

A Strategic and Transformative Approach to Education for Sustainable Development

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2013

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Thesis submitted for completion of Master of Strategic Leadership towards Sustainability, Blekinge Institute of Technology, Karlskrona, Sweden

Abstract: This thesis aims to investigate what strategic guidance can be given to design transformative ESD (Education for Sustainable Development) programs in order to bring about the necessary shift away from our dominating mechanistic and transmissive educational model towards one that is transformative. ESD programs are of high importance when moving towards a more sustainable society, however, a lack of a strategic, full systems approach for planning in the field of complexity can be observed. This gap can be bridged by the use of the FSSD, the Framework for Strategic Sustainable Development, which is used as a conceptual framework throughout this paper. The field of transformative education was researched by using a mixed-methods approach, revealing what key elements and best practices are present that enable transformation to happen. The Cocoon model presented in this paper is derived from the results and intends to give strategic guidance for program designers on how to create a transformative ESD program. It is a process model that aids program designers to create the space for transformational learning to occur by strategically putting into place the elements that are conducive to transformation.

Keywords: Education for sustainable development, transformative/transformational education, transformative ESD, FSSD, sustainability, strategic sustainable development.

Statement of Collaboration

This research project has been undertaken in a truly collaborative manner, with each of the three team members contributing with an equal amount of the required work. Our common passion for learning and transformation, together with our belief in the power of education brought us together on this journey. Our diverse cultural backgrounds, abilities and experience in the areas of education, economics, design, social work and entrepreneurship were of great value during the whole research process.

We went through a very rich, rewarding, and pleasant experience with the right amount of challenge to keep us in a constant learning-loop, and we feel that we passed all of these with flying colors. Each one had the chance to go out of his or her comfort zone, while always being supported by the other members. Even though the moments of confusion were present, they were rarely perceived to be frustrating, but were rather seen as opportunities for laughing and “trusting the process”. The workflow was very natural and we always respected each other’s working styles. Daily morning meditations, constant check-ins, deep conversations and having a good time together kept the team united and positive during the whole process.

All the facets of the project, including research design, conducting interviews, analysis, writing, presentation and decision-making have been shared evenly throughout the whole research. As this paper is the result of a collaborative teamwork, we choose to equally honor the work of each of the members. We believe that the quality of our outcome and amount of individual learning could not have been achieved without the collaborative contribution and dedication of all of the team members.

We hope that our findings will be as important and meaningful to the readers as they are to us. They are the result of a work with a strong intention to be of service to the world, and we always did our best during our research on transformative education to actually live what we have written on the following pages.

Anita Berner

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Acknowledgements

This thesis would not have been possible without the enormous support we received throughout these last five months.

We would like to dearly thank all of our interviewees from the transformative learning community, experts as well as program organizers and students: Thank you for all of your time, support, insight, encouragement, and interest. You demonstrated the relevance of this topic and our contribution, and you allowed us have an unforgettable, one could almost say “transformational” experience, which cannot be put into words. We appreciate all the effort the students and alumni made to fill out our survey, providing us with more in depth knowledge and insights on their perspectives.

Our special thanks go to our thesis advisors, Tracy Meisterheim and Cesar Levy França, who supported us during this time with their encouragement, insightful questions, and constructive feedback. Tracy was our lifeguard once we drifted away from the shore into high waters of ideas, thoughts, findings and data, where we almost drowned in a sea of complexity. She taught us not to fight all of the waves that hit us, but rather how to surf on them. Thank you so much for trusting in us, in the topic, in the process, and showing us to do the same!

A big thank you to Laura Weiss and Isolde Lobo for the invaluable contributions they made in terms of formatting and proofreading without which this thesis would not be of such a high standard.

The MSLS community was always present with its supportive spirit, its motivation and its care. We would like to especially thank our peer cluster and the members of the staff that constantly gave us constructive feedback, above all: Paul Horton, Zenoby Orsten-Butler, Annika Malewski, Joe Alsford, Marko Ćuruvija, Merlina Missimer and Marco Valente.

All this would not have been possible without the love and support from our parents and family, which goes far beyond this thesis. We want to express our gratitude towards them for having supported us in all the steps we took that allowed us to arrive at the place we are at now.

Finally, we would like to express our gratitude for each other. We were very fortunate to have worked in a team with so much empathy, passion and patience. Thanks to us 😊

With gratitude,

Anita Berner, Sebastian Lobo, Narayan Silva

Executive Summary

This thesis explores how elements of transformative education can be used to create a strategic and transformative ESD (Education for Sustainable Development) program.

Introduction

The fact that humanity is satisfying its needs in an unsustainable way has caused more and more pressure on our socio-ecological system (UNEP 2012a). Climate change, rising sea water levels, acidification of oceans, deforestation, pollution, resource scarcity, competition and a greater gap between rich and poor are the consequences of this unsustainable behavior (IPCC 2007; Steffen et al. 2004). The lack of understanding of our whole system and its interconnections due to a mechanistic and reductionist worldview keep us from moving forward in the sustainability challenge - the transition from an unsustainable society that degrades its socio-ecological system to a sustainable one (Meadows 1982; Robèrt 2000).

Education is a key factor to bring about the necessary awareness and understanding to meet the sustainability challenge (HEFCE 2009; Clarke 2012). Nevertheless, increasing the literacy rate will not be enough to create a sustainable society, as several nations with a higher educational level are also augmenting their negative impact on the environment (UNESCO 2013; Jorgenson 2003). Recognizing that a shift in the educational system is needed to move toward sustainability, the United Nations launched a global movement called the Decade of Education for Sustainable Development (ESD) with the goal of implementing “the principles, values, and practices of sustainable development into all aspects of education and learning” (UNESCO 2005, 6). However, the current educational system, in its present state, is not suitable to teach sustainability, as it is a very transmissive, teacher-centered approach with an emphasis on cognitive learning and memorization (Sterling 2002). Hence there is a necessity for the kind of learning that goes into the depth of things and brings about a paradigmatic shift – a shift from a transmissive to a transformative learning model (Burns 2011; Cress 2004).

A transformative education enables students to understand themselves and their relationship to other humans and the natural world and therefore leads to a shift of paradigm (Morrell and O'Connor 2002). It “transforms learners’ values and perspectives so that they are able to embrace sustainability as a new paradigm or a lens through which to view the world and make a change” (Burns 2009, 15). Hence, the authors believe that transformative education is a very valuable approach to educating for sustainable development.

There have been few attempts made to guide the effort of designing transformative ESD programs, such as the Burns Model of Sustainability Pedagogy (Burns 2009), but none so far with a strategic, whole-systems approach that has a scientifically robust definition of sustainability. The Framework for Strategic Sustainable Development (FSSD) is a scientifically rigorous tool with a whole-systems approach for planning within the complex

realms of sustainability. It uses a strategic backcasting approach from a principle-based vision of a sustainable society (Holmberg and Robèrt 2000).

This paper intends to provide a deeper understanding of the transformative ESD system and give guidance to practitioners on how to create a strategic and transformative ESD program. In order to provide this guidance, the authors developed the Primary Research Question (PRQ) and Secondary Research Questions (SRQ), which intend to answer the PRQ:

PRQ: What guidance can be given for designing strategic and transformative ESD programs?

SRQ 1: What are the key elements and best practices of transformative education according to *experts*?

SRQ 2: What are the key elements and best practices of transformative education according to *educators and students*?

Methods

Maxwell's Model for Qualitative Research Design was used to construct the research methods. In order to answer SRQ 1, interviews with five experts on sustainability were conducted. To answer SRQ 2, the following three methods were chosen. Firstly, a document content analysis of the chosen transformative programs was made. Secondly, interviews with eighteen program organizers of the six selected courses were conducted. Thirdly, an online survey was sent to the alumni and graduating students of the selected courses. In order to be chosen for this research, the program needed to be located in northern Europe and the course needed to be taught in English. Furthermore, at least three program organizers needed to be available for an interview, the questioning of alumni and graduating students had to be granted, and it was necessary that the program had been implemented at least five times. In the end three transformative ESD programs were selected (Forum for The Future - Masters in Leadership for Sustainable Development, Masters in Strategic Leadership towards Sustainability, Gaia - Ecovillage Design Education), and three programs that are very transformative, but not specifically for sustainability (Knowmads, KaosPilots, YIP - International Youth Initiative Program). In order to answer the PRQ the information from the results was gathered around the generic 5LF and informed with the FSSD to assure a whole-systems and strategic approach. In the next step, a model for giving strategic guidance on how to design transformative ESD programs was built using the FSSD's ABCD implementation process.

Results

The results were structured around the research questions and the methods used.

Results from the Experts

In general, the results from the experts showed that transformation of students cannot be guaranteed. However, there are some situations that are more conducive than others. The

elements that were found to be conducive to learning were placed into clusters that emerged from the research.

The interviews from the experts showed that it is necessary to shift to a *new educational paradigm*, away from an industrial, transmissive educational model that happens in classrooms, towards one where there is more focus on the students, where learning happens in non-hierarchical learning networks that have no center. One of the most important factors is the *community* itself, where the learning takes place, a community where students feel at home. Instead of memorization, a transformative learning course is characterized by a meaningful *real life application*, of the learning, addressing the issues within the surrounding communities and organizations. Also, students need to accept to question themselves, as *reflection* is the beginning of a transformative learning journey. The role of the educator in a transformative course is not the one of a teacher that holds the wisdom, but more that of a learning *facilitator* that helps the students explore what they want to learn. In such a program, students are encouraged to *take initiative* in designing their own learning journey to create powerful learning experiences they are personally responsible for. *Age diversity* was also emphasized, as transformative learning needs to happen at all ages and it is beneficial to have this diversity of age and experience in the learning community. The values that are present in the course are fundamental, as it is the intention that students begin to realize and shift their values throughout such a program. The *methods* that are chosen need to be constantly evolving, adapted to the group of learners and engaging not only the intellectual side, but the person as a whole. The *content* is closely related to the methods and the purpose of the course and it should be co-created together with the students. With regards to the *physical space*, it is conducive to transformation to engage in the learning outside of a bland classroom setting to put people in the right frame of mind. The students' development should not be *evaluated* by tests or grades, but rather through various forms of feedback. *Challenges* are an absolutely essential part of a transformative program, as sufficient challenge leads to significant change of perception. Lastly, there should be a large focus on the *personal development* of the students, helping them to find their purpose and passion.

Results from the Document Content Analysis and Program Organizer Interviews

The results from the document content analysis and program organizer interviews confirmed the importance of many elements mentioned by the experts. In addition, new insights and best practices with regards to transformational education were gathered. Again, the results were analyzed and clustered into the segments. The segments that were similar to the ones of the experts were *values, evaluation, physical surrounding, integrating challenges, community, facilitator, intra – and interpersonal development, taking initiative, real-life application* and content. The program organizers provided even further insight into these segments and gave some best practices of how to implement key elements of these segments into a program. The program organizers further mentioned some *general aspects of transformative learning* like, for example, the fact that transformation is different for everyone, and all a program can do is create the conditions for transformation to occur.

Hence, there were some patterns regarding the programs' *purpose*, namely that the program creates a space for transformation to happen and it intends to equip the students with the knowledge, skills, capacities, and the confidence to shape their futures. This *learning space* is a safe space where it is OK for students to try out new things, experiment and fail. When it comes to the actual *program design*, most of the programs have a part that is dedicated to learning content, and a part for the personal development of the students.

Results from the Survey

105 alumni and graduating students responded to the survey. Their answers revealed that all the programs were perceived to be very or quite transformative by the students. The respondents gave further insights into what the *key transformative elements and experiences* of a program are, what the *physical surrounding* should look like, which *values* should be present, which attributes a *facilitator* needs to have, and which *content* and *methods* should be available in a transformative program.

Discussion

In the discussion, the PRQ is answered by presenting Cocoon – a process model that gives strategic guidance to program designers on how to design a transformative ESD program. It is based on the FSSD's ABCD planning process and consists of 6 steps that designers need to take to create a program. These steps are 1. Understanding the *system* in which a program takes place; 2. Creating *vision* of the desired transformative ESD program; 3. Understanding the *circumstances* that have an effect on the design of the program; 4. Backcasting from the vision in order to *brainstorm ideas* that can be implemented in order to reach the vision. 5. *Prioritizing* these ideas through the use of strategic prioritization questions; 6. Deciding when these ideas should be put into action by placing them on an *iterative timeline*. Each of these steps consists of two parts. In part one, the program designers need to ask themselves a question and maybe a set of sub questions, depending on the step. Part two is the guidance section, which is derived from the information gathered from the results. This part gives guidance on how to answer the question in part one and it provides exhaustive lists of examples of best practices from the results.

As regards to the expectations of this paper, there were some things that reaffirmed the existing theory on transformative education, such as the high importance of the facilitator, the community, the safe learning space, as well as integrating challenges into the learning. However, this paper shows that elements such as personal development, taking initiative and intrinsic values might be even more important than priorly anticipated. One of the major limitations of this research is the fact that it is very difficult to measure transformation, as it is very subjective and it was only possible to ask the alumni on their transformational experiences in retrospect. In addition, there was an overrepresentation of two of the programs (MSLS and EDE) in the survey. This was, however, recognized and taken into consideration in every possible way. One of the greatest strengths of this research is the multiple methods approach used, which involved questioning experts, program directors, alumni and students, as well as conducting a document content analysis in order to find out the key elements and

best practices in the field of transformative education. Furthermore, the authors were able to have personal contact to four out of the six programs that were researched, which enabled an even deeper insight into the nature of these programs. Regarding future scientific research, it would be a great contribution to the field of transformative education to test the Cocoon model in real-life scenarios and integrate feedback to develop it further. In addition, the same research methods could be used to investigate transformative education in a different geographical setting, or with a younger group of students, to see what adaptations would need to be made when designing a program.

Throughout the research period, the authors encountered a vast number of people that highlighted the importance of transformative education and confirmed that the contribution this kind of research makes to the field of strategic sustainable development (SSD) is invaluable. For in order to properly address the sustainability challenge that humanity is facing, a shift in paradigm is necessary. By including the FSSD in this research, it can be assured that the guidance for designing a transformative ESD program given in this paper will enable the creation of programs that will lead society towards sustainability. Moreover, the authors of this paper believe that transformative ESD courses will not only help to make the world more sustainable, but they are a leverage point to create the “more beautiful world our hearts tell us is possible” (Eisenstein 2011, 437).

Conclusion

A transformative education allows students to question their own paradigm and to reconstruct it by shifting their values and perspectives. This shift in paradigm is highly necessary to properly address the sustainability challenge humanity is facing. This paper also highlights the importance of a strategic, whole-systems approach for planning in the field of complexity, such as is the case for transformative ESD. With the choice of methods in this paper, the authors intended to not only gather some expert advice for transformative education, but in addition to that provide examples of best practices from some of the most successful transformative programs in Northern Europe.

It is difficult to pinpoint the exact cause of transformation, as it is the connection of many elements that enables transformation in a program to occur. Hence, the guidance that can be given so far in this field is to assure that elements that are conducive to transformation are present in order to create the place for transformation to happen. Providing challenges has proven to be a key element of transformation. However, these challenges need to occur within a safe space, so they do not result in frustration. Furthermore, nurturing a strong community within this safe space where vulnerability can be present and mutual support can be given was also found to be of high importance. Transformational learning experiences involve all aspects of the self - a head, heart, and hands approach with a diverse set of methods that should be closely related to participation, reflection and real-life application in order to foster students' knowledge, skills, personal development and empowerment to take initiative on what they have learnt. Cocoon, the process model presented in this paper gives strategic guidance for program designers on how to create a transformative ESD program.

Glossary

ABCD planning process: A four step strategic planning process used by organizations and communities to select step-wise actions toward sustainability utilizing a backcasting approach. It includes the following steps: A) Systems awareness and creating a shared vision of success based on the organization's vision and the four sustainability principles. B) Assessing the organization's current reality. C) Brainstorming compelling measures to move from the current reality towards the shared vision. D) Prioritizing measures based on strategic planning prioritization principles.

Backcasting: A planning approach where a vision of success in the future is built and then considers how to move strategically towards that vision.

Backcasting from Principles: Method utilizing a shared vision of success aligned with the four Sustainability Principles, to plan towards the future in a strategic step-by-step manner.

Biosphere: The surface, atmosphere, and hydrosphere of the Earth, functioning as a system to provide the conditions for life.

Five Level Framework for Planning in Complex Systems (5LF): A conceptual framework that helps in analyzing, decision-making and planning in complex systems. It consists of five distinct, interrelated levels: Systems, Success, Strategic, Actions and Tools.

Framework for Strategic Sustainable Development (FSSD): The application and adaptation of the Five Level Framework for planning towards sustainability as the desired outcome.

Paradigm Shift: A fundamental change in an individual's or a society's view of how things work in the world.

Prioritization Questions: These questions help the planners to prioritize actions that lead strategically to the vision of success. They should ask at a minimum the three basic questions:

1. Does this action lead in the right direction when all parts of the vision are considered?
2. Can the action be a flexible platform for further development towards the vision?
3. Does the action provide a sufficient return on investment?

Society: The global social system and physical infrastructure that humans have created, in part to meet individual and collective needs.

Socio-ecological system: The system made up of the biosphere, society, and their complex interactions.

Strategic Sustainable Development (SSD): An approach for conceptualizing and planning for sustainability that is designed to deal with the complexity of the global socio-ecological system. SSD is comprised of the funnel metaphor, systems thinking, a definition of sustainability based on four Sustainability Principles (SPs), backcasting, and a five-level

planning framework for sustainability called the Framework for Strategic Sustainable Development (FSSD).

Sustainability: A state in which society does not systematically undermine natural or social systems within the biosphere. It is the state when the four Sustainability Principles are met.

Sustainability Challenge: Challenges caused by unsustainable behavior that have continued to systematically increase the degradation of the socio-ecological system. It is the challenge to move an unsustainable society to a sustainable one.

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

1. ...concentrations of substances extracted from the Earth's crust;
 2. ...concentrations of substances produced by society;
 3. ...degradation by physical means;
- and, in that society...
4. ... people are not subject to conditions that systematically undermine their capacity to meet their needs.

Sustainable Development: The development from a society which is systematically degrading the socio-ecological system to one where this degradation no longer takes place.

Systems Approach: An approach to problem-solving that assumes that the individual problem is part of a larger system. The intent is to solve the problem in a way that does not create further problems down the road. This approach is particularly important in complex systems where one does not always understand the inter-connection between parts.

Systems Thinking: Thinking in the context of the wider environmental and social system and the interconnectedness that exists.

Transformative/Transformational Education: Involves a deep structural shift in the basic premises of thought, feelings and actions. It is a shift of consciousness that dramatically and permanently alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-location: our relationships with other humans and with the natural world (Morrell and O'Connor 2002, xvii).

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1 Introduction

1.1 The Sustainability Challenge

Humanity may currently be going through one of the most challenging moments in its history. While trying to fulfill its needs, society has been overexploiting our planet's resources and thereby created unprecedented and irreversible damage to our ecosystem (Steffen et al. 2004; UNEP 2012). In the last two centuries, the world has faced a high increase in population, of consumption and economic growth (World Bank 2013, Steffen et al. 2004; Assadourian 2010). This has caused increasing pressure on the ecosystems and created consequences so severe that they will affect the generations to come, to a great extent (UNEP 2012a).

Climate change, rising sea water levels, acidification of oceans, deforestation, pollution and drying up of rivers as well as mass extinction of species are examples of ways in which humanity has caused significant damage to the world's ecosystems. One third of the Earth's major ecosystems are in significant decline and another third are endangered (IPCC 2007; Steffen et al. 2004; UNEP 2012).

Those changes have an enormous impact on human well-being (Steffen et al 2004; UNEP 2012). Sufficiency and quality of food, air quality, etc. have been negatively affected by global change (Steffen et al. 2004). Resource scarcity has led to injustice, competition and to a greater gap between rich and poor (Assadourian 2010; Sachs 2005). Environmental and social degradation are strongly interconnected and current societal systems are not capable of solving the problems we are facing (Hopwood et al. 2005; Leape 2008).

