rich and fulfilling life look like for you?</p> <p>How can you frame your project/dream within the constraints of cycles of nature?</p> <p>What is the real deeper purpose beneath your quest?</p> <p>What is your dream?</p> <p>What do you truly love?</p> <p>What would you want to be remembered for by the people who live on after you?</p> <p>What do I want to create?</p> <p>What is the larger project that I am here for?</p> <p>Let your Highest Self emerge</p> <p>Connect with elders and children to bring future and past to your project.</p> <p>What would you like to change in the world?</p>
CREATIVE SOLUTIONS CARDS (C-STEP)	<p>Which of the existing tools are not serving its purpose and therefore need to be adapted or created?</p> <p>What can you do towards your vision?</p> <p>What else can you do?</p> <p>What creative solutions can you imagine?</p> <p>What techniques, measurements, monitoring, management approaches, are relevant to assist in the movement towards, or maintenance of, success?</p> <p>What actions will effectively help move your project towards success by conforming to the strategic guidelines?</p> <p>Create a list with as many ideas as possible about what the future might look like, and steps to reach it</p> <p>Invite your friends to co-create something meaningful</p> <p>Sustain your passion with perseverance</p> <p>"Who in my current life and work are the four or five people with whom, when connected in the right way, I could change the world?" (Otto Scharmer)</p> <p>Find the right journey partners</p> <p>If not now, when? If not you, who?</p> <p>Find a supportive environment to grow your ideas</p> <p>What are you doing right now?</p> <p>Don't get stuck with the initial form of your idea</p> <p>Build a network of allies that will support you</p> <p>Ask for help if you can't do it alone.</p> <p>Even the longest journey starts with one step</p> <p>What opportunities can you see?</p> <p>Draw your support network</p>

	<p>What help do you need to face the challenges you will face?</p> <p>Visualize your sources of income</p> <p>Think out of the box!</p> <p>What questions if explored deeply could help you to address your current situation better and to take the next step in your journey?</p>
<p>DECIDE ON PRIORITIES, DOWN TO ACTION CARDS</p> <p>(D- STEP)</p>	<p>How can you avoid blind alleys?</p> <p>Does this measure create a flexible platform for future actions?</p> <p>What are you doing? What is important?</p> <p>How can you measure if you are in the right direction to success?</p> <p>How will you keep track of your achievements?</p> <p>How can you know if your next step is a flexible platform for further opportunities that may arise?</p> <p>Are you in the right direction?</p> <p>What are criteria you use to assess and prioritize your next steps?</p> <p>Is it worth to invest so much effort and resources in that task?</p> <p>Work hard. Have fun. Work & Enjoy working</p>

Appendix E: “Your Journey” Gameboard



Appendix F: Guidelines for the game

Instructions for Individual Self-Reflection Practice. Find a quiet place, maybe a natural outdoor setting, or if it is indoor, preferably near a window so that you can get natural light. Turn off your mobile phone. Light a candle and practice a few minutes of silence. Ground your feet and ground yourself. Feel your connection with the Earth and the sky. It is important to be present. With your eyes closed, take three deep breaths, or do anything that helps you to relax. Focus your intention in your highest future potential self. Ask yourself some of these questions:

- What do I need to learn today?
- What is my burning question today in my life?
- What is my next step?
- What is missing in my project?
- How will I face the challenge I am facing?

Shuffle the six sub-sets of cards separately. As you shuffle them, repeat your question in your mind. Ask simple questions. The cards respond best to a clearly phrased question. Then pick the cards following the specific order suggested in the board. Read them and reflect on the meaning of the message of each. Then focus on connecting the meanings in the cards. How are they related? What does it mean for you? Do they make sense to you? If not, try once and again until you feel you find a card that makes sense for you in that moment. Even though it is not mandatory, it is highly

recommended to keep a learning diary to write and draw whatever is learned during the process of playing the game.

Instructions to play the game in groups. The game can be played in groups of 2 to 7 people. If bigger groups want to play, they can split into smaller groups. It is important to create an adequate atmosphere for the game. Anything that may contribute a mindful warm and inclusive atmosphere is welcome. The game maybe played indoor and outdoor, around a table or on the ground, with natural light or with candles, in silence or with quiet music. The gameboard template can be put in the middle of the group, with one candle in the middle. Every player can use some natural object, e.g. a stone, a leaf or a shell that represent him or her.

The game starts with a grounding practice and one minute of silence. The participants are called to sit around the gameboard, with the candle in the middle, and to put their objects on the person icon of the template. Each group is encouraged to do a check-in session where everyone shares their feelings in that moment. Each individual brings a burning question. The whole group shares and welcomes the questions.

The first participant takes one card of the first set, reads them aloud, and reflects on their meaning. The group discusses about potential interpretations and possibilities to help the participant.

Once the group feels that the participant has received enough orientation, the next turn comes and the next participant picks the card and it starts all over again. Once the whole group has passed through the whole ABCD process, they are encouraged to do a check-out debriefing in order to share the key lessons learned of the game.

Appendix G: Sample of cards

A	Where is your home?
What is your understanding of the system?	What do you think of yourself? Why?
What does the world look like for you? Can you describe or draw a picture? Where are you in that? Do you feel that you can somehow influence it?	What are the rules of your game?
Observe, observe, observe	Walk into the nature and feel the interconnectedness of the whole.

<h1>inspiration cards</h1>	<p>Are you walking the path of your heart?</p>
<p>"I went to the woods because I wished to live deliberately, to front only the essential facts of life, and not, when I came to die, discover that I have not lived." (H.D.Thoureau)</p>	<p>"You must be the change you want to see in the world" (Gandhi)</p>
<p>"Walker, there is no path. Path is made by walking" (Antonio Machado)</p>	<p>Trust yourself. Trust People. Trust the process.</p>
<p>"Find the place beyond hope and fear" (Margaret Wheatley)</p>	<p>"Sustain your passion with perseverance"</p>