The lack of understanding of the whole system and its interconnections, a consequence of a mechanistic and reductionist view of the world, and the inability to cultivate behavior patterns that are aligned with the Earth's systems, have taken us to a moment in history where the influence of human activities on the ecosphere is so high that scientists have stated that we are living in a new geological epoch, the Anthropocene Era (Steffen et al. 2004). During this era, the dominant mindset leads us to exploit our resources as if they were unlimited, while science has proven that we are actually facing a situation that can be expressed best by using a funnel (Figure 1.1.) as a metaphor (Robèrt 2000). The degradation of the socio-ecological system by society's unsustainable practices and the increasing demand for resources and ecosystem services are represented by the closing walls of the funnel. Those walls are closing in as time passes, therefore the room for finding solutions is also decreasing. The leveled walls of the funnel represent a sustainable society where we have reached a sustainable socio-ecological system, and the opening of the funnel symbolizes the time when we have reached this steady state and we are actually restoring the damages caused by society (Robèrt 2000).

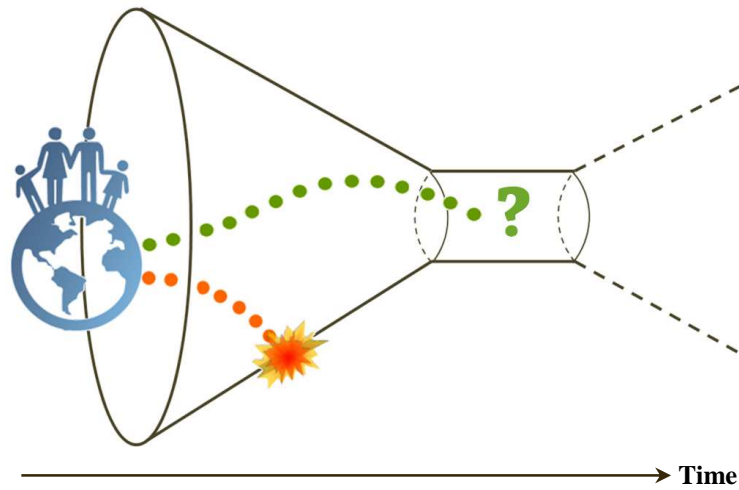


Figure 1.1. The Funnel Metaphor (Adapted from Ny 2006)

By understanding the funnel metaphor we are able to comprehend the vast challenge that humanity is facing, referred to as the sustainability challenge. It stands for the challenging transition from an unsustainable society, which is systematically degrading the socio-ecological system, to a sustainable one, where this degradation no longer takes place. This development of society is also referred to as sustainable development. (Robèrt 2000; Ny 2006)

1.1.1 What is Sustainability?

Even though the word sustainability is globally spread and enormous efforts of governments, organizations and civil society are aimed at achieving it, it means lots of different things to different people, as the concepts of sustainability and sustainable development have suffered from a proliferation of definitions in the last few decades (Johnston et al. 2007). One of the best known definitions of sustainability was introduced by the Brundtland Commission of the United Nations in 1987, which described it as the “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987). Another definition associated with sustainability is the “triple bottom line”, a term coined by John Elkington. It claims that sustainable development encompasses biophysical, social and economic dimensions, which are considered the three pillars that should guide organizations in their endeavor to reach a sustainable society (Elkington 1997). This notion has become a widely spread agreement in ongoing debates around sustainable development, and various proposals for enhancements have appeared, such as the suggestion of adding governance or culture as the fourth dimension (MMSD 2002; Hawkes 2001; Hacking and Gutherie 2008). But, as it has been stated colloquially, “these are essentially attempts at explaining the composition of the cake by cutting it into thinner slices” (Hacking and Gutherie 2007).

Even though those definitions helped to create a global consensus around the importance of reaching a sustainable society, they lack clarity and preciseness when tackling the complex

challenge that humanity is encountering (IUCN 2006). 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 re-tested 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:

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



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



... concentrations of substances produced by society



... degradation by physical means;

and, in that society...



... people are not subject to conditions that systematically undermine their capacity to meet their needs”¹

(Holmberg and Robèrt 2000; Ny et al 2006).

(Image source: The Natural Step 2013)

1.2 Education for Sustainable Development (ESD)

1.2.1 The Relevance of Education and the Need for ESD

Education is the most powerful weapon you can use to change the world.

(Nelson Mandela)

Education is defined as a “process of teaching, training and learning, . . . to improve knowledge and develop skills” (Oxford Dictionary 2005, 488). Wals (2007) states that our ability to learn is, biologically speaking, directly related to survival. This notion goes back as far as Charles Darwin, who said that the species that learns best how to adapt to the changing environment it is in, is most likely to survive. Those that do not have this skill, perish (Darwin 1859).

In order to overcome the sustainability challenge, humanity needs to drastically and quickly adjust its way of meeting its needs so that it no longer systematically degrades nature's capacity to provide us with the necessary ecological resources (Robèrt 2000). There is a certain dysfunction in our current mental model as a large part of society still believes that we can continue to carelessly exploit the Earth's resources without there being any harsh

¹ In this thesis, when referring to sustainability, the authors are referring to this definition.

consequences. It is this dysfunction that Clarke speaks of when he claims that “the established linear . . . model seems no longer sufficient to provide for a changing reality” (Clarke 2012, 1). On a global level, it is crucial for reaching sustainability that people are aware of the principles and goals of a sustainable society, and have acquired both knowledge and skills to actively contribute to their achievement. Citizens that are informed and aware of their responsibility are able to engage and support the right policies and government initiatives, helping them to enact measures towards sustainability (McKeown 2002). As education plays a major part in bringing this awareness and information to people, the transition to a sustainable society is, in its roots, an educational challenge (HEFCE 2009; Clarke 2012). The United Nations made a similar declaration in its Agenda 21 where it is stated that “education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues” (United Nations 1992, np.).

However, increasing the literacy rate will not be enough to create a sustainable society, as several nations with an increased educational level are also increasing their impact on the environment (UNESCO 2013; Jorgenson 2003). Recognizing the necessity of a shift in the educational sector, in 2005 the UN launched a global movement called the Decade of Education for Sustainable Development with the overall goal to “integrate the principles, values, and practices of sustainable development into all aspects of education and learning” (UNESCO 2005, 6). Since then, numerous efforts have been taken globally and recent reports have shown that there is a global cross-sector effort in supporting the evolution of an education that can create a more sustainable future (UNESCO 2012).

1.2.2 What is ESD?

There are various terms used to define the teaching of sustainability, such as education for sustainability (EfS), sustainability education (ES), or environmental education for sustainability (EES). Education for sustainable development (ESD) is the term most used in science and within the United Nations terminology to describe the practice of teaching for sustainability (McKeown 2002), and it is the term that will be used for conducting the research in this paper. ESD can be considered an umbrella term for various existing forms of education and for future forms that remain to be designed (UNESCO 2013). The UNESCO describes ESD as follows: “[it] aims to help people to develop the attitudes, skills, perspectives and knowledge to make informed decisions and act upon them for the benefit of themselves and others, now and in the future. ESD helps the citizens of the world to learn their way to a more sustainable future” (UNESCO 1995).

UNESCO also lists some essential characteristics of ESD, which include: Interdisciplinarity and inclusion of all dimensions of sustainability; promoting participatory, lifelong learning and higher-order thinking skills; engaging formal, non-formal and informal education; being locally relevant, based on local needs, perceptions and conditions, while acknowledging international effects and consequences (UNESCO 2005).

1.2.3 The Current Situation in ESD and the Need for Transformation

Many experts in the field of ESD have confirmed that our education system in its current state is not suitable to teach sustainability. Sterling (2011) agrees with the work of Hicks (2002) and O'Sullivan (2002) in that people in general are left in a state of denial, grief and despair when taught (in a classic pedagogical approach) about the frightful state that our planet is in and the sustainability challenge it entails. Hence, "the mainstream emphasis on cognitive learning, with a little 'values education' thrown in, is simply insufficient to meet this challenge" (Sterling 2011, 27). According to Hicks (2002), a major part of the issue is that students are never taught to envision and create their desired future in school. It goes without saying that this skill is crucial when it comes to sustainable development. Leighton (2008) notes that Hicks has successfully identified our need for this kind of learning, however, strategies have yet to be developed to integrate such an educational approach.

A major part of the issue is that our educational system is very teacher-centered and uses transmissive teaching methods. This kind of education is simply unfit to equip students with the knowledge necessary to solve issues so complex and deeply challenging as is the case with sustainability (Sterling 2002). Hence, it is vital to foster the kind of learning that provides students with new competencies and a new way of acquiring knowledge to approach the challenges of sustainability (O'Riordan and Voisey 1998). Wals (2010) shares this criticism of current ESD methodologies. He believes that "most professors are still there to "profess", while most students are still there to "absorb it all". "Content" is still organized in disciplinary ways both in research and in education. As a result, faculty members and graduates alike often fail to approach our current sustainability problems holistically, and tend to create new ones while attempting to resolve the old ones" (Wals 2010, 381). He is of the opinion that "most of our universities are still leading the way in advancing the kind of thinking, teaching, and research that accelerates unsustainability. In order to break this pattern, we need to question and reform deeply entrenched routines, structures and practices" (Wals 2010, 387-388). Sterling claims that solely educating people for sustainability does not necessarily scrutinize dominant mechanistic paradigms anchored in the mindset of our society. Furthermore, it does not deeply explore what qualities the individual learner contributes to the learning experience, as this learning approach still reinforces the old, prescriptive, transmissive, teacher-centered learning model (Sterling 2004).

In order to teach sustainability it is necessary to shift from this transmissive to a transformative learning model (Burns 2011; Cress 2004). Burns says that a transformative education model provides the students with the values, knowledge and skills needed for creating a sustainable society (Burns 2011) and that "the necessary transition from a transmissive teaching and learning process to one that is transformational is perhaps one of the greatest sustainability challenges faced by postsecondary education" (Burns 2009, 16). Wals agrees with this notion when he says that "education for sustainability above all means

the creation of space for transformative social learning” (Wals 2010, 388). Sterling also advocates for transformative sustainability education as this approach engages the whole person and embraces participation, creativity, ambiguity, emergence, uncertainty and questions as opposed to answers (Sterling 2001). He refers to it as an “ecology of learning” (Sterling 2004, 70) which fosters the resilience, capacity and integrity of learners. There is a need for this type of education, as it “transforms learners’ values and perspectives so that they are able to embrace sustainability as a new paradigm or a lens through which to view the world and make a change” (Burns 2009, 15). The next two paragraphs will elaborate more on why a transformative learning approach that transforms values and perspectives is so much needed in the field of sustainability education.

Schwartz (1992) has published a robust model that structures and adds clarity to the basic human values, how they are associated and the importance they have in the way we see things and act in the world (Feather 1995). Further research has proven that people who strongly endorse intrinsic values (related to helping others, close interpersonal relationships, and growing as a person) tend to be associated with more sustainable behaviors, while people who strongly endorse extrinsic values (related to social praise and attainment of external rewards) tend to express less concern about environmental damage and its consequences to other humans, future generations and non-human life (Crompton and Kasser 2009). As values are ubiquitous in our communication and in our relations, they have the capacity of molding our society in certain ways and it is therefore important to understand the values we embody and reinforce. The values we communicate are embedded in many different aspects of an experience, such as the setting, the messenger and the level of participation it offers. Deeper involvement, first-hand experiences, encouragement of self-expression and critical thought are more likely to foster intrinsic values. Education, for instance, can help to suppress the dominance of the extrinsic values through guiding people on repeated experiences where they can ‘unlearn’ old habits and take on new frames (Crompton 2010; Alexander, Crompton and Shrupsole 2011).

Regarding the necessary change of perspectives, “most of us, and especially our large social institutions, subscribe to the concepts of an outdated worldview, a perception of reality inadequate for dealing with our overpopulated, globally interconnected world” (Capra 1996, 4). This mechanistic and reductionist worldview treats a world that is interconnected and finite as if it was divisible, separable, simple, and infinite, and our persistent global problems are directly connected to this mismatch (Meadows 1982). Realizing that global awareness of the current situation and a consequent shift to worldviews that are aligned with sustainability principles are urgently needed, it becomes clear that a transformative education that “reconceptualizes the content through a shift in paradigm or standard” (Kitano 1997, 24) is of vital importance for ESD. Hence, the authors agree with the notion that transformative education is an approach that ESD should pursue.

1.3 Transformative or Transformational Learning²

The case for transformative learning is that learning within paradigm does not change the paradigm, whereas learning that facilitates a fundamental recognition of paradigm and enables paradigmatic reconstruction is by definition transformative (Sterling 2011, 23).

There are numerous definitions and understandings of transformative learning. The following will try to reflect the authors' understanding of transformative learning and how the term will be used throughout this paper. Mezirow (2000), who coined the term, describes it as a process in which we "transform our taken-for-granted frames of reference . . . to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and options that will prove more true or justified to guide action" (Mezirow 2000, 7-8). To put it in different words, the transformative learning theory "explains this learning process of constructing and appropriating new and revised interpretations of the meaning of an experience in the world" (Taylor 2008). A similar, but more in depth description is given by Morrell and O'Connor who express that "transformational learning involves: a deep structural shift in the basic premises of thought, feelings and actions. It is a shift of consciousness that dramatically and permanently alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-location: our relationships with other humans and with the natural world" (Morrell and O'Connor 2002, xvii).

It is important to note at this point that this change of worldview is not always an easy change for the learner to process. A perspective transformation, which often results from accumulated, altered meaning schemes or a drastic personal experience, can be very painful and stressful, as it deeply scrutinizes the learner's perspective and it can question even the very core of the individual's existence (Mezirow 1997). Sterling and Baines (2002) concur with the belief that transformation can be traumatic, because of the acknowledgment of incoherence between the assumptions we have and the experiences we make. However, some learners also find this experience insightful. Furthermore, they describe the process as one which is lengthy and occurs over a large period of time (Sterling and Baines 2002). As it is difficult to go back to an old worldview once one's eyes were opened by new notions and encounters, Courtenay, Merriam and Reeves (1998) declare that perspective transformation is a process which is not only long-lasting, but also irreversible.

Based on Bateson's (1972) model that entails three orders of learning, Sterling (2011) puts in plain terms how exactly transformative learning differs from ordinary learning and thereby puts emphasis on its significance for contemporary education.

²In this paper, the words transformational and transformative learning are used as synonyms, as is the case in the key literature.

Table 1.1. Levels of Learning (adapted from Sterling 2011)

Orders of change/learning	Seeks/leads to	Can be labeled as
First order change: <i>Cognition</i>	Effectiveness/Efficiency	<i>“Doing things better”</i> Conformative
Second order change: <i>Meta – cognition</i>	Examining and changing assumptions	<i>“Doing better things”</i> Reformative
Third order change: <i>Epistemic learning</i>	Paradigm change	<i>“Seeing things differently”</i> Transformative

This model describes the “depth” of a learning experience. First order learning aims to increase efficiency by improving knowledge and making the learner realize how to “do things better”. Learning that occurs on this level does, however, not alter the paradigm, as it still takes place within that same worldview. Second order learning goes so deep as to recognize the paradigm we are living in and it intends to examine assumptions, or to put it bluntly, “do better things”. Learning of the third order, which goes by the name of epistemic learning, is concerned with the acquisition of knowledge itself and aspires to help the learner to “see things differently”. It is this type of learning that is transformative and consequently leads to a paradigm change. According to this model, there is also a certain hierarchy within these orders of learning; this means that a change of the third order also has an effect on the lower two orders of learning. The same rule applies to the effect of the second order on first order learning; however, first order learning does not have any impact on the deeper levels of learning. (Sterling 2011)

It is this “depth” of learning, described in Table 1.1., that Schumacher refers to when he states that:

The volume of education has increased and continues to increase, yet so do pollution, exhaustion of resources, and the dangers of ecological catastrophe. If still more education is to save us, it would have to be education of a different kind: education that takes us into the depth of things (Schumacher 1997).

1.3.1 Transformative Education as an Overarching Pedagogy for Teaching Sustainability

A determining factor for learning is how much space is allowed for learner participation and self-determination. When this space is narrow, more transmission-oriented, instructional modes of ESD will result. When it is broad, ESD will be characterized by autonomous

thinking and knowledge co-creation. These latter versions of ESD call for alternative forms of teaching, learning and stakeholder interaction. (UNESCO 2012)

Missimer and Connell (2012) have identified some of the key alternative methods for teaching sustainability that are currently discussed in the field. These methodologies include: Lifelong learning, social/collaborative learning, problem-based learning, active and experiential learning, empowerment and dialogue education.

The authors believe that these methodologies mentioned by Missimer and Connell are of vital importance for ESD. However, the research below indicates that transformative learning might be seen as an umbrella term that includes these methodologies, or that they are in fact a prerequisite for transformative learning.

Lifelong Learning. Adult education and lifelong learning are used as somewhat interchangeable terms in the field, as adult education is subsumed within lifelong learning (Javis 2001). Taylor (2008) says that when the transformative learning theory was first introduced by Mezirow in 1978, it helped to explain how adults changed their worldview and it is therefore in its essence intended for adults. “Transformative learning reflects a particular vision for adult education and a conceptual framework for understanding how adults learn” (Dirkx 2008).

Social/Collaborative Learning; Problem-based Learning. The kind of learning for sustainability that intends to be transformative is in need of a transition towards a learning that is more problem-based, collaborative in groups and reflective (Moore 2005). In this kind of course, power relationships are considered anew as students and instructor are both teacher and learner. Learning is participatory and puts the emphasis on the students’ diverse perspectives, experiences, as well as on reflection and the personal development of the learner (Kitano 1997). Furthermore, teaching sustainability requires a transformative learning that incorporates community contexts and addresses the needs and issues of a community (Cress 2004). Ergo, a learning method that does not include these aspects is not likely to be transformational.

Active and Experiential Learning. There seems to be an undeniable connection between action and transformation (MacLeod et al. 2003). According to Lange (2004), transformation fosters action towards a sustainable society. This reinforcement appears to work in both ways. For “without experiences to test and explore new perspectives, it is unlikely learners will fully transform” (Taylor 2008, 11). This research underlines the importance of the creation of a space for action and experiential learning for the student.

Empowerment. The empowerment factor is strongly anchored in the participative service learning aspect of transformation in which students play an active part in serving society and its needs. Serrano (2002) says that this kind of learning is likely to bring empowerment and can aid learners to build the capacity and force to confront sustainability issues. Another strong empowerment factor in transformative learning comes from the deep, emotional reflection work that is done. Hicks (2002) states that real empowerment comes from both the

head and the heart, further explaining that this kind of learning needs educators that have gone through this strong reflective work themselves, in order to be able to teach this aspect of transformation.

Dialogue Education. Taylor (2008) gathers scientific evidence that dialogue education is a core part of reflection and thus also of transformative education. Intercultural dialogue and discourses with others can in fact be ways of developing and fostering transformative learning. Tennant (1991) stresses the fact that through shared learning and group discussions the learner's experiences, thoughts and mental models are subject to critical scrutiny. This critical scrutiny is vital in the process of perspective transformation. Mezirow also sees the link between transformative learning and critical scrutiny/critical reflection, which he describes as "a process by which we attempt to justify our beliefs, either by rationally examining assumptions, often in response to intuitively becoming aware that something is wrong with the result of our thought, or challenging its validity through discourse with others of differing viewpoints and arriving at the best informed judgment" (Mezirow, 1995, 46).

1.4 A Strategic, Whole-Systems Approach to Transformative ESD

Many efforts are being taken all over the globe to try and change society's unsustainable behavior. Yet, while the complexity of the current situation keeps growing, a dominant reductionist way of analyzing the different aspects to tackle sustainability issues remains anchored in our mindsets. This often leads to confusion and losing sight of the final goal (Broman, Holmberg, and Robèrt 2000). Therefore, in order to move society towards a sustainable future, an understanding of the whole system and its interconnections is essential, as well as knowing the basic scientific principles of sustainability that allow a bird's eye perspective on the entire system (Broman, Holmberg, and Robèrt 2000).

Designing a transformative ESD program with a whole-systems approach is clearly a complex task, and there is little theory or research on how to develop or implement a sustainability pedagogical design that is systemic and connective (Burns 2011). Therefore very few attempts have been found with the intention of guiding a similar effort. They include a toolkit from McKeown (2002) and a report from WWF (Gayford 2010) that offer some tools, important information and alternative approaches to include ESD on different learning settings, but the most robust model researched by the authors has been the Burns model (Burns 2009), which offers a systemic pedagogic approach for designing transformative sustainability programs. Even though these are important contributions to the field, they either lack a scientifically robust definition of sustainability, or a clear strategy of how to best weave sustainability together with the transformative aspect. In order to fill this gap, a robust and scientifically rigorous framework is needed which can bring clarity and insight into planning for success in complex systems to achieve a sustainable outcome.

1.4.1 Framework for Strategic Sustainable Development (FSSD)

Peer-reviewed and scientifically rigorous, the FSSD is based on the generic Five Level Framework (5LF), which allows large groups to plan strategically, analyze, make decisions and reach a common goal when working within complex systems (Robèrt 2000). This “framework . . . makes it possible to link small scale with large scale, upstream with downstream, economy with ecology, and short term with long term“ (Holmberg and Robèrt 2000). Whereas the 5LF can be used in a general manner, the FSSD is used specifically when planning for sustainable development. In the following, the five independent but interrelated levels will be presented, giving a generic overview as well as adapting them for planning for sustainable development.

The *Systems Level* includes general information about the system that planners need to understand when informing about the overall goal. When planning for sustainable development, it is crucial to have a basic understanding of the global socio-ecological system, its interactions with the lithosphere and the overall problem of non-sustainability (Robèrt 2000) (see The Sustainability Challenge in section 1.1.).

The *Success Level* indicates the overall goal that needs to be achieved. The definition of success should be clear enough to then be able to choose strategic guidelines, actions and tools to reach that success. In order to move society towards sustainability, basic conditions (see Sustainability Principles in section 1.1.1) need to be met (Robèrt 2000).

The *Strategic Level* provides guidelines that are used to choose and prioritize concrete actions to reach the success by using a backcasting from principles approach (see section 1.5.1) and strategic prioritization questions to choose concrete actions (Holmberg and Robèrt 2000).

In the *Actions Level*, concrete actions are suggested that move planners towards their goal. When planning for SD, the actions intend to help move the global socio-ecological system towards sustainability (Holmberg and Robèrt 2000).

Lastly, the *Tools Level* informs about tools that support planning and implementation to reach the success which is a society that complies with the Sustainability Principles when planning for SD (Holmberg and Robèrt 2000).



Figure 1.1. The Five Level Framework

The backcasting from principles approach used in the FSSD is a strategic planning technique in which a vision of success in the future is created and then steps are defined to achieve these desired conditions (Holmberg and Robèrt 2000). By using guiding principles which can act as a frame for many possible future scenarios, flexible strategies can be found for the

desired transition (Holmberg and Robèrt 2000). The FSSD uses the four sustainability principles (see section 1.1.1) as the principles of success that must be met.

The FSSD encompasses a strategic planning process, the ABCD process³, which helps organizations plan for a sustainable future. It consists of four major steps. In the A step, a shared understanding of the system of the organization and its interconnections with the global socio-ecological system is established. This also includes creating awareness about, and a shared definition of sustainability. With this understanding, a shared vision of success is built with the four SPs as the system conditions that need to be met in order for it to be successful. The B step takes a look at the current reality of the organization, seeing in which areas it complies or does not comply with the sustainable vision of success. Backcasting from the vision of success, compelling actions are brainstormed in the C step to help move the organization toward its vision. Finally, in the D step, these actions are prioritized using the strategic prioritization questions of the FSSD. (Ny et al. 2006)

1.5 Purpose

As previously mentioned, the importance of a transformative pedagogy for ESD to leverage the necessary shift of the current unsustainable path that society is on is evident, and so is the lack of strategic guidance for creating or improving ESD programs that intend to be transformative and provide a whole-systems perspective with a robust definition of sustainability. The purpose of this paper is to bridge this gap by creating strategic guidelines for helping program organizers and stakeholders to design or redesign transformative ESD programs that will help to lead society towards sustainability. Furthermore, this paper intends to provide a deeper understanding of the transformative ESD system and suggest some best practices and methodologies on how to address the proposed strategic guidelines.

1.6 Research Questions

Main Research Question:

What guidance can be given for designing strategic and transformative ESD programs?

Secondary Research Questions:

1. What are the key elements and best practices of transformative education according to *experts*?
2. What are the key elements and best practices of transformative education according to *educators and students*?

³ Figure 6.11. in Appendix F shows the ABCD process.

1.7 Scope and Limitations

The boundaries between non-formal, informal and formal learning become increasingly vague as education institutions reorient towards society and refocus learning on real issues that challenge the sustainability of both local and global communities (UNESCO 2012).

For the above reasoning, but also to get a higher level of diversity in the results, both formal programs (programs with an academic degree) and non-formal programs will be investigated in this research. However, there will be no investigation with regards to any differences, enablers or barriers of designing a program on a formal or non-formal setting. The focus of this paper will lie on programs for adult learning, which is defined as “all forms of learning undertaken by adults after having left initial education and training, however far this process may have gone (e.g. including tertiary education)” (European Commission 2006, 2). Both transformative ESD programs, but also programs that are very transformative, but not specifically for ESD, are included in the scope, in order to get best practices from both fields.

The authors realize that the transformation of students is difficult to pinpoint and can also happen outside the educational setting, however, the focus of this research is on investigating transformation occurring within the selected programs. In the given timeframe it was feasible to analyze six programs as case studies. Certainly, there are other programs that also have valuable information to add to this field of research, however, the scope of this paper lies in the ones that met the selection criteria described in section 2.4.

Furthermore, transformation is something that cannot be imposed; it depends to a great extent on various factors such as the individual’s background and openness to transformation, the circumstances, personal characteristics, the mood, etc. The intention of this study is not to analyze why or how certain elements foster transformation in each individual but rather to find out generic patterns that are conducive for transformation so they can be implemented in a best practice manner for a group of students.

Evidence points to the importance of the role of the facilitator in the whole process of transformative education (Apte 2003). Although parts of this work do touch upon the facilitator’s role, this is not the determining focus of this thesis. The intended audience is program organizers who want to strategically design or redesign programs for transformative ESD. Should the outcome of this research be beneficial to any other audience, that would be a nice addition, but not the initial intention of the authors.

2 Methods

Maxwell's Model for Qualitative Research Design (Maxwell 2013) was taken into consideration when designing the research methods. It suggests an iterative process between the research questions and goals, conceptual framework, methods and validity. This model was chosen in order to assure that all the essential aspects are covered.

This chapter is structured into two phases, Phase 1 to approach SRQ 1 and Phase 2 to approach SRQ 2. It is followed up with the description of the selection criteria and thoughts about validity. When using specific methods, the authors were aware that it is an iterative process with interacting methods. The following figure gives an overview of the Research Questions and the methods used.

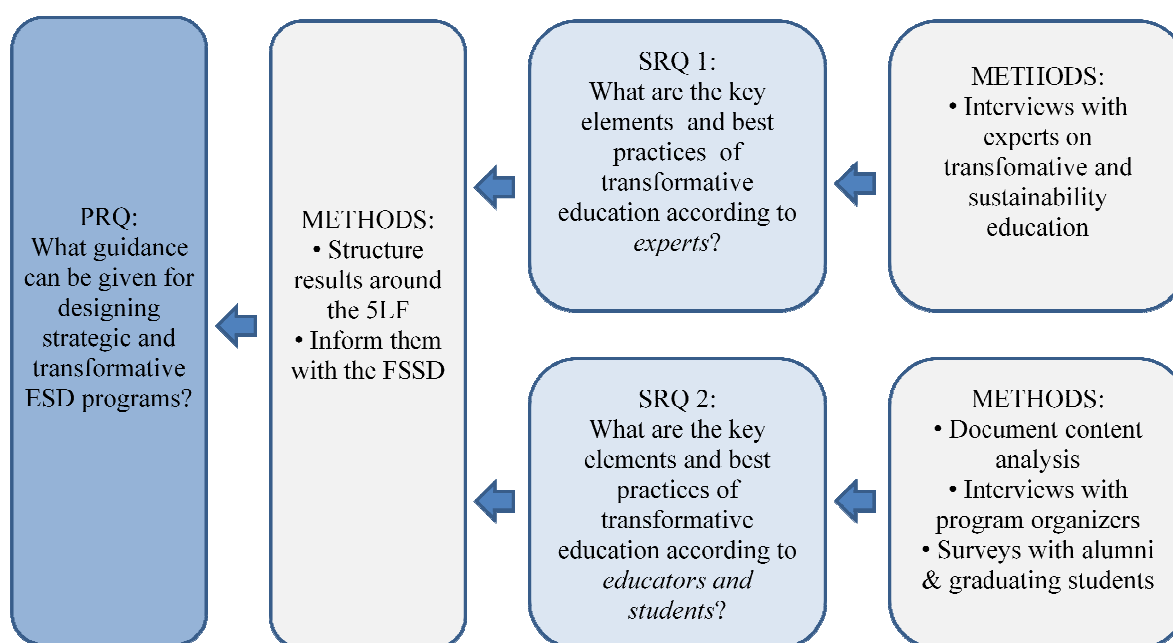


Figure 2.1. Research Questions and Methods

2.1 PHASE 1: Approach to Answer SRQ 1

2.1.1 Interviews with Experts on Transformative and Sustainability Education

The interviews were conducted in a semi-structured way, utilizing guiding questions but providing space for the interviewee to elaborate on topics of particular interest and to come

up with new areas. The questions had been piloted with colleagues beforehand, to check for both understandability and timing.⁴

During most of the interviews⁵, all three of the authors were present, taking on different roles: While one was asking questions, another was taking notes and monitoring the recorder and the third person took on the role of a supervisor in the process. After the completion of each interview, the authors reflected on the gathered information and transcribed them. A table with the experts on sustainability and transformative education interviewed can be found in Appendix A.

Due to the enormous amount of information gathered, a qualitative content analysis according to Mayring was conducted. In this approach, categories were defined according to the main sections of the material collected, to which the information was then assigned (Mayring 2002). This approach could guarantee a better structure of information, making sure that the most important points were captured.

2.2 PHASE 2: Approaches to Answer SRQ 2

Phase two consists of the document content analysis, the interviews with the directors and the surveys undertaken with students and alumni of the chosen programs.

2.2.1 Document Content Analysis

The websites of the chosen programs were analyzed having the overall research questions and specific sub questions in mind.⁶ Categories were identified and the content was assigned accordingly.

The content analysis was especially helpful to answer basic questions that provided a better insight into the nature of the programs. However, as the websites are not exhaustive, interviews were necessary to gather more information and to receive an inside perspective on the programs.

2.2.2 Interviews with Program Organizers

The interviews were conducted in the same manner as explained in chapter 2.2.1. The purpose of these interviews was to gain a deeper understanding of the transformative elements and the rationale behind them. In order to obtain multiple perspectives and

⁴ The interview questions for the experts can be found in Appendix A.

⁵ All these interviews were held via Skype

⁶ For the questions and an overview of the websites please see Appendix B. Document Content Analysis

comprehensive information, three different people from the staff of each program were interviewed independently. This approach was taken to receive an objective and comprehensive insight into the nature of the program.

At least one interviewee per program is either a founder of the program, is present from the beginning onwards, or has been on the program for at least 5 years. At least one interviewee per program should currently be working in the program. All interviewees have also either worked as facilitators or followed the students closely enough to see the transformational experiences they undergo. An attempt was made to choose program organizers with at least three years of experience in the program to ensure an in-depth knowledge around the theory and the practice. This was not the case with three out of the 18 interviewees. However, these individuals were suggested by the more experienced program organizers as they work closely with students and, despite being relatively new to the program, have a comprehensive understanding thereof. A table with the overview of the interviewees can be found in Appendix C. Again, the qualitative content analysis was helpful to better structure the information that was found.⁷

2.2.3 Surveys with Alumni and Graduating Students

Surveys with students were conducted in order to test the assumptions established before. Both current students and alumni from the chosen programs were surveyed. The surveys contained both closed and open questions in order to make sure that the most important parts were captured. The answer possibilities were based on the Likert Survey Scale (Likert 1932). The survey was created online with a Google form⁸, and a test with colleagues was run in order to get some feedback in terms of obscurities, duration and attractiveness. The link to the survey⁹ was sent via email, Facebook and LinkedIn with the help of the program organizers, students and graduates from the programs.

In order to analyze the results of the open questions, a frequency analysis was conducted (Früh 2004) and a qualitative content analysis was used to cluster similar answers. The answers to each question were then structured according to the percentage of responses where a certain element or cluster was mentioned, relative to the 105 responses.

2.3 PHASE 3: Approach to answer the PRQ

In order to answer the PRQ, the generic 5LF and the FSSD were used. The clusters obtained in the previous phases were assigned to the five levels of the generic 5LF which helped to

⁷ For the guiding questions and the comprehensive answers please see Appendix C. Interviews with Program OrganizersC

⁸ <http://drive.google.com>,

⁹ For the questions of the survey please see Appendix D. Survey with Alumni and Graduating Students

structure the information found. In order to assure a whole-systems and strategic approach, the results within the 5LF were compared with the FSSD and elements regarding a SSD approach were integrated. Finally, a model was built using the results informed by the FSSD. The FSSD's ABCD process was used as a basis to design this process model. The intention of this model is to give guidance for designing strategic and transformative ESD programs.

2.4 Selection Criteria

The experts on transformative and sustainability education were chosen based on the reviewed literature. Furthermore, the so-called “snowball- sampling” (or respondent- driven-sampling) was applied, where some initial informants indicated further possible experts (Heckathorn 1997).

In order to guarantee understandability for all the authors, English-speaking programs were chosen. By entering keywords only in English, the programs held in other languages were automatically excluded from the research. As the list of remaining programs was still very extensive, it was necessary to scope down geographically to assure an adequate quality of the research conducted. Therefore, a focus was set on programs in Northern Europe.

In order to make a suitable collaboration possible, programs were only chosen if at least three program organizers were available for an interview. Another selection criteria was that the questioning of alumni and graduating students of the programs needed to be granted. Furthermore, it was necessary that the curriculum of the program had been implemented at least five times to ensure that it had been tested enough and a large enough group of students for questioning was provided. Six programs of both transformative ESD and transformative education were selected; three of each category showed interest and made themselves available for interviews and surveys:

Table 2.1. Chosen programs

Transformative programs	Programs on transformative ESD
Knowmads Business School, Amsterdam, Holland	F4FMA - Forum for the Future, Master's in Leadership for Sustainable Development, Middlesex University, London
KaosPilots Business School, Århus, Denmark	MSLS - Master's in Strategic Leadership towards Sustainability, Blekinge Institute of Technology, Karlskrona, Sweden
YIP - International Youth Initiative Program, Järna, Sweden	EDE - Ecovillage Design Education, based in Findhorn, Scotland

2.5 Validity

Maxwell points out that the subjectivity of the researcher is one of the most common validity threats (Maxwell 2013, 124). As the research team consisted of three people, different views could be taken into consideration, to avoid having the view of just one single person (triangulation). Chapter 2.2.1 describes how the research team conducted and analyzed interviews, keeping threats to validity in mind. Furthermore, the “reactivity”, the “influence of the researcher on the setting studied” (Maxwell 2013, 124), is a big challenge when conducting qualitative research. The ideal reaction to that is not to eliminate the influence, but rather understand it (Maxwell 2013). During the whole process, the authors’ endeavor was to constantly check their biases and to understand how they were influencing their results.

The approach of choosing six different programs with different practices and three interviewees within these programs should guarantee a more complete outcome and multiple perspectives. To limit the risk of gathering biased data, each program organizer was interviewed separately to make sure that they spoke on their behalf and of their own personal experiences. An effort was made to get more valid answers using a multi-method approach. In order to achieve information both from experts and program organizers, the method of the semi-structured interview was chosen purposefully so that the interviewees could elaborate on their answers and were not limited to the questions asked. One of the intentions of using the survey was to bring in another perspective so as to augment the credibility of what had been researched before. Both the interview questions and the survey consisted of closed and open questions and had been tested with colleagues beforehand to avoid personal biases. All the interviewed and surveyed people were asked in the beginning whether they agreed with the stated definition of transformative education¹⁰ in order to reach a common understanding and increase the validity of the results.

The authors do realize that undertaking this current study in one of the analyzed programs can be a validity threat. With this in mind, even more emphasis was put on cross-checking personal biases.

¹⁰See Interview Questions and Surveys in Appendix A, C, and D

3 Results

The results intend to answer the SRQs and are structured around the two phases described in the methods section¹¹.

3.1 PHASE I: Results from the Experts

When designing for a transformative learning experience, there can be no guarantee that transformation will actually occur. However, there are some situations that are more conducive (Sterling). The authors have gathered the following categories that surfaced during the analysis of the interview responses. These categories encompass the key elements that are conducive to transformative learning, according to the experts.

A New Educational Paradigm. To move towards a transformative ESD, we need to shift away from an old, transmissive teacher-centered model (Marshall; Pacheco). Pacheco says that “we are educating children and adults of the twenty-first century with teachers of the twentieth century, and knowledge and practices of the nineteenth century” and that “sustainability is incompatible with a model of school where there is competition, hierarchy, years, classes, exams” (Pacheco 2013). In a way, our learning at the moment is still of the “industrial type”, where you get pushed down “the conveyer belt” until you fall off at the end of your last year and it is thus necessary to bring more focus on the individual student within the educational system (Marshall 2013). Part of ending this old educational paradigm is to move away from the notion that the school is the center of education (Pacheco). We must realize that “education happens in communities”, in a democratic “learning network” that does not have a center, and that “the school is just one element among many, a node in a network of learning” (Pacheco 2013). Marshall puts a transformative education paradigm into these words:

When you think about your past, the years before, there is some conversation that you had that was incredibly life changing. You are around a bonfire or you are having a dinner with somebody, you know, just in the most random situations that seem sporadic and unplanned for, but those conversations radically change your life. Those experiences are so profound, yet our education system doesn't foster those kind of experiences. We foster the classroom and lectures and all this type of stuff. Why aren't we trying to replicate those really chaotic experiences that change your life? (Marshall 2013)

Community. Pacheco says that it is not possible to have a sustainable society if there is no community, and that the most important learning factor of a program is the people that form that community (Pacheco). Burns agrees with the fact that the most transformational aspect

¹¹ In the results section, only direct quotations from the interviewees will include a date, as all interviews were conducted in 2013. Full citations can be found in the references section at the end of the paper.

of a program is the community in which it takes place, so what it boils down to is building “relationships in our cohort of learners” (Burns 2013). Marshall states that the value universities provide is in fact not the degree that you get at the end, but it is the amazing communities that they create. Learning communities create a safe, welcoming space where students feel encouraged and comfortable enough to “ask dangerous questions” that they have on their minds and to “dive into the things they are not sure about”(Marshall 2013). This in the end creates the “place for transformative learning to happen” (Burns 2013). The fact that educators in a transformative program are a close part of this community enables them to know what students want to learn, what they are struggling with and how they are evolving throughout their learning (Burns).

Real-life Application. A practical, real-life application is a key part of transformative learning (Burns; Sterling; Leung; Pacheco). “Theory never precedes practice” as it is claimed by the execution of the praxis (Pacheco 2013). It is the connection to something real and meaningful to the students, a project that addresses the issues, needs and dreams of society or an organization that makes this kind of practical community-based/service learning so meaningful (Burns; Leung; Pacheco). You learn many things “from a community context that you never considered before” and you realize that “you are part of something bigger than yourself” (Burns 2013). A real-life learning application does not necessarily contradict the education that is on the curriculum of a program. You should “learn the content that is on the curriculum, but learn it in the local societies that make this object a part of the curriculum” in the first place. “This is an education in sustainability; the rest is mere talk that does not change anything” (Pacheco 2013). He adds that “we cannot educate for a sustainable citizenship, we have to educate on the exercise of the sustainable citizenship” and gives an example of a school that is situated next to a polluted river to describe the issue he has with theoretical pedagogy:

[At] the end of nine years of school, the child can come out and the stream can be as polluted as before. But she spoke in the school of pollution, spoke of sustainability, environment protection, spoke of the problems of the deterioration of the ozone layer, spoke so much, but nothing stayed, because the stream is just beside, and has nothing to do with the school. So everything that has to do with sustainability must come from projects . . . (Pacheco 2013).

Reflection. It is crucial to “help students to reach a certain degree of reflexivity in order to begin that transformative learning experience and carry it through” (Sterling 2013). Pacheco agrees with Sterling that at the fundament of transformative learning lies the transformation or transcendence of the individual and that “one accepts to question oneself”, and begins to reflect and use critical sense (Pacheco 2013). This notion of reflection and critical questioning goes back to Socrates and the Socratic method:

Socrates, the poor guy was poisoned because he asked too many questions. He got people to think about what they were saying and what their assumptions were and how they defended their views. It is similar to little kids that keep asking why, why, why? And frustrated parents say 'it is because I say so', but that question why is a

really good one . . . The role of critical questioning is very good and used skillfully that can really start stripping away layers of assumptions which people may not have thought about and we can all benefit of that. (Sterling 2013)

Facilitator. The experts agree that in a transformative program, the role of the educator is not that of a teacher that holds the wisdom, but more that of a ‘learning facilitator’ (Burns; Leung; Marshall; Sterling; Pacheco). There is a shift from telling students “here is what you are going to learn” to “what do you want to learn”, so the learning facilitator’s intention is to “pull out the wisdom that is bubbling up in a group” (Marshall 2013). In order to do this, facilitators need to have gone through transformative experiences themselves and need to “know what that looks like” (Sterling 2013). This means rethinking the roles of teachers, as we live in a time where information alone is not valuable anymore, as you can go on Google and get almost any information you want. Obviously, there is also a certain resistance from the teachers’ side regarding this new role, because “everything they are used to is now taken away from them” (Marshall). Therefore, an alteration of the education of teachers is highly necessary to enable them to step into this role (Pacheco). The role of the facilitator can sometimes also be seen as the one of a mentor who guides the students (Burns; Leung), or a designer, who designs transformative education experiences (Burns). Burns also emphasizes the fact that we are all teachers and learners and that we all teach and learn from each other.

Both the skills that facilitators have and their style of educating are essential for transformative learning to occur (Leung; Burns; Sterling; Pacheco). A facilitator should be self-understanding, reflective, have a systems perspective of how the world works, see how natural systems can apply to social and cultural systems, he should be able to build relationships, to nurture collaboration and have good communication and interpersonal skills (Burns). To be able to teach in a transformative ESD program, an educator “needs to have a very well-grounded understanding of sustainability” to make sure that the outcome of the learning is also a sustainable one (Sterling 2013). “The most important thing of all is probably the style of the facilitator”, which is fundamental for creating the right atmosphere (Sterling 2013). Pacheco agrees with this idea, as he believes that “what stays is not what the teacher says, but what the professor is” (Pacheco 2013).

Taking Initiative. Autonomy and students taking responsibility and spearheading their learning is a major part of transformative learning (Pacheco; Marshall; Sterling). Burns says that she deliberately brings in opportunities for students to teach each other, as they have a lot of knowledge to share. She also tries to share the power of designing the actual curriculum with the students. However, the extent to which this can be done depends on whether the learning takes place in a formal or informal setting, due to certain learning requirements that need to be met (Burns). However, according to Marshall there are examples of schools where students are no older than 15-16, but they still design their own curriculum. He says that learning is all about creating “powerful learning experiences you are responsible for, you are spearheading.” In this sense, it is paramount that students learn how to think like an entrepreneur, to learn how to take risks, work outside of the system and figure out new ways of approaching a problem (Marshall 2013).

Age Diversity. In reply to the question ‘who should be taught in a transformative program’, the experts concurred that everyone from preschool to adults, in formal or non-formal settings, should receive this kind of critical education (Sterling; Marshall; Burns; Pacheco). “A lot of people are skeptical if . . . peer to peer learning can happen in K-12¹² and I think it needs to be customized a little bit, but obviously it is possible” (Marshall 2013). Hence, it is vital that transformational education happens already at a young age, to arouse the students’ curiosity and encourage their asking questions about the world. But it is also highly relevant for adults, “especially regarding the kind of shifts we need in society” (Sterling 2013). Intergenerational learning is really important, because it does not matter what background people are from or what age they are (Marshall; Pacheco), as long as they have a common understanding and language (Marshall). This diversity can have flourishing effects on the learning environment:

We put the aspiring and the experienced on the same place and it creates the environment that is conducive to those transformative experiences and conversations to happen on a more regular basis (Marshall 2013).

Values. In the end, transformative and sustainability education is about a shift in values and understanding (Burns; Pacheco). When people learn collaboratively and in communities, engage in dialogues with each other and get a sense of other people’s perspectives, they see how their own values and perspectives begin to shift (Burns). If content is not taught in a way that the underlying values start to shift, that is “new information, but it is not the kind of change we need” (Burns 2013). Also, sustainable projects have certain values. This matrix of values underlying these projects points towards what the creation of sustainable communities really is (Pacheco). Hierarchy, for example, is “connected to values that have nothing to do with autonomy”, and “if we are talking about sustainability, we are also talking about autonomy” (Pacheco 2013).

Methods. In general, methods should be creative, intentional about the program design, and they should be constantly evolving, including feedback from previous sessions (Burns). Furthermore, the facilitator needs to know the group of learners, to be able to choose the methods for making a deeper learning more likely. Ideally you should work together with the group to build the learning approach, because “design[ing] a transformative learning experience in one morning is challenging for you and the group and it could backfire” (Sterling 2013). The methods need to be grounded in a sense of communal safety as people need to feel safe when learning about sensitive topics. Often education is just too fast, so “we need to have time to slow down a bit” (Burns 2013). It is important to integrate holistic methods that encompass the four aspects of self: the intellectual, emotional, physical and spiritual, and to connect those pieces (Burns). Lectures can be important sometimes, but you need to get out of the classroom and also apply the theory (Leung). More engaging methods, for example, are emergent settings where students sit in a circle (Sterling; Pacheco), social learning, dialogue education, but also coaching or other kinds of support are really vital (Leung). There are schools where the entire idea of homework has been flipped around,

¹² K12 is the term used for primary and secondary education

where you gather the necessary information at home or in study groups, but the actual application of the learning happens in work groups in class (Marshall). Pacheco says that “so much more important than the method is the experience, the praxis, where the method is present” (Pacheco 2013).

Content. The content depends a lot on the purpose of the program, and if the intention of a program is to be transformational, it should be characterized by a certain richness, controversy, ambiguity, and it should imply ethical questions. However, it is a mistake to separate content and pedagogy in a transformative program (Sterling). Burns highlights the fact that content alone is not enough to inspire people and change their lives. Content should be co-created in a social constructivist model for it to be meaningful. It should be “connected to a person’s whole self” and it is important that it brings about a shift in values, which is what makes it transformative (Burns 2013). Leung speaks in favor of a content that is related to change, both in organizations (like systems thinking), but also societal change concepts (like change lab concepts), processes (such as theory U), and strategic elements (such as backcasting from principles) (Leung).

Physical Space. Very often, the physical space of an educational setting is rather bland, even though it is highly important (Marshall). Learning could also take place outside in nature or in interactions with the surrounding community (Leung). The physical space, like many of the conducive elements for transformative learning, is “necessary, but not sufficient” for a transformational experience. A good facilitator, for example, could make up for a bad setting, but a bad facilitator will most likely not be able to make transformative learning happen even in the most dreamlike setting. Still, it does play a significant role, as “it puts people in a frame of mind that makes them more open to these sort of learning experiences” (Sterling 2013).

A lot of times, courses which are designed to have a deeper effect will be designed to be residential in a nice area. So why is that? Because it has a beneficial effect on people's well-being and when they feel at home they will be more open to change . . . (Sterling 2013).

Evaluation. Measuring or evaluating if a program is transformative is not a very easy thing to do (Marshall; Burns; Sterling). For you cannot measure a student's progress in such a program with standardized tests or grades and neither should you, as this only entails memorizing information and then forgetting it again (Marshall; Pacheco). Mixed-method approaches can be useful, including surveys, peer post writing and student writing (Burns), but most important of all is still talking to the students and getting feedback from them on their development (Sterling; Burns; Marshall).

The most powerful transformative experience we are able to deliver for somebody else, the way we know that is from the feedback of the students. Once a kid came to us and said 'you have royally screwed up my entire life. I thought I was going to have a normal desk-job and a 9-5 thing and now I realize I have so much more potential in the world. And I can't sleep with myself knowing that I could have tried something

much bigger that could have created much more impact in the world.' That for us is why we do what we do. (Marshall 2013)

Integrating Challenges. When asked what the key elements of transformative learning are, Sterling responded “if you are going to put it in a nutshell, it is some form of sufficient challenge, sufficient to lead to a change of perception” (Sterling 2013). Burns also mentions the significance of group projects that are ambiguous, difficult, challenging and disorienting, as this brings up issues of how to work together and to solve complex issues, as is the case with sustainability. This process brings about transformation for most people as it flips their paradigms (Burns).

Personal Development. “Sadly, education often doesn't touch upon students’ passions, but clearly it should do”, especially kids described as “difficult” students sometimes have amazing talents that teachers never know of (Sterling 2013). Burns refers to this as leadership development; Marshall calls it an inner/personal journey where you understand your place in the universe (Burns; Marshall). He says it is all about “matching the head and the heart”, where your unique knowledge meets your passion and you are in your “zone” (Marshall 2013).

All of these really powerful programs had a really important focus on developing you as a human being and finding that purpose and finding that passion and how that applies to the needs of the world and where you fit in . . . The students that we talked to that had that as part of their education system were the most on fire and just driven to do something. (Marshall 2013)

3.2 PHASE II: Elements from the Programs

3.2.1 Document Content Analysis and Interviews with Program Organizers

In this chapter, the main results gathered from the interviews with the program organizers will be presented, complemented with the results of the document content analysis¹³. The latter approach was of help when gathering basic information of the programs¹⁴, or additional information relevant for a better understanding.

By conducting a qualitative content analysis, the data was analyzed and clustered into the following categories: General Aspects of Transformative Learning; Purpose; Values; Program Design; Evaluation; Physical Surrounding; Learning Space; Integrating Challenges; Community; Facilitator; Intra- and Interpersonal Development; Taking Initiative, Real-life Application; Curriculum.

¹³The document content analysis will be referenced by course.

¹⁴For more specific information see Appendix B

First, some general comments around the specific category were captured; some categories were complemented by suggestions for actions that were mentioned by the interviewees. These actions¹⁵ were chosen according to the frequency of the answers. Due to the high level of complexity and interconnectedness in transformational education, some elements were overlapping and could have been mentioned in more than one category. In these cases, the elements are stated only once, in the category where they were mentioned by the interviewees.

General Aspects of Transformative Learning. Many similarities between the programs could be identified, however, each program contributed to this research with its very unique experience and knowledge. Numerous program organizers pointed out that transformation is different for everyone as it depends very much on the individual. What the program can do is create the conditions for a transformation to happen (Kavanagh; Spindler; van Eersel; Waldron; Parkin; Craig).

In general, some of the organizers agreed that there is not one specific transformative element but rather “it’s through a multitude of these kind of experiences that gradually transformation happens from one paradigm to the next” (Moonen 2013) and the aim of the program is to create this succession of experiences throughout the year (Craig). East (2013) also emphasized the combination of the elements: “Venue, students, curriculum and facilitators” cannot be seen separately. Missimer elaborated on that, indicating that there is more than having all the important parts: “Just because you have the right ingredients doesn’t mean that the outcome is amazing: There is some intuition and some implicit knowledge by the chef who makes the dish” (Missimer 2013). The expression 'the whole is more than the sum of its parts' seems highly appropriate in the case of transformative education (Waldron, Missimer) as “there is some kind of magic” (Missimer 2013), and “it's more about how you put everything together” (Waldron 2013). It was stated that transformational learning is not made of one change that shifts everything, but can rather be seen as a process (East). No one can transform completely within one year (Wilkinson), but what it comes down to is “building the confidence to 'have a go' rather than to wait” (Parkin 2013). Connell and Missimer also pointed out that you cannot presume that everyone will transform.

Purpose. The purpose of the programs includes providing or creating either a platform (Moonen; Knowmads 2013a), a container, a place (Moonen; Craig), an environment (Waldron; van Eersel), or a space (East; Waldron; Connell; Busch; KaosPilots; van Eersel) for the learners. An indication is given for whom this space is provided: for passionate young people from different cultures, socioeconomic backgrounds and countries (Moonen; Craig) and “young, creative minds” (KaosPilots 2013a).

Furthermore, the students get equipped with some kind of knowledge, tools, skills, capacities, attitudes and confidence (Moonen; Craig; Ciarlo; East; Martynski; Wilkinson; Parkin; Sims; Spindler; MSLS 2013a). Organizers from almost every program mentioned a certain type of personality towards which the students develop during their time in the program such as

¹⁵The exhaustive list of suggested actions can be found in Appendix E

“drivers for integral sustainable development” (Craig 2013), “authentic, confident sustainability leaders” (Parkin 2013), “designers of their presence in the world” (East 2013), “authentic change makers; the best person they can be” (Kavanagh 2013), “leaders for sustainability, future change agents” (Waldron 2013). Missimer and Waldron emphasized that leadership cannot be taught, but rather learned.

The indicated direction of action is to “create sustainable organizations” (Ciarlo 2013), to “come to an understanding of their individual contribution” (Craig 2013), to “enable them to follow their dreams”(Busch), “change the world from within the system” (Wilkinson 2013), to “make a positive difference in the world” (Knowmads 2013a) and to “diffuse sustainability thinking more broadly” (Connell 2013), “for the benefit of themselves and society as a whole”(KaosPilots 2013a).

Values. The values that should be present are listed, ordered by frequency of the responses:

- Trust (Busch; Sims; Craig; Moonen; Parkin; Missimer; Spindler)
- Experimenting (try, make mistakes) (van Eersel; Ciarlo; Connell; Parkin)
- Love for students (Missimer; van Eersel; Hilstra; Moonen)
- Empathy (Connell; Parkin; Moonen)
- Respect (Connell; Waldron; Ciarlo)
- Honesty (van Eersel; Hilstra; Connell)
- Leading by example, modeling behavior (van Eersel; Connell)
- Responsibility (Jackson; Ploeg)
- Acceptance (van Eersel; Moonen)
- Care (van Eersel), care for others in the planet (Connell)
- Listening (Kavanagh; van Eersel)
- Wholeness (Jackson; Ploeg)
- No hierarchy (Moonen), attempt to be non- hierarchical (Connell)
- Compassion (Busch; Parkin)
- Vulnerability (Connell, Missimer)
- Cooperation (Wilkinson, Jackson)

Additional values and principles mentioned by organizers from MSLS were: authenticity, diversity, the way of giving feedback, safety (Connell), people in the center, support, academic rigor, everyone’s voice counts, punctuality (Missimer). Van Eersel added the values equality and non-judgment. Being playful, streetwise, applying to the real world, having balance, taking risks, integrating stakeholders, and creating win-win-win situations were values and principles mentioned by organizers from KaosPilots (Busch). Organizers from EDE stated the connection with nature (feeling respect and learning from it), respect for physical work (Jackson), participation, freedom, being open to the fact that you might be wrong and only speaking for yourself (Ciarlo). Organizers from YIP elaborated on the values of accountability (Moonen; Ploeg), reflection, confidentiality and initiative (Ploeg). The values passion and confidence were further mentioned by F4FMA (Wilkinson, Parkin).

It was emphasized that living these values is crucial (Jackson) and that the staff is expected to live the same values as the students (Missimer). In terms of practical application, a certain number of programs agree on these values at the beginning of the learning journey together with the students (Hilstra), talk about mutual expectations (Connell), develop principles and community agreements (Ploeg), or agree on mutual expectations in the form of a contract (Kavanagh; Parkin).

Program Design. The “Theory U”¹⁶ was mentioned as being implicitly present on the design in two of the programs (Spindler; Hilstra; Ploeg; Craig). Some programs offer a “learner line” (Spindler 2013), teaching leadership (Parkin), organizational learning and leadership (Connell; Missimer; MSLS 2013a) on the one hand, and a “knowledge line” (Spindler 2013), knowledge themes (Parkin), science and systems thinking (Waldron) on the other hand. EDE has four dimensions of sustainability present in the design: social, economic, ecological and worldview (cultural and spiritual aspects) (Ciarlo; East; Jackson). East emphasized the fact that in a holistic model everything contains everything else. Program organizers from MSLS presented the idea of a learning spiral which starts with a basic overview and gets more specialized with time (Waldron; Connell; Missimer), allowing students to enhance their knowledge and skills by revisiting similar concepts several times in different ways (Missimer; Connell). At KaosPilots, the program is structured around the four disciplines (creative business design, leadership design, project design and process design) (KaosPilots 2013b), together with the four core competencies (change, relation, action and product process learning) (Busch).

Evaluation. The evaluation of the students’ general success and the one of the students’ transformation can be distinguished. Depending on the formal structure of the program, the students have to be graded. MSLS and F4FMA take place within a formal university setting. However, MSLS is the only program where students are graded, as masters courses in the UK are based on a pass/fail system. In general, there are some restrictions implied in a formal program in terms of how freely you can choose your evaluation methods. Therefore, the MSLS program organizers try to create ‘learningful’ exams (Missimer). The majority of programs use self-evaluation, reports, and project work in their evaluation criteria (Kavanagh; Sims; Wilkinson; Waldron). At KaosPilots, the students also evaluate each other, as it is important to know “what others think I am good at” (Busch 2013). Van Eersel (2013) mentioned that the “fact that there is no evaluation fosters free development, free transformation” and Kavanagh (2013) believes that “written exams are pointless”.

As for the evaluation of the student’s transformation, different methods of measurement are used such as reflection essays (Parkin; Wilkinson), project work and presentation (East; Ciarlo; Moonen), a “learning wall” (Spindler; Hilstra) or surveys which are conducted on a regular basis to gather the student’s feedback (Jackson; Missimer; Kavanagh; Wilkinson). Some program organizers pointed out the fact that transformation can be seen in the students when having a close relationship to them (Connell; Waldron; Missimer; Spindler; Ploeg; Moonen; Busch). Nevertheless, it is hard to know whether there is transformation. Connell

¹⁶ Theory U is a leadership process developed by C. Otto Scharmer, <http://www.presencing.com/>

puts it into the following words: “When you have passed a doorway you see things differently, but once you've passed that doorway, you forget what was behind you. It's hard for you to remember 'what was I like before I passed the doorway?'" (Connell 2013).

Physical Surrounding. Three of the analyzed programs are situated in a city (F4FMA; Knowmads, KaosPilots), one in a smaller town (MSLS) and two in rather remote areas (YIP; EDE). Program organizers stated that there are advantages and disadvantages to all of these physical surroundings. In a city or town, the participants can apply their knowledge more easily to real life projects and engage with the nearby community and organizations (Spindler), whereas in remote areas this is more difficult for the learner. Yet, remote areas promote the contact to nature and have a positive impact in the community of learning cohorts (Craig). YIP is an example of how the “power of place” got included in the design as it became clear the seasons and the surrounding nature had a profound impact on the “mood and character of living and studying” (YIP, 2013a). East (2013) advocated “real laboratories for sustainable living such as ecovillages” as a context for the programs to take place.

According to van Eersel, it is conducive to have a physical learning space that “makes people feel at home” (Van Eersel 2013). Knowmads has a Knowmads Greenhouse, which is owned by the students, for that purpose (Spindler). MSLS offers a Learning Lab specifically for MSLS students within the university (Connell). At KaosPilots, students receive a key for the building on the first day and have unlimited access to the school for studying, hosting professional meetings or even parties (Busch).

Learning Space. Other than the physical space, many program organizers stated that a safe space must be created and held (Ploeg; Craig; Missimer; Waldron; van Eersel; East), an “environment where things are going to go wrong and you will have arguments but the space is safe” (Martynski 2013). Waldron (2013) said that they invite people into this learning space where “peer-to-peer, cross cultural, cross disciplinary, cross belief systems, cross religions, all of that cross cross cross [learning happens] with each other in a safe, respectful space“. He also added that “the tone you set, the space you set is critical” to enable the presence of the values and to let learning experiences emerge (Waldron 2013).

Missimer stated that the “safe space is different for every individual and what is safe for them” (Missimer 2013). Spindler (2013) agreed with that, pointing out that “some people feel safe with the minimum, some don't” and that it is important to “take the people who feel unsafe along . . . one of the main things is to start from the heart” and to be caring and loving. According to Busch, a safe space is in a way a prerequisite for integrating challenges. He said that they try to create “a safe environment where it is safe to fail and we have a hand below. So you can strive to do the impossible, realizing that it is actually not that impossible” (Busch 2013).

Integrating Challenges. According to some interviewees, challenges are an important element with regard to transformational learning, because they “let you reflect on things that you maybe have not thought about before” (Connell 2013), “you need a poke that makes you respond” (Missimer 2013), and “you get to know yourself, your weaknesses, and that you can

handle it, you can get beyond that” (Jackson 2013). Furthermore, the program organizers said that “frustration and confusion is the starting point of reflective learning” (Busch 2013), challenges “develop pride and confidence” (Wilkinson 2013) and cause people to question their assumptions and values (Connell). Spindler (2013) stated that “transformational learning and creativity happen when there is a minimum of security”. There is a need for structure, but “the less structure, the better” (Hilstra 2013). Missimer emphasized this when she stated the importance of having the safe space and the challenge balanced. Otherwise, a challenge can manifest itself in frustration and “only in the safe space, the challenge can transform you into something intentionally better for you” (Missimer 2013). East and Jackson pointed out the importance of solving conflicts and learning from them.

Some actions that were mentioned for the purpose of creating challenges were: posing controversial, hard and provocative questions (Waldron; Connell; Wilkinson); putting the students into situations that are ambiguous and unpredictable (Kavanagh) or not handing out the curriculum in advance (Spindler). Students are left to make their own experiences first, sometimes even left to struggle and then given the theory/guidance/tools afterwards, so they see the true value of it (Wilkinson; Spindler; Kavanagh). However, the students themselves do not know that this frustration is part of the design (Kavanagh 2013). Working in diverse groups and also just the community itself can be challenging (East; Moonen), as well as letting the students figure out their project groups themselves (Missimer). Naturally, the sheer presence of a certain multiculturalism and diversity within the group, but also just the community itself can challenge one's worldview (Moonen).

Community. Interviewees from all programs reported that the learning community is essential for transformative education. According to Moonen (2013), the individual, the group of participants, the facilitators and the experts are all part of the learning community, It is important to have a diversity of nationalities as well as professional and cultural backgrounds present (Craig; Connell; Sims; Ciarlo; Wilkinson; Spindler). This diversity ensures that “students learn to step into someone else’s reality or paradigm and recognizing these paradigms is a prerequisite to be able to transcend to another paradigm” (Moonen 2013). Sims (2013) said that when a program is very diverse, “the chance of the right people meeting will be likely to occur”. He added that diversity was also a key aspect among the staff. “You don’t want us all to play the middle 'D' on the piano. If I play this note, Simon plays the other, and another, then there can be a chord . . . good neighborhoods have diversity” (Sims 2013).

As for the group size of participants, a maximum of twelve people was suggested by Hilstra, Spindler and Parkin in order to foster “vulnerability and enthusiasm, an adequate rhythm of learning” and to provide “enough attention for each student” (Spindler 2013). Some programs do not suggest a specific group number but do have smaller groups within the learning community (Moonen; East). This means that more intense relationships can be built and mentorship can be more effective (East; Moonen). Missimer (2013) mentioned a

compromise between quality and quantity, a “trade-off between transformation and ‘will there be enough leaders in time?’”¹⁷

Especially the organizers of EDE, KaosPilots and Knowmads emphasized the importance of engaging with the surrounding communities and organizations (Ciarlo; Kavanagh; Spindler). Moonen, Spindler, Waldron and Connell stated that the connection with other programs and students is encouraged; thereby a “community of communities, a network of networks . . .” can be built (Moonen 2013).

Some suggested actions¹⁸ to strengthen the internal community will be mentioned here. Ploeg (2013) was of the opinion that living together “certainly contributes to the depth of the learning.” Some programs offer team building at the beginning (Kavanagh), such as group building weeks and weekends (Connell; Missimer), games (Spindler; Ciarlo; Connell; Ploeg) and working on community agreements (Ploeg). Also, bringing decision making and conflict resolution practices were mentioned by Ciarlo and Spindler. All of the programs offer some kind of group work in all kinds of sizes (Waldron; Connell; Spindler; Wilkinson; Kavanagh; Ciarlo; Moonen). In two programs, the students of the previous year select the students of the next year, which has turned out to be a very valuable process (Spindler; Kavanagh).

Facilitator. All programs have residential learning facilitators (program organizers, coaches, team leaders, tutors) but they also work with external contributors (Jackson; Sims; Moonen; Wilkinson; Waldron; Hilstra). Ciarlo stated that the facilitators are learning as much as the students are learning. At YIP, everyone is even considered “equally a student, a mentor and a peer at the same time” (Moonen). At MSLS, the program is more instructor-led in the beginning and as the program proceeds, the instructor moves more and more to the side, giving space for leadership to emerge (Waldron; Connell). Wilkinson also emphasized the value of students teaching the staff something that is beneficial for them to know at the end of the year. At YIP, F4FMA, KaosPilots, and MSLS there is even an intentional pattern of students becoming program assistants once they graduate (Missimer; Martynski; Moonen; Kavanagh).

Waldron speaks about the importance of having someone that comes as a practitioner and can bring the experience of organizations and a real world setting. At YIP, the external contributors are hosted at the school and the students have plenty of time to interact with them outside the classroom (Moonen). At KaosPilots, the students have a team leader, who is the designer of their education for a whole year, but he also makes them reflect and helps them with solving personal problems (Busch). Hilstra emphasizes the passion that the contributors bring.

Intra- and Interpersonal Development. Parkin (2013) was convinced that “real transformation is developing inside yourself”. She mentioned the importance of “finding yourself, your leadership persona,” which means “digging deep into who you are and what

¹⁷ this is MSLS’ slogan on their webpage

¹⁸ the exhaustive list can be found in the Appendix

you are good at” (Parkin 2013) and “try[ing] it out in a safe space” (Martynski 2013). “Each individual is like a snowflake, completely individualistic. Finding that makes you authentic, authoritative and trustworthy and therefore able to bring people along” (Parkin 2013). Jackson and Spindler pointed out the importance of finding out about the individual contribution in order to act upon it, and also Ciarlo (2013) mentioned the significance of facilitating a “learning from within”. Connell (2013) elaborated on the importance of having the opportunity for people to do an inner exploration and “explore the mental models in order to change.”

At KaosPilots students are supported in “finding their passion” (Busch 2013) and are aided in becoming “the best person they can be” (Kavanagh 2013). Spindler and van Eersel talked about *unlearning* or *delearning*. “That’s very important because if you peel off all the layers, you come to your real self, then you can discover who you are, and what you like to do, what your passion is” (van Eersel 2013). Moonen said that it is important that students do something because of their internal motivation and not because they are influenced by external factors to do so. Jackson (2013) stated that for students to discover their passion and purpose, to find out what they really want to do and how they can contribute is “the purpose of the whole thing.”

As stated previously in the program design section, some programs do offer a part of the curriculum which is more reflective. Having time to reflect was mentioned as pivotal for the personal development of the students (Busch; Craig; Moonen; Missimer; Waldron). “This school is where we are because of reflection” (Kavanagh 2013). Reflection is fostered through different means such as reflection essays (Missimer), reflection letters (Hilstra), diary writing (East) and reflective reports (Parkin), or just encouraging students to reflect in the outdoors (Martynski; Ciarlo). Offering some kind of counseling or mentorship is also regarded as a main part of furthering the students’ development (Ploeg; Moonen; Kavanagh; Spindler; Wilkinson; Connell). Furthermore, assignments, projects, internships and work placements are flexible in a way that allows students to find out what interests them the most (Connell; Moonen; Kavanagh; Spindler). Some concrete actions are working with dreams (Jackson; Ploeg), Vision Quest (Spindler; Jackson; Ciarlo), among others.¹⁹

Being in close relationship with others, the individual is also constantly confronted with “mirrors”, giving feedback and showing patterns of behavior (Craig; Ploeg) and this “learning about oneself and others enables transformation” (Connell 2013). Waldron stressed the importance of learning not only as an individual but also co-creating it as a group when he said:

If you don't get that part right, if you don't get the human to human and the relationship building, and the co-creating work right, it's a showstopper in this work. You will no longer be doing the work, quite simply. It doesn't matter how sophisticated you are about understanding science, and physics, and systems

¹⁹which can be found in Appendix E

conditions and all that stuff, it really doesn't matter a bit if you don't get the human side right. (Waldron 2013)

Taking Initiative. Two main aspects of taking initiative were mentioned by the program organizers. The first one is related to students taking ownership and responsibility for their learning and the second one to students taking initiative to design and act upon the changes they want to see in the world and the projects they want to undertake.

Regarding the first aspect, even if there is a tendency that the programs get more structured as time passes (East; Missimer; Spindler; Kavanagh), program organizers mentioned that some parts of the curriculum are intentionally left free to be designed by the students (Moonen; Craig; Spindler; Busch). Spindler (2013) stated that they “hold up a blank page and say 'this is your curriculum'”, so that the students can then decide themselves what they want to learn. At KaosPilots, learning is student-led to a great extent and facilitators “try not to tell them how to do things” (Sims 2013). It is the endeavor of MSLS to create a self-organizing, emergent, and “shared inquiry” learning entity as a collective (Waldron; Missimer). Students have to take the responsibility for their experiences, “they better step up as leaders and make the best out of this nine month experience . . . and not sit back and expect things from the university or staff” (Waldron 2013). This notion of “it's your program, make of it what you will” (Waldron 2013) is also present at YIP, where students “need to participate. They are not allowed to only consume” (Craig 2013).

The second aspect of “taking initiative” is also referred to as having an “entrepreneurial mindset” and was mentioned as key by Spindler, Ploeg and Craig. According to Moonen (2013), “this first moment where you decide to take initiative to do something about the situation, that's an entrepreneurial spirit . . . you become an entrepreneur in the essence.” Craig (2013) talked about “that place of 'this is my understanding of the world and what is going on and this is what I feel called to do'”. Knowmads puts its focus on having an entrepreneurial mindset rather than being an entrepreneur; that is to focus on initiating something rather than everyone necessarily being self-employed (Spindler). East and Ciarlo refer to the entrepreneurial mindset as “designing”. Although their focus lies on designing ecovillages, everything can be designed. Furthermore, being mission driven is a key factor when designing businesses according to Ciarlo. Missimer and Connell refer it back to the first aspect of leaving the students with the opportunity to self-organize, as it helps them practice taking the initiative in things they want to do.

Real-life Application. All programs include some kind of practical application to “real life” (Wilkinson). Students from MSLS complete a strategic management project in an organization (Missimer; Connell), furthermore, it is the endeavor of the program to “mimic real world circumstances as much as possible” (Waldron 2013). YIP encourages work placements in the nearby communities (Moonen), but they also have an internship in another country as part of their curriculum (Moonen; Craig; Ploeg). Usually EDE programs take place in ecovillages or communities where there are clear environmental problems that can be addressed by the students (Ciarlo), and Jackson mentioned that if you live what you want to learn, the chances that you will change your attitude are much greater.

At Knowmads, program organizers get projects from outside to work on and also encourage students to integrate their desired projects into the program (Spindler). F4FMA and KaosPilots put an emphasis on learning by doing, by empowering the students to try (Parkin) and by setting the stage and then “get[ting] out of the way” (Sims 2013). Both apply the four sector model which includes placements in NGO’s, the public, private and media sector (Kavanagh; Wilkinson). The four six-week work placements in F4FMA are a key aspect of the curriculum as they give the students “a 360° view” (Wilkinson 2013). Busch (2013) said that this real life application gives students the necessary confidence they need, since “when you graduate at KaosPilots, you know you can do it, because you did it several times”. As a pedagogy for creating these practical learning experiences, he mentioned the Kolb model of experiential learning, which involves: 1. experience; 2. reflection; 3. theory if necessary; 4. abstractions; 5. new experience. Additionally, different program organizers mentioned that the whole self should be involved in learning, including cognitive knowledge, emotional intelligence/awareness, and practical/physical skills (Ploeg; Craig; Moonen; East; Ciarlo; van Eersel; Spindler).

Content. There is an intention to keep the curriculum evolving (Wilkinson) and adapt it to the needs of the students (van Eersel, van Eersel; Moonen, Ploeg, Ciarlo) and to what is happening in the world (Connell, East). “As a school that works with change and transformative learning we can’t make a fixed curriculum because then we become an old system, it has to stay living, it has to be what the people make of it right there right then” (Ploeg). This is similar for MSLS, as Missimer explained that even though the program has been designed by the organizers, “the program doesn't feel like it’s what we have created. It has a life of its own”.

Several program organizers attributed a high importance to providing a whole-systems perspective (Waldron; Missimer; Busch), giving people more a systemic overview rather than a specialization (Craig; Ciarlo). There is a need to see the interconnections and “tap into the larger part of being on the planet like one living organism among many” (Ciarlo 2013). There is also the endeavor to bring as many perspectives into the content as possible (Craig).

Workshops around the Business Model Canvas, the Startup-Wheel (Spindler) and Design Thinking (Kavanagh) were cited among other themes on programs that have a strong focus on creating an entrepreneurial mindset. At F4FMA, the students’ leadership and skills development is complemented by the knowledge themes, including sustainable development, systems thinking & innovation, scientific principles & technology, ethics and values, people and communities, and economics (F4FMA 2013a). In order to bring about this whole-systems perspective, MSLS teaches the FSSD, science and systems thinking (Connell; Waldron; Missimer). Facilitation methodologies such as Art of Hosting are taught at YIP and MSLS (Craig; Connell).

3.2.2 Survey with alumni and graduating students²⁰

The online survey was available for 16 days and a total number of 108 answers were received. Most answers were considered valid, except for two that were submitted twice by the same people and one in which the respondent did not agree with the definition of transformative learning presented and did not offer an alternative definition. Therefore, the total number of responses analyzed was 105. The participation of the respondents according to each program was as follows: Forum for the Future (8%); EDE (24%); Knowmads (13%); KaosPilots (11%); MSLS (31%); YIP (13%).

Graduation Year and Age Range. The programs were represented by graduates from different years, with the following percentages of year of graduation: 2013 (18%); 2012 (21%); 2011 (27%); 2010 (12%); 2009 (5%); 2008 (2%); 2007 (6%); 2006 (2%); 2005 and before (7%). The survey also revealed that 79% of the respondents were 35 years old or younger. The complete results of the age range were as follows: 20 or younger (2%); 21-25 (25%); 26-30 (32%); 31-35 (20%); 36-40 (5%); 41 or older (16%).

How Transformative the Programs were. In this step, the respondents were confronted with the definition of transformative learning by Morrell & O'Connor (2002) (see section 1.4.1.) and asked if they agreed with it. The intention was to make sure that when they answered the question of how transformative their program was, they would consider the definition used in the research. Only one respondent disagreed with the definition.

The respondents were asked to indicate on a scale from 1 (not transformative at all) to 5 (very transformative) how transformative their program was. As a result, 42,9% of the respondents answered 5 (very transformative), 45,7% responded 4 (quite transformative), 7,6% responded 3 (fairly transformative), 3,8% responded 2 (slightly transformative) and no one answered 1 (not transformative at all). When analyzing the answers of each program separately, the results showed that depending on the program, between 75% and 100% of the students considered it to be quite or very transformative. A graph with the individual results can be found in Figure 6.3. in Appendix D.

After stating how transformative their program was, the respondents were asked a set of open questions allowing multiple answers, to help reveal the most transformative elements of the programs from the perspective of the students and graduates. For space limitations, only the answers that were most mentioned are presented in the results. More complete lists are available in Appendix E.

Key Transformative Elements and Experiences. In order to provide an overview of what the students and graduates found to be most important for their transformative learning experience, they were asked if there had been some specific situations or key experiences on the programs that they found to be transformative. This resulted in an extensive list of elements and experiences that was analyzed and ordered according to the methods previously

²⁰In this chapter, the term “students” will be used when referring to alumni and graduating students.

described. The most mentioned elements were: strong community (20%); group experiences (18%); diversity (15%); connect to/develop oneself (14%); inspiring teachers/instructors (13%); challenging/changing paradigm (12%); leadership education (10%); internship/work (10%); vulnerability (9%); safe space/trusting atmosphere (8%); reflection (8%); living in community (8%). Further elements are presented in Figure 6.5. in Appendix E.

Physical Surrounding. The students and graduates were asked if there had been any specific physical surrounding that fostered transformative learning. The results reveal that a large number of the respondents perceived that being in nature or outdoors fosters transformative learning, as these terms were mentioned in 46% of the answers, whereas only 1% felt that a big city is transformative. Other physical surroundings mentioned by the respondents as important were: open/natural light (11%); beautiful campus/area (9%); isolated/middle of nowhere (8%); ecovillage (8%); countryside/rural/farm (7%); small city (6%); co-created (6%); space with access 24h/7 (5%). More results are listed in Figure 6.6. in Appendix E.

Values. When asked if there were values present in the learning environment that created the space for transformative learning to happen, the students and graduates reinforced most of the values stated previously by the program organizers, but also came up with new ones. The values that were most mentioned by the students were: trust (20%); respect (19%); openness (12%); listening (9%); daring (experimenting) (8%); love (7%); honesty (7%); freedom (6%); safety (5%); community (5%); wholeness (4%); transparency (4%); support (4%); questioning (4%). Figure 6.7. in Appendix E shows more values mentioned by the students.

Facilitator. The respondents were asked if there were specific characteristics of the facilitator that fostered transformative learning for them. The most mentioned characteristic by far was the openness of the facilitator (17%), followed equally by loving, listening, authentic or genuine and experienced (each with 9%). Other characteristics considered to be important by the students were: trusting (6%); calm (6%); wisdom (5%); inspiring (5%); flexible/adaptable (5%); good feedback giver or receiver (5%); transparent (4%); sensing skills (4%); present (4%); non-judgmental (4%); interested (4%); humble (4%); caring (4%). Figure 6.8. in Appendix E reveals a list with further characteristics that were mentioned.

Content. When asked if there was a specific content taught in the program that they found to be very transformative, the respondents listed a many of knowledge themes. Contents explicitly related to systems thinking, interconnectedness and whole-systems perspective were mentioned by 16% of the respondents. Other contents considered to be important were: leadership (11%); Nonviolent Communication (10%); Art of Hosting methodologies (9%); Theory U (9%); Oasis Game or Play to Change the World (9%); Deep Democracy (5%); FSSD/Sustainability Principles (5%). A more complete list of content can be found in Figure 6.9. in Appendix E.

Methods. When asked if there were learning methodologies used in the program that they found to be very transformative, the respondents mentioned methodologies related to experiential learning (21%), reflection (15%) and group work (11%) were the most cited.

Other methodologies mentioned were: group dialogue (10%); circle (10%); arts (7%); World Café (6%); Systems Thinking (6%); Art of Hosting (that also includes some of the previously mentioned); Theory U (5%). Figure 6.10. in Appendix E presents other methodologies.

Presence and Importance of Certain Elements. In order to test the assumptions that arose during the research process of some elements that could be conducive to transformative learning, two closed questions were posed to the graduating students and alumni. In the first question there was a list of 11 elements, and the respondents were asked which ones were present on their program. In the second question, they were asked how important each of the elements was relative to their transformative learning experience. It was requested that they only graded the elements that were present on their program, to avoid ungrounded assumptions. The results are presented in Figure 3.1. and they reinforce some previous results, such as the importance of a strong sense of community and trust, coaching or support, diversity, facing difficult challenges, and an understanding of the socio-ecological system and its interconnections. Other elements not directly voiced previously by the respondents were also considered to be important, such as support to find the vocation, support on the transition to what comes after the program, and contact with outside students or professionals.

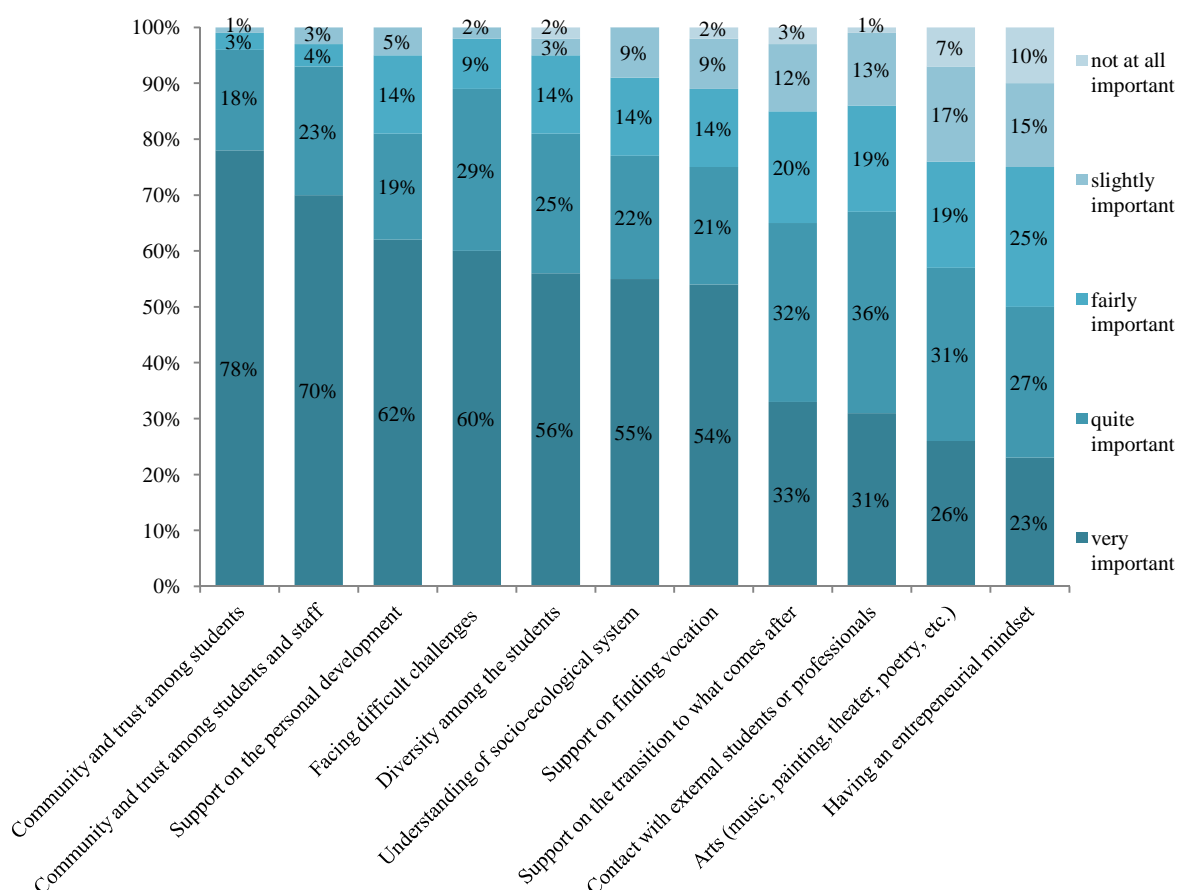


Figure 3.1 Presence and Importance of Certain Elements

4 Discussion

In this section, the results, which answered the two SRQs, are interpreted. As described in phase 3 of the methods, all the information from the results was gathered around the 5LF and informed by the FSSD. This assured that any gaps regarding sustainability were filled. Based on these informed results, the Cocoon model was developed with the intention of giving strategic guidance to program designers and organizers who wish to design a transformative ESD program. It is a process model that is based on the FSSD's ABCD planning process²¹ (Ny et al. 2006). This model intends to answer the main research question of this paper: *What guidance can be given for designing strategic and transformative ESD programs?*

In the first part of the discussion, the authors will elaborate in more detail on the Cocoon model. In the second part, the expectations, strengths and weaknesses of the results will be discussed, suggestions for future research will be made and further recommendations will be provided.

4.1 Cocoon Prototype

The name Cocoon is derived from the butterfly analogy. For in order to turn into a butterfly, a caterpillar needs to build a cocoon - the space that enables it to transform into a butterfly. Cocoon is a model that takes the program designers through six main steps that need to be taken to create a transformative ESD program. Figure 4.1. shows the Cocoon model and all the elements it consists of. The *vision* of the desired transformative ESD program lies at its core and its outer frame is represented by the *system* in which the program takes place. The other elements of the Cocoon are the *challenges* that occur within the *safe space* of a transformative program, the *circumstances* that need to be taken into account when designing, as well as the brainstorming categories the model provides (*people, content, methods, place, and evaluation*). Figure 4.2. shows the Cocoon process, in which the pieces of the model are taken apart to depict the different steps of the process. Each of the six steps of the model contains two parts. The first part consists of a question (some steps include sub questions) that program organizers need to ask themselves. Part two gives guidance derived from the results informed by the FSSD. This guidance should be taken into consideration when designing for a transformative ESD program. Furthermore, the guidance section gives examples of best practices that can be used for the design process.

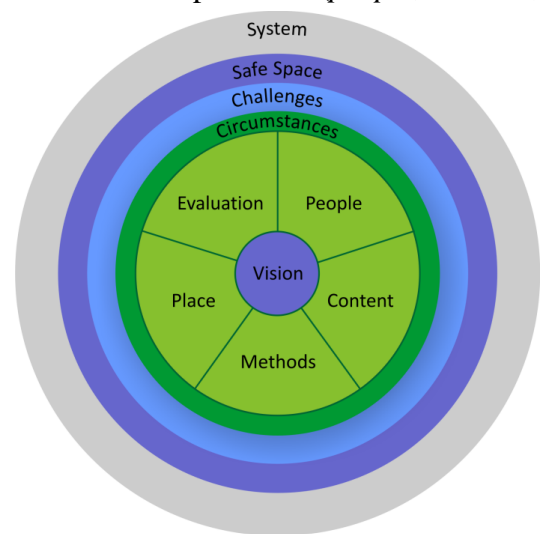


Figure 4.1. Cocoon Model

²¹ Figure 6.11. in Appendix F shows the ABCD process.

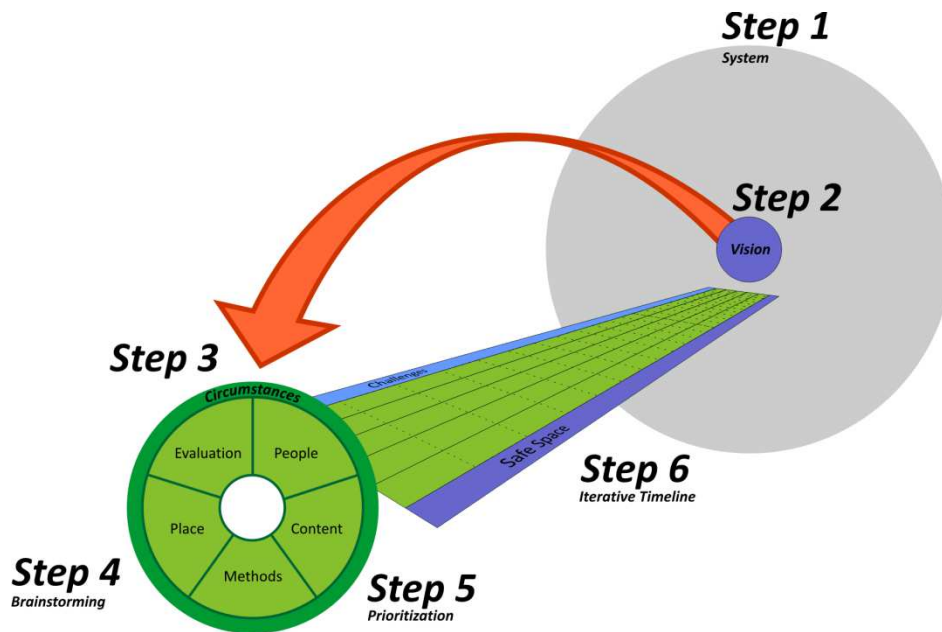


Figure 4.2. Cocoon Process

4.1.1 Step 1 – System

The first step intends to align the program designers around a common understanding of sustainability and identify the whole-systems context for the program they are designing.

Questions: What does the program’s system look like? What is our shared definition of sustainability?

Guidance: The system of a transformative ESD program in a sustainable society is constituted by a learning network formed by the program’s learning community (constituted by the student, the group of students and the facilitators), external communities and organizations as well as other learning communities. Another part of this system is the space where the learning takes place. The learning network itself is part of society within the biosphere. Hence, when designing for a transformative ESD program, it is important to keep in mind a bird’s eye perspective of this complex system and its almost infinite interconnections.

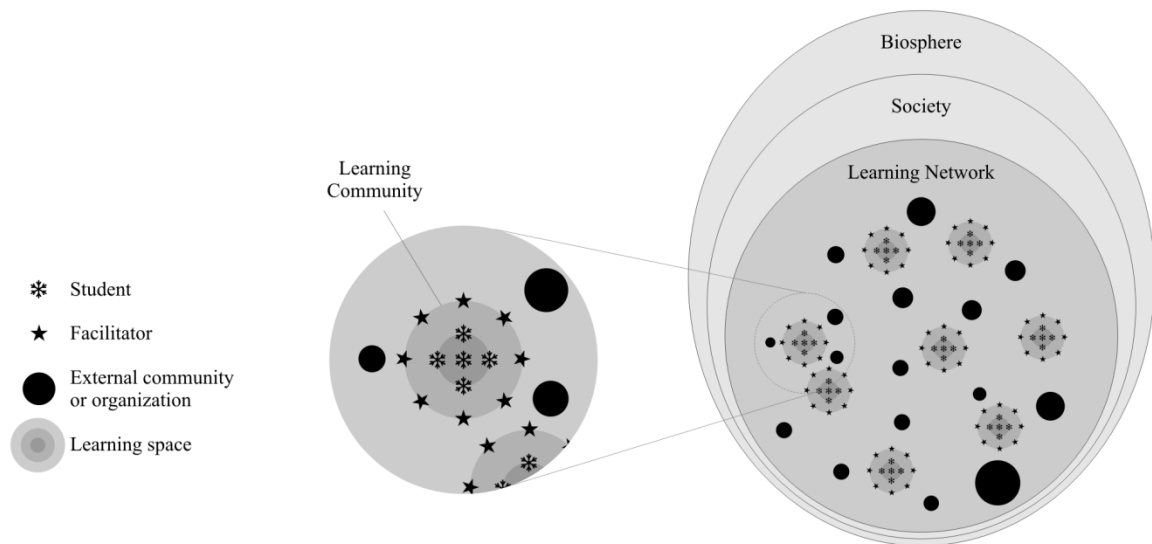


Figure 4.3. The System of a Transformative ESD Program

Learning Network. It is vital *not* to look at a program in isolation, as if it was the center of learning. For learning takes place in a non-hierarchical, democratic network that has no center. At the heart of a program is its learning community. However, this learning community is just a node in the learning network among other learning communities, external communities and organizations. In a transformative ESD program, there is a high level of interaction between all of these elements of the learning network.

Learning Community. Learning takes place in non-hierarchical, collaborative, sustainable and intact communities that foster transformational learning. The learning community consists of the students and the learning facilitators (residential and external ones). Even though knowledge and expertise from the field are brought in by the facilitators, the classical educational roles are seen through a different perspective, as everyone is equally a learner, mentor and peer at the same time. Listed below are the people that constitute the learning community, elaborated in more detail.

- *Individual Student:* The classical educational model is very transmissive and teacher-centered. In transformational education it is necessary to shift the focus of education from the teacher to the student. This also implies putting the needs and individuality of the student more into the center of attention by fostering the student's unique passions, talents, and interests.

- *Group of Students:* In transformative education there is a de-emphasis on expertise and a stronger emphasis on co-learning. This co-learning is based on the notion that people learn from each other's different perspectives and life experiences. Thus, the group of students is ideally characterized by a high level of diversity, with people from various backgrounds, ages, and level of experience.

- *Facilitators:* In a transformative program, the role of a teacher who is the fountain of knowledge does not exist, as information alone is not as valuable anymore in a time when it is only a mouse-click away. The role of the teacher is rather the one of a learning facilitator who integrates his experience into the learning by bringing some fresh food for thought; he tries to extract the knowledge that lies within the group and takes care of the learning atmosphere. Typically there are a number of facilitators on the program staff, but it is also very enlightening for the students to be exposed to external facilitators that bring fresh ideas and inspiration to the learning space.

External Communities, Organizations and Learning Communities. The program should enable students to apply their learning in a practical way, away from a classroom setting with real-life situations addressing real-life issues of external communities and organizations. The aim of this mutual learning is to include the people of the external community and to help them to fulfill their needs and dreams. Interactions and exchanges with external learning communities should also be encouraged, especially after the students have gained a minimum amount of knowledge and experience on their program, so the exchanges can be richer.

Learning Space. The term learning space, as it is used in this paper, refers to the learning atmosphere that is mainly created by the learning facilitators, but also by the learning community as a whole. It is also referred to as the “safe space”, as it is crucial that students feel a sense of trust and community and that they know they are in a “safe space” where it is alright to make mistakes.

Society. A transformative ESD program affects society in many different ways. The learning community itself is part of society. What students learn about the socio-ecological systems and its interconnections affects their ability to mold their own lives and the lives of others in society with regards to sustainability. This happens during the program, whenever students are in contact with external communities, but also as soon as the program has finished and students disperse to affect communities that they choose to work in.

Biosphere. It is important to know how such a program affects the biosphere with regards to sustainability. Firstly, just as in every other organization, everything that is done during the program that is executed in an unsustainable manner has negative effects on the socio-ecological system. Secondly, the students can contribute to a more sustainable world by living sustainable lifestyles and affecting their surrounding communities with their leadership capacities and knowledge on sustainability.

Hence, it is essential that program designers have a whole-systems perspective and a thorough understanding of the sustainability principles. This will ensure that the program is designed in a way that will help society move towards sustainability.

4.1.2 Step 2 – Vision

In this step, a vision of what the ideal program will look like is co-created by the program designers, and, if possible, together with whoever else will be part of the learning community.

Question: What is the vision of the program?

Guidance: The vision of success of the program consists of the *core purpose* and *core values* as well as of the *envisioned future*. They are particular to each program, however, this research has revealed some patterns from the transformative programs that provide elements of success that should be considered in the vision.

Core Values

Question: What are the core values of the program that it wants to convey to the students?

Guidance: The research conducted in this paper has revealed that there are some patterns regarding the values present on successful transformative programs. Those programs endorse a wide variety of intrinsic values (related to helping others, close interpersonal relationships, and growing as a person), which means that the behavior of students will most likely be aligned with Sustainability Principles (see section 1.2.3) They are present in different aspects of the programs, such as the settings where the learning takes place, the facilitators, the methodologies of learning, the evaluation, and the level of participation they provide.

Hence, the presence of such intrinsic values should be upheld on a transformative ESD program. A list of the most important values mentioned by students and program organizers is provided to help guide the effort of designing an intrinsic values-based transformative program. Even though some values mentioned by both program organizers and students may at first sight not be specifically considered as values, they are associated with intrinsic values. Some of the most important values were: trust, respect, listening, love, daring, honesty, wholeness, care and acceptance. A list with further important values is provided in Appendix E.

Core Purpose

Question: What is the core purpose of the program?

Guidance: During the creation of the purpose of a transformative ESD program it is very important to consider the elements of success present in the purpose of the transformative programs researched in this paper. If these elements of success are followed strategically, they increase the chances of creating a successful transformative ESD program. They are initially introduced as a written statement that is then translated into the elements of success which will be further explained.

1. The purpose of a transformative ESD program is to:
Create the safe space for a community of learners to transform...
...by challenging the learners' values and perspectives...
...and enabling them to develop capacities of:
 - Knowing (necessary understanding and skills)

- Being (intra- and interpersonal development)
- And Doing (taking initiative)

2. Elements of success:

Nurture a Strong Community Within a Safe Space. Transformation cannot be guaranteed. A program can only create a safe space for transformation to occur. Hence, it is necessary to nurture this safe space. The learning facilitator plays a main role in creating this space by conveying the values and learning principles to the students. His role can be seen similarly to that of a gardener, providing the right nutrition and circumstances for the learning community to flourish in the created space. Also, the students themselves create part of this safe space by interacting with each other in a respectful, attentive, non-judgmental learning manner.

Challenge Learners' Values and Perspectives. Integrating challenges in different ways should be a core goal of a program that intends to be transformative, for sufficient challenge can lead to a significant change of perception (Sterling 2013). Challenges cause people to question their way of thinking, their very profound assumptions and values, which can make transformative learning possible and lead to a paradigm shift. Sometimes challenges are even intended to lead to confusion, disorientation and discomfort, as this is also the starting point of reflective learning. However, it is crucial to have these challenges within a safe space so that they do not result in frustration.

Provide Students with the Capacities of:

- *Knowing (Necessary Understanding and Skills).* It is essential that students have a whole-systems perspective, a thorough understanding of the sustainability principles, as well as the skills to plan in complexity. This will transform reductionist and mechanistic ways of seeing the world into interconnected worldviews framed within the sustainability principles. It will also ensure that the actions taken during and after the program will help society move towards a sustainable future.
- *Being (Intra- and Interpersonal Development).* Real transformation happens within oneself. It is important for students to find out, who they really are and to explore their inner mental models in order to change. This journey is about “unlearning”, peeling off layers to go deeper into what the intrinsic motivation is. By knowing oneself better, authentic leadership can be revealed, matching the head and the heart. Finding out about their strengths and passions enables individuals to find their place in the universe and makes it possible to see the contribution they have can offer to the world. This personal learning is strongly connected to the interpersonal development with the other peers in the learning group as they act like mirrors for the individual, giving feedback and showing patterns of behavior which enables the individual to understand himself better. Again, the safe space can be seen as a prerequisite which makes it possible to try things out in this process of inner exploration.
- *Doing (Taking Initiative).* In a transformative ESD program students should be encouraged to take both ownership and responsibility for their learning, but also take initiative to act upon the changes they want to see in the world. Regarding the first,

students should play an active part in designing their own learning experience, spearheading the learning experiences and projects that are important to them. Throughout their learning period, students should develop an entrepreneurial mindset. This means having an understanding of the state the world is in and taking initiative to act on what one believes is necessary to make a change.

Envisioned Future

Question: What does the ideal, envisioned transformative ESD program look like?

Guidance: This step can be done best, if the program designers imagine themselves to be news reporters, writing about the program. They write a dream-like article about what the program ideally looks like. This adds some additional details to the vision that they want to achieve.

4.1.3 Step 3 – Circumstances

Question: What are the circumstances that need to be considered?

- What are the institutional limitations?
- What is the budget of the program?
- What is the length/timing of the program?
- What are other external influences (political, economic, social, technological, legal, and environmental)?

Guidance: Although it was not the focus of this research, it was identified that institutional limitations (e.g. restrictions and requirements of programs in formal settings) have an influence on the design of a program. This aspect should be taken into consideration together with thoughts on the necessary budget, timing (start and duration of the program) and other external influences.

Example: A concrete example of this section is to conduct a PESTLE²² analysis.

4.1.4 Step 4 – Brainstorming Ideas

In this step, the program designers backcast from the vision and brainstorm ideas of what needs to be put into place in the five categories of the model (People, Content, Methods, Place and Evaluation) in order to reach that vision. There should be no limits on creativity or quantity in this step. All ideas should be considered, including the ones that might be very audacious or seemingly unrealistic.

People (Communities and Organizations)

Question: Who is involved in the learning?

²²A PESTLE analysis is a strategic management tool for identifying macro-environmental factors. As this section did not appear as elements of transformation, it is not elaborated more exhaustively.

- Who are the students? (What are their characteristics?)
- Who are the facilitators? (What are their characteristics? Which facilitators should be residential? Which facilitators should be external contributors?)
- Which external organizations and communities should be involved in the learning?
- Which external learning communities should be involved in the learning?
- What actions should be taken to foster a strong learning community?

Guidance: As the learning community and the learning space lie at the heart of a program, it is important to nurture these aspects and make sure they are intact. The ideal learning community is a balance between size and diversity, small enough to provide the necessary support structures, but diverse enough to have a large variety of age, experience, as well as professional and cultural backgrounds present.

To be able to teach in a transformative ESD program, facilitators should have gone through transformational experiences themselves and have a thorough understanding of sustainability. The facilitator has a very high responsibility in the learning community, as he is the one who is mainly in charge of creating the safe learning space. One of the most important aspects of the facilitator is what he embodies and that his style of teaching is authentic. A good facilitator should, among other capacities, be able to build relationships, be reflective, nurture others, and show a sense of concern. A list of more characteristics a facilitator should have is provided in Appendix E.

Diversity can have flourishing as well as challenging effects on the learning and should therefore always be encouraged in every way possible. It can be present in the form of different nationalities, professional, social and cultural backgrounds of the students, staff and facilitators. Naturally, the sheer presence of a certain multiculturalism and diversity within the group can allow students to step into someone else's reality or paradigm, and recognize and challenge one's worldview.

Content

Question: What should be learned?

Guidance: In a transformative program the content depends strongly on the purpose of the program, and it is closely related to the methods that are used to teach it. The content is constantly evolving from past experiences and it is co-created with the students so that it is meaningful in the sense that it addresses the students' and society's needs as a whole. For the transformative aspect, the content is characterized by richness, controversiality, ambiguity, and ethical questions in order to bring about a shift in values. To be able to contribute to a more sustainable society, it is necessary that the students are equipped with the knowledge that allows them to understand the sustainability challenge, have a whole-systems perspective and plan strategically in complexity. A list of concrete ideas for this section can be found in Appendix E.

Methods

Question: How is the content shared?

Guidance: In general, methods should be creative, intentional about the program design, and they should be constantly evolving, including feedback from previous sessions. Furthermore, it is important to know the group of learners, in order to choose the methods for making a deeper learning more likely. Four main aspects of the methods are recommended to be used:

- The *whole self* should be involved in the learning, including cognitive knowledge, emotional intelligence/awareness, and practical/physical skills.
- Methods that stimulate *reflection* are crucial for inciting personal exploration and inquiry. Questioning oneself and using critical reflection can be seen as key for a transformative learning experience. Reflection is important to reveal underlying assumptions and patterns and help the individual to connect personal attributes to the bigger picture.
- The shift of underlying values of the students occurs more through processes and experience than the intellectualization of content. Therefore a *connection to practical work* where people are doing something meaningful within a real organization or community makes transformative learning more likely, as students realize that they have the ability to make a change in the community around them.
- It is advisable to include *participatory* methods that allow students to work in groups, practice dialogue, embody non-hierarchy and take initiative in order to empower the students as well as to strengthen the learning community and reinforce intrinsic values.

Place

Question: Where will the learning take place?

Guidance: As for the physical surrounding, an ideal location for a program is one that is somewhat isolated, in a beautiful setting close to nature, but also nearby a populated area. Learning in the outdoors and in nature is very conducive to transformation, and being able to collaborate with external communities and organizations allows a practical application of learning. Furthermore it is beneficial if there is a possibility for the learners to live closely together in order to foster community. As regards the physical space, it is important that students have a comfortable common learning place where they have the opportunity to study, gather, and interact around the clock. A list of concrete ideas for this section can be found in Appendix E.

Evaluation

Question: Which evaluation methods should be used?

- How should the development of the students be evaluated?
- How should the program be evaluated?
- How should the facilitator be evaluated?

Guidance: In order to measure the student's development it is important to measure the degree of transformation, as well as on their knowledge on sustainability. Measuring transformation is not an easy thing to do, as often "when you have passed a doorway you see things differently, but once you've passed that doorway, you forget what was behind you. It's

hard for you to remember 'what was I like before I passed the doorway?'" (Connell 2013). It is not recommended to measure the student's progress through standardized tests or grades, but rather through self-evaluation, reports, project work and presentations. Furthermore it is crucial to have a close relationship to the students in order to see their process with regards to transformation. But also the facilitator and the program itself should be measured on how effectively the knowledge was shared by getting feedback from the students. A list of concrete ideas for this section can be found in Appendix E.

4.1.5 Step 5 – Prioritization

The prioritization questions from the FSSD are used to prioritize the brainstormed ideas from each category of Step 4. This is done in order to choose the ideas that will most likely move the program towards its vision, while providing flexibility as well as maximizing social, ecological, economic and educational returns on investment.

Questions:

- Does this idea lead in the right direction considering all elements of the vision?
- Can it serve as a flexible platform for future improvements?
- Does it provide sufficient return on investment (economic, social, educational, and ecological)?

Guidance: Three additional prioritization questions provided by the model can be included for further prioritization.

- Does this idea strengthen the learning community?
- Does this idea consider the design constraints?
- Is this idea in line with the guidance of all categories?

All the ideas that were not prioritized highly should not be discarded, but rather be placed in a pool of ideas that could be realized in the future, when circumstances might change.

4.1.6 Step 6 – Iterative Timeline²³

Question: When are the prioritized ideas put into place?

Guidance: The iterative timeline can be done in the form of an Excel spreadsheet, a whiteboard or a flipchart using post its, or any other method that allows for future changes. The iterative timeline gives a chronological overview of the whole program. In this part the program designers need to decide in which way all the prioritized ideas are woven together - who will share what content using which methods in which place, and how it will be evaluated. The Figure 4.1. shows that throughout the whole program, challenges and a safe space should be considered in the design. This means for example, that there shouldn't be a

²³ Figure 6.12. in Appendix F shows a suggested template for an iterative timeline.

period in the program where all the challenging tasks will be present in succession, but rather that there should be a good balance between these challenges and the safe space.

This process is an iterative one, as some of these elements will be shifted around during the design process (depending on when facilitators and places are available, when the content should be taught, etc.) until a combination of who, what, how, and where is found that is feasible. At the very bottom, below all the categories there is space to consider if the way that these ideas are woven together is, in the end, actually feasible regarding the design constraints (e.g. are the costs of the whole timeline added together still in line with the design constraints?). This last check might lead to another iteration and shifting of certain ideas. As was the case in step 5, also in step 6 the ideas that are not feasible at the current moment should be placed into the pool of design ideas for future timeline designs.

4.2 Expectations

As regards two research questions, there were some outcomes that the authors anticipated, as well as some that were more unexpected. The results confirmed that the role of the facilitator, the community, the learning space, as well as sufficient challenge are of great importance concerning transformative education. There were also some elements that showed to be even more significant, such as personal development aspects, students taking responsibility and taking a strong initiative not only for their learning, but also spearheading the projects that are meaningful to them. Furthermore, the results showed that values play a major role in transformative education. They are conveyed through the mindset, culture and language of the programs and there is a clear pattern showing the importance of intrinsic values in transformative education. Also, the authors found some aspects to be less essential such as the arts, which might also be connected to the fact that they were not so present in the investigated programs, as in general there was a high correlation between the elements that were highly present in the programs and the ones that were perceived to be highly transformative by the students and program organizers.

4.3 Limitations

One of the limitations of the results concerns the measurability of transformation. It seems that there are some factors that make it difficult to determine whether a personal transformation took place due to the nature of the program or other external factors or personal experiences the students encountered during that period of time. In addition, as the length of the programs exceed the research period of this paper, it was only possible to evaluate the student's retrospective opinion on their transformational experience as opposed to an evaluation before and after the program. Another limitation refers to the pre-selection of students on some of the programs and the fact that maybe only a certain group of people (with a certain mindset) apply for a transformational program and therefore these results do

not apply to the general public. The same applies to the geographical restrictions of the research conducted.

It is difficult to boil transformation down to some key elements due to its complexity, as it is dependent on numerous factors as well as their interconnections. Therefore the results can only give guidelines to program directors on how to set the stage for transformation to take place, but there is no definite guarantee that it will occur. Concerning the survey results, there is a likelihood of overrepresentation of some of the programs such as MSLS and EDE, as a lot more alumni from these programs answered the survey compared to the others. However, this fact was noticed and taken into consideration in any way possible when the results were analyzed.

4.4 Strengths

One of the greatest strengths of this research is the fact that there were four approaches taken to find out what the key elements and best practices of transformative education are. Regarding SRQ 1, experts of the field were able to give a solid portrayal of what elements should be present in transformative education. As regards to SRQ 2, the document content analysis provided a good, general insight into the nature of the transformative programs and enabled the authors to answer some generic questions about them. Including three program organizers from each program that was investigated provided for an objective view of the actual strengths of the programs regarding transformative education. In addition, the fact that the authors were physically present at the site of some of the programs and the personal contact to the program organizers allowed the authors to get even deeper insights into the programs. The conducted survey with the alumni and graduating students provided yet another different perspective on what selected programs are doing in terms of key elements and best practices of transformative education. The combination of these methods, including the vast amount of qualitative information (23 interviews and 105 survey responses) makes the authors very confident that the results are very accurate. As regards the Cocoon model, the constant scrutiny of each of the group members, the authors' peer group cluster and advisors ensured constant refinement throughout the research period.

4.5 Further Research

The authors suggest that this model will be tested practically in future scientific research so as to further refine it with new insights gained from its application in a real-life setting. This might also lead to a better understanding of the key elements of transformation and their interconnection. Furthermore, the same research method could be conducted with different programs in other geographical regions in order to see if the results coincide. It could be investigated if transformative learning can be applied to any age range, such as younger students, which would be a big contribution to the field. Another research alternative would

be to explore in more detail the role that a formal or informal program setting displays, as there are many boxes to be ticked in formal programs and there might be a certain transformational restraint to such an educational model. On the same note, it could be researched whether the transformation of teachers might be a leverage point for transformative education.

4.6 Connection to SSD

The authors believe that this research delivers a very unique contribution to the field of SSD. Throughout the research period, the authors encountered a vast majority of experts, program organizers, and students that emphasized the importance of investigating the field of transformative education. Furthermore, by looking at these programs through a strategic and sustainability lens, it was possible to see all the astonishing work these programs are doing, while at the same time identifying possible SSD gaps or improvements that could be incorporated. The usage of the FSSD enabled the authors to keep a systems perspective while conducting their research and to identify possibilities of how this research is beneficial for the field of sustainability. Common ESD programs have a large focus on content and specialization, creating experts on a certain area of sustainability. What is needed so urgently in these times, however, is a shift in paradigm and an empowerment to act. This research has shown that this is exactly what transformative programs do best, and the experiences and development that students get in such programs in combination with a thorough understanding of sustainability through the FSSD are invaluable to the SSD field. There is no telling how much better off this world would be, if every person were to go through such a transformative ESD program, no matter what their future career would entail. This type of education also brings up the question, if the term ESD is appropriate, in the sense that a program could possibly aim to educate *as* sustainability, as opposed to solely educate *for* sustainability, which is also criticized by Burns and Sterling (Burns 2009; Sterling 2012b). For this kind of education no longer intends to be a means to an end, but an end itself. The students of these programs act with passion, compassion and authenticity for what they are called to do, within the realms of sustainability. This, in the end, does not only lead to a more sustainable world, but it is a leverage point to create “the more beautiful world our hearts tell us is possible” (Eisenstein 2011, 437).

5 Conclusion

This research investigates what strategic guidance can be given to design transformative ESD programs in order to bring about the necessary shift away from the dominating mechanistic and transmissive educational model, which is in its current state not suitable to educate people for a sustainable society.

A transformative education allows students to question their own paradigm and to reconstruct it by shifting their values and perspectives. This shift in paradigm is highly necessary to properly address the sustainability challenge humanity is confronted with. This paper also highlights the importance of a strategic, whole-systems approach for planning in the field of complexity, such as is the case for transformative ESD. With the choice of methods in this paper, the authors intended to not only gather some expert advice for transformative education, but in addition to that provide examples of best practices from some of the most successful transformative programs in Northern Europe.

It is difficult to pinpoint the exact cause of transformation, as it is the connection of many elements that enables transformation in a program to occur. This does not only make it difficult to measure transformation, but also to give guidance for designing a transformative program. Hence, the guidance that can be given so far in this field is to ensure that elements that are conducive to transformation are present in order to create the place for transformation to occur. There was a consensus among the interviewees in this paper that there remains a certain “magical” variable in a transformative program that cannot be determined, almost as if the safe space that was created to foster transformation had a life of its own. Furthermore, providing challenges has proven to be a key element of transformation. However, these challenges need to occur within a safe space, so they do not result in frustration. Nurturing a strong community within this safe space, where vulnerability can be present and mutual support can be given, was also found to be key to the transformation of the students.

For a full transformation to occur, it is not enough to focus on the knowing (learning certain content and skills), but it is necessary devote a great portion of the program to the being (intra- and interpersonal development, e.g. finding passion and purpose) as well as the doing (taking initiative and acting upon what students have learnt and feel called to do). Thus, transformational learning experience involves all aspects of the self - a head, heart, and hands approach with a diverse set of methods that should be closely related to participation, reflection and real-life application.

Cocoon, the model presented in this paper, gives strategic guidance for program designers on how to create a transformative ESD program. It is a process model that aids program designers to create the space for transformational learning to occur by strategically putting into place the elements that are conducive to transformation.

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6 Appendices

6.1 Appendix A. Expert Interviews

Experts

Table 6.1. Interviews with Experts

Experts	Description
Pong Leung	Former MSLS program director and FSSD practitioner. This interview was of help in understanding how to best use the FSSD to create an ideal case for a transformative ESSD program
Heather Burns	Assistant professor and coordinator of the Leadership in Ecology, Culture and Learning (LECL) Program, Portland State University
José Pacheco	Portuguese educator and founder of the “Escola da Ponte” which is internationally recognized for its innovation and inclusive practices
Steven Sterling	Professor of Sustainability Education, Head of Education for Sustainable Development, Plymouth University
Spud Marshall	MA, Part of the Educate 20/20 road tour, expert on inspiring education innovations

Interview Questions

- What, in your eyes, are the key factors of transformative education (TE)?
- Can TE be an umbrella term for various education types (social /collaborative, problem-based learning, lifelong-learning, active & experiential learning, service-learning, dialogue education, empowerment)?
- How can we find out if a program is really transformative?
- Who should teach / What is the role of the teacher? What are the qualities/skills a teacher needs to have?
- Who should be taught? Is there a different teaching approach for different ages?
- Where should transformative education be taught? What role do you think the physical surrounding has on the learning?
- What content should be taught for a program to be transformative?

- How should this content be taught? How important is the method of teaching? Are there guidelines to make sure that the methods match the content?
- What is the role of asking questions as opposed to teaching content as a method?
- Can service-learning be an ideal approach for action-learning? How important is service learning in a TE approach?
- How do you make sure that the created action is sustainable?
- What is your definition of sustainability? Should a program have a clear definition of sustainability?
- What content is essential when educating people on sustainability?
- What role does education play in helping students to find their passion and act on it?
- Is it important to teach students an entrepreneurial mindset to enable them to create the future of their desire? If yes, why?
- Which role does creativity play in TE?
- How would you define success for a program that intends to be transformative?
- What do you think is needed for a program to be strategic?

6.2 Appendix B. Document Content Analysis

Websites

As for the programs on sustainable development, following websites were researched:

- Gaia Education for Sustainability: www.gaiaeducation.net/
- Master of Strategic Leadership towards Sustainability:
http://www.bth.se/ste/tmslm.nsf/pages/msls_home
- Masters in Leadership for Sustainable Development:
<http://www.forumforthefuture.org/masters-course-f4fm>

Furthermore, websites from educational institutions offering transformational education were analyzed.

- KaosPilots: www.kaospilot.dk
- Knowmads - Education for Changemakers: www.knowmads.nl
- The International Youth Initiative Program: www.yip.se

Questions

Other than the research questions, more specific questions around the ideal case were asked such as:

- “What is the purpose of the program?”
- “Who is part of the learning community?”
- “Which steps are taken in order to reach the success of the program?”
- “Which actions, methods, tools are used?”

6.3 Appendix C. Interviews with Program Organizers

Table 6.2. Interviews with Program Organizers

Programs	Interview 1	Interview 2	Interview 3
Gaia Education	May East	Hildur Jackson	Giovanni Ciarlo
Forum for the Future	Sara Parkin	Jane Wilkinson	Clare Martynski
MSLS	Merlina Missimer	Tamara Connell	David Waldron
YIP	Alexander Craig	Thijs Moonen	Pieter Ploeg
Knowmads	Astrid van Eersel	Jord Hilstra	Pieter Spindler
KaosPilots	Peter Sims	Simon Kavanagh	Peter Busch

We define Transformative Education as an education that intends to lead to a shift in paradigm/an alteration of one's worldview. The following definition comes closest to our understanding of transformational education.

Transformational learning involves: a deep structural shift in the basic premises of thought, feelings and actions. It is a shift of consciousness that dramatically and permanently alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-location: our relationships with other humans and with the natural world. (Morrell & O'Connor, 2002, xvii)

- Do you agree with this definition? (If not, what is your definition?)
- What is the purpose of your program?
- When would you say your program was successful relative to transformative experiences of your students?
- What is your strategy to reach that success?
- How do you evaluate the evolution of the students? (Are there exams?) Why? When?
- Do you have a specific program design?
 - > If yes, why did you choose this one? → How did you adapt it to your context?
 - > If no, why did you design your program the way you did?
- Can you walk us through the most important transformative elements of the program?
 - > Why is it (this specific element) being taught in your program? Why do you think it is transformative?
 - > When (in the program timeline) is it being taught and for how long?
 - > Who are the people present when it is being taught? What is their role?
 - > What is the content that is being taught?
 - > What is the desired outcome of learning this element? (What will students learn and do with that?)

- > How is it being taught? What methodologies are used?
 - > Where is it being taught? (Physical setting/context)
- Are there things you found to be very transformative that were originally not part of the design?
- Is there something that was intentionally not designed into the program in order to foster transformational learning?

Our research until now showed us some elements that we assume that can contribute to a transformative learning experience. These elements are:

- Values (principles or standards of behavior) that create the space to enable transformative learning to happen; A strong sense of community and trust between the students & between the students and staff; Find the passions and purpose in life; Learning how to start their own projects/business/act upon what they are passionate about; Personal coaching/support during the program; Participation on the design of the learning program; Overcoming challenges; An understanding of the socio-ecological system and its interconnections; Arts and creativity; Support in the transition to their next life phase after the program

First, we would like to know if you think that these elements are important to be present on a transformative program, and the ones that you consider the most important. Then we would like to know if and how your program addresses them.

Values:

- Are there some values (principles or standards of behavior) present in the learning environment that created the space to enable transformative learning to happen? If so, which were they? What in the program enabled the presence of these values?

Create community:

- Is there anything intentionally designed in your program to create community among the students? And between teachers and students?
- Is there anything designed to allow students get involved and act in the community/societal context they are in? If so, when does it happen and why in that moment?
- Is there anything designed to allow students to spend time with other communities of students or professionals with similar interests (like trainings, forums, conferences)? Do you think this is important for their transformative learning?

Find purpose/passion:

- Is there something designed in the program to help students find their passions and their purpose in life (vocation)? If so, when does it happen and why does it happen on that moment?

Social entrepreneurial mindset:

- Is there something designed in the program that allows the students to be ready to start their own projects/businesses and act upon what they are passionate about? If so, how and when do you do it? Why on that moment?

Coaching/support during the program:

- Do the students receive any kind of personal coaching/support during the program? If so, how and when do you do it?

Transition to what comes after the program:

- Are students supported in the transition to their next life phase after the program?
- Which support do students receive once the program has finished?

Students designing their program:

- Do the students participate on the design of their learning program? If so, how and when does it happen?

Overcoming challenges:

- Are there any challenges specifically designed in the program which students need to overcome?

Arts & Creativity:

- Is there something designed in the program for the students to practice arts and creativity (and creative learning methods)? When and why?

Holistic (interconnected, whole-systems) Worldview:

- Is there something designed in the program for the students to have an understanding of the socio-ecological system and its interconnections? When and why?

Strategic Sustainability:

- Does your program have a shared definition of sustainability?
- Is there something designed in the program for the students to learn how to work strategically towards sustainability? When and why on that moment?
- How can the program be improved in your opinion?
- Is there something that we did not touch upon in this topic area that you would like to elaborate on?

6.4 Appendix D. Survey with Alumni and Graduating Students

Survey Questions

1) Which of the following programs did you attend? (If you have attended more than one of these programs, please pick the one from the perspective of which you would like to fill out this survey.)

Forum for the Future (Master's in Leadership for Sustainable Development)/Gaia Education/KaosPilots/Knowmads/MSLS (Master's in Strategic Leadership towards Sustainability)/YIP (International Youth Initiative Program)

2) When did you graduate from the program?

I graduated or will graduate this year / 2012 / 2011 / 2010 / 2009 / 2008 / 2007 / 2006 / 2005 and before.

3) How old are you now?

20 or younger / 21-25 / 26-30 / 31-35 / 36-40 / 41 or older

We see Transformational Education as an education that intends to lead to a shift in paradigm/an alteration of one's worldview. The following academic definition comes closest to our understanding of transformational education:

“Transformational learning involves: a deep structural shift in the basic premises of thought, feelings and actions. It is a shift of consciousness that dramatically and permanently alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-location: our relationships with other humans and with the natural world.”(Morrell & O'Connor, 2002)

4) Do you agree with this definition? (If you agree, please just state "yes". If you have a different definition of transformational learning, please write it here.)

5) On the scale below, please indicate how transformative you think your program was. (1 Not at all – 5 Very transformative)

6) Were there some specific situations (key experiences) in your program that you found to be transformative? (If so, please describe them here. If not, please just state "no".)

7) Was there specific content taught that you found to be very transformative? (If so, please describe it here. If not, please just state "no".)

8) Were there learning methodologies used in the program that you found to be very transformative? (If so, please describe them here. If not, please just state "no".)

9) Did some specific physical surroundings foster transformative learning?

10) Were there specific characteristics of the facilitators that fostered transformative learning?

11) Were there some values (principles or standards of behavior) present in the learning environment that created the space to enable transformative learning to happen? (If so, which were they and what in the program enabled the presence of these values?)

12) Which of the following elements were present in the program?

Scale: not at all present - slightly present - fairly present - quite present - very present

Elements: a strong sense of community and trust among the students / a strong sense of community and trust between the students and the staff/ an understanding of the socio-ecological system and its interconnections / learning how to start your own business or have a proactive attitude regarding your personal and professional life (entrepreneurial mindset) / support to find your vocation (passion and purpose) / coaching or support on your personal development during the program / support on the transition to what comes after the program (work/further studies)/ contact with external students or professionals (in trainings, conferences, forums,...) / facing difficult challenges (maybe even frustrations) / arts (music, painting, theater, poetry,...) on the learning / diversity among the students

13) How important was each element regarding the transformative learning experience? (Please, only grade the elements that were present in your program)

Scale: not at all important - slightly important - fairly important - quite important - very important

Elements: Same as above

14) Is what you are currently dedicating the majority of your time to in line with your vocation? (vocation = where your passion and talents meet what the world needs from you)

If not, please state what is hindering you from doing so.

15) Considering the experiences you had on this program, would you say that you attended it at an appropriate time in your life? (Would there have been a more appropriate time in your life to have attended this program? If so, why?)

16) Is there something else that was very transformative that is not mentioned in the questions above?

Survey Results

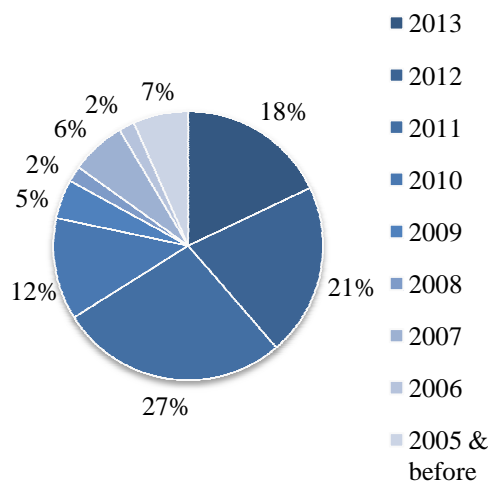


Figure 6.1. Graduation Year

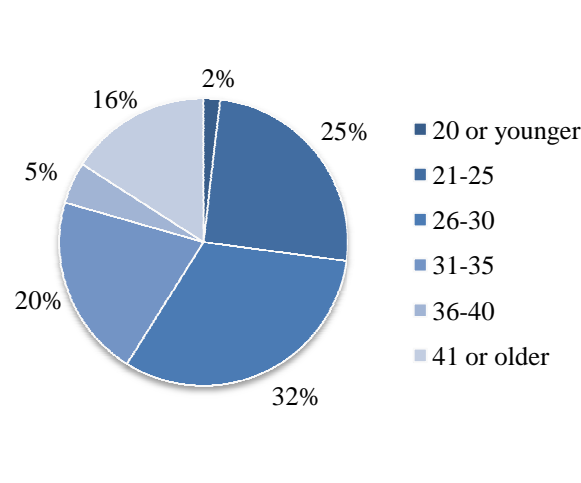


Figure 6.2. Age Range

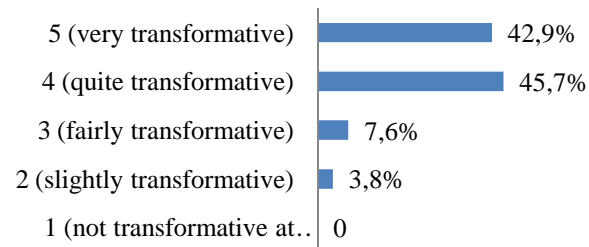


Figure 6.3. How Transformative the Programs were

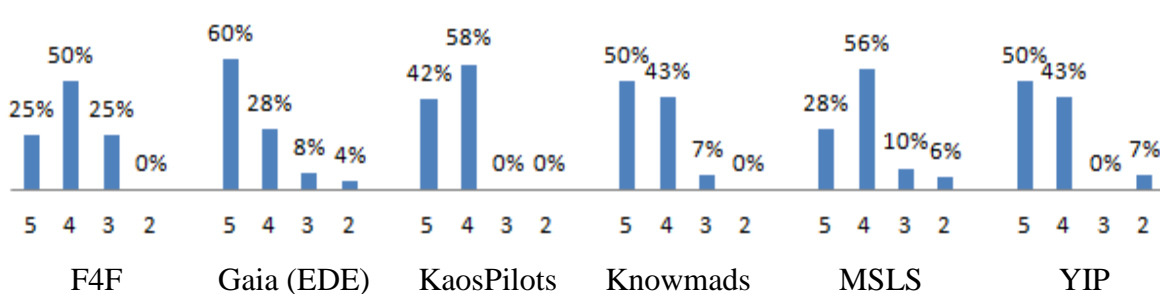


Figure 6.4. How Transformative the Programs were (by Program)

Transformation is hard to measure, and comparing it is even harder, as it is so personal and context dependent. The intention of this figure is not to compare the programs, but to display that all the researched programs were considered transformative by their students.

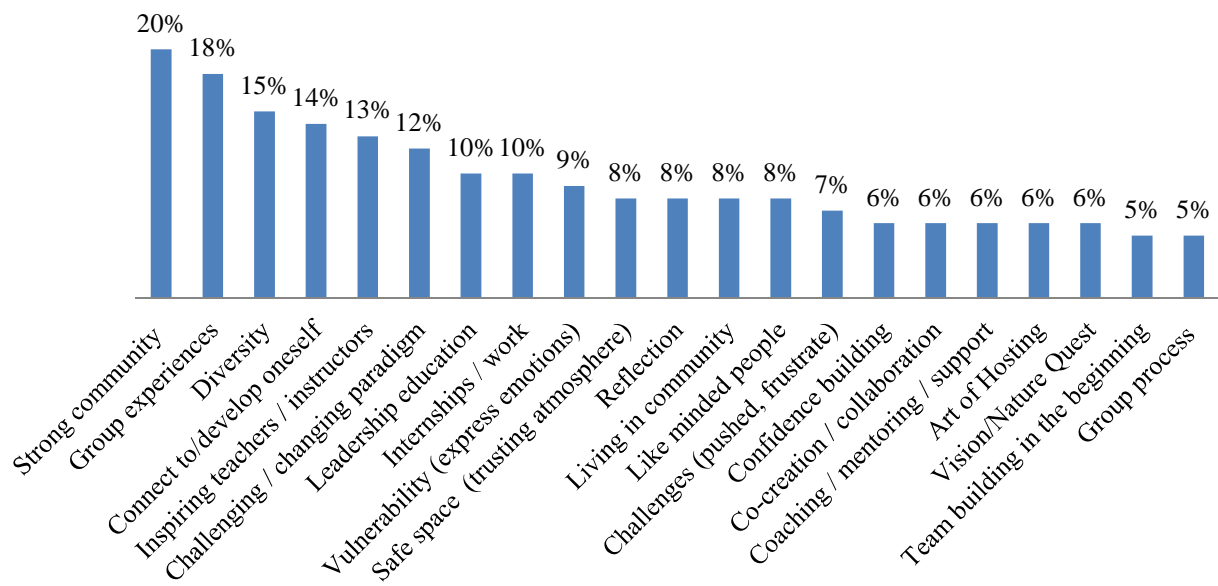


Figure 6.5. Key Transformative Elements and Experiences

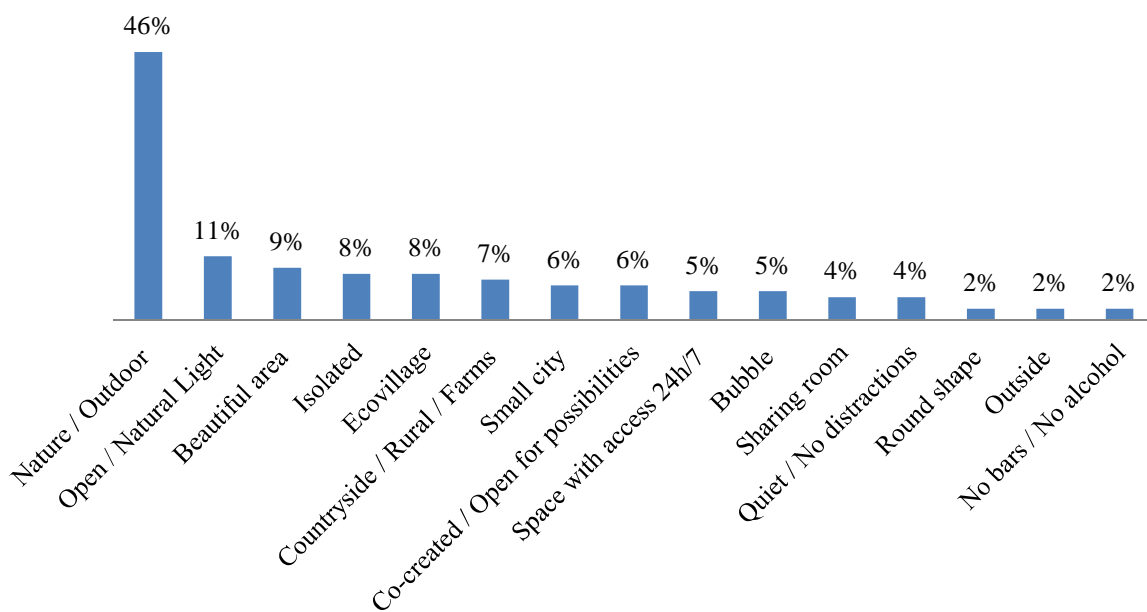


Figure 6.6. Physical Surrounding

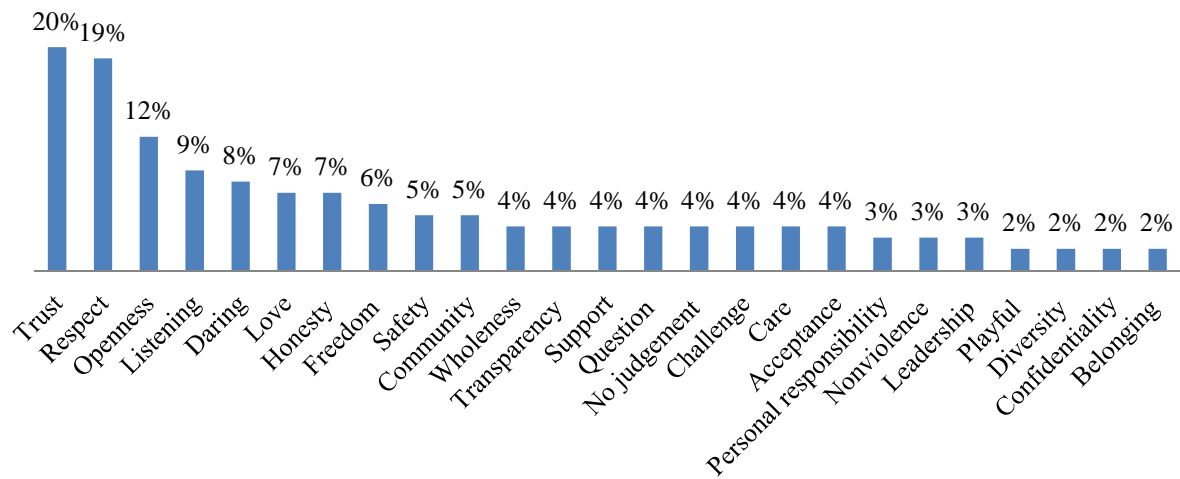


Figure 6.7. Values

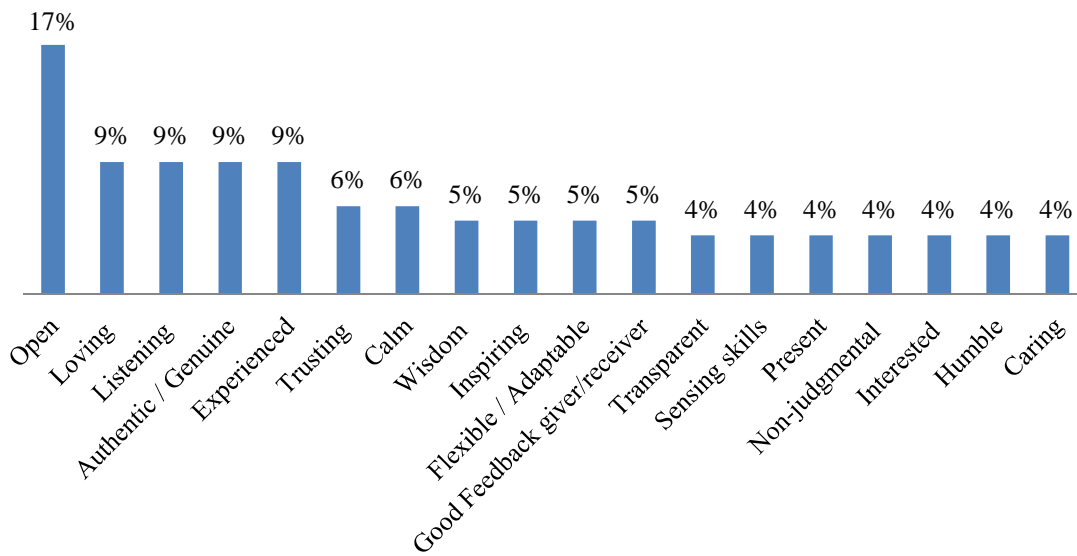


Figure 6.8. Characteristics of the Facilitator

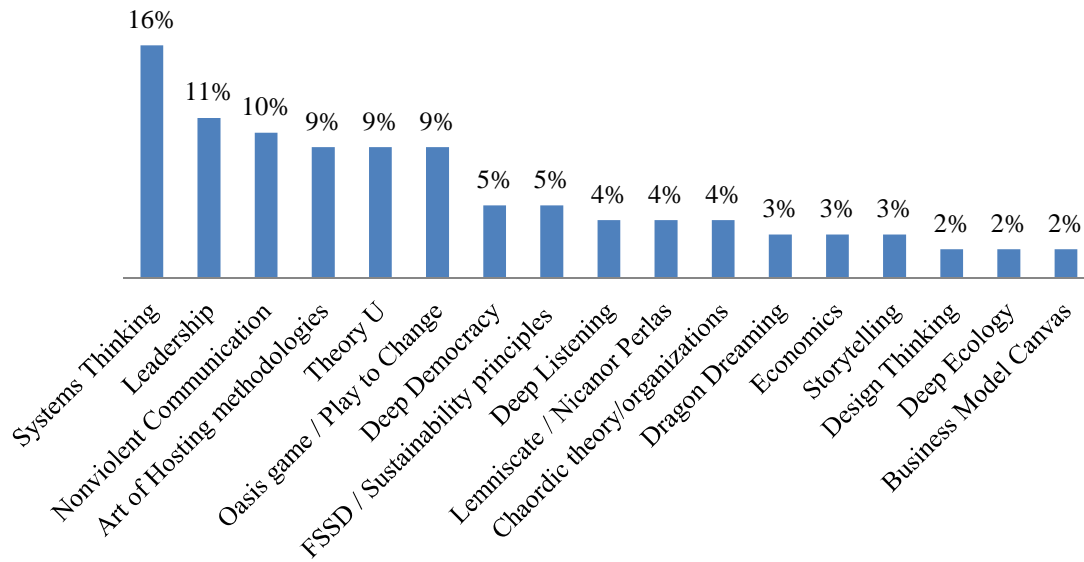


Figure 6.9. Content

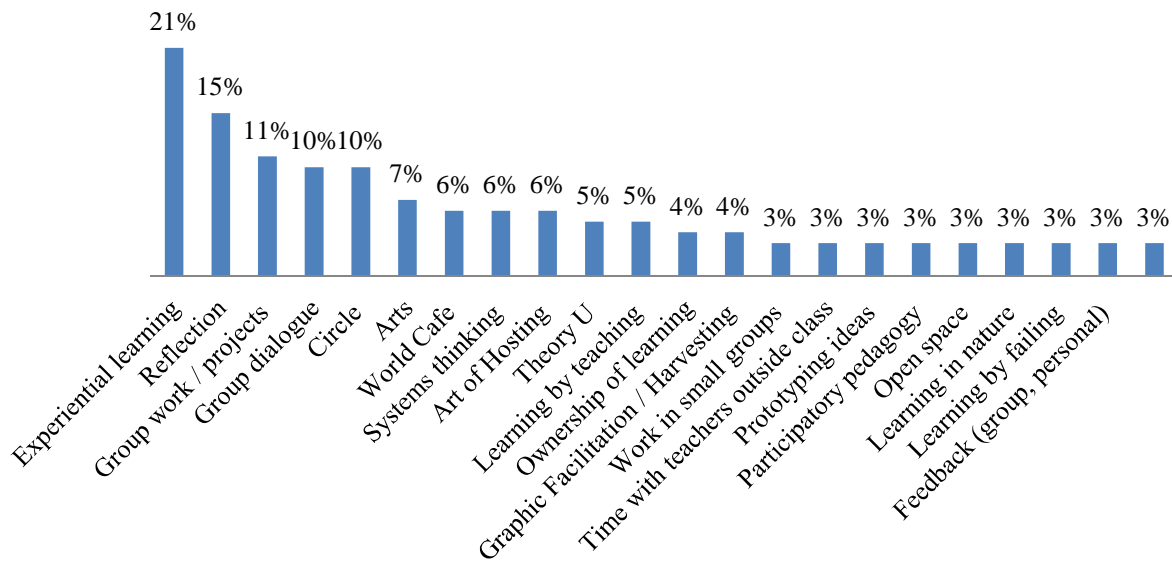


Figure 6.10. Methods

6.5 Appendix E. Lists of Ideas, Actions and Tools

List of Values:

Mentioned by at least two students and two program organizers:

- Trust
- Respect
- Listening
- Love
- Daring
- Honesty
- Wholeness
- Care
- Acceptance

Mentioned by at least two program organizers or four students:

- Openness
- Empathy
- Freedom
- Safety
- Community
- Transparency
- Support
- Questioning
- No judgment
- Challenge
- Leading by example
- Responsibility
- No hierarchy
- Compassion
- Vulnerability
- Cooperation

List of Actions and Tools to Nurture a Strong Community:

- Group work with different sizes of groups and with different people
- Welcome week
- Group building trip with students and staff (at the beginning and during the program)
- Students live together or close to each other
- Work on community agreements
- Do tasks for the community (such as cleaning, cooking, etc.)
- Games for group building
- Decision making practices
- Conflict resolution
- Group meditations
- Exchange dreams
- Group learning (split up readings and learn together)
- Doing thesis in triads
- Visit other programs (for trainings, conferences or forums)
- Sharing of personal or painful experiences
- Students and staff celebrate together
- Dialogue practice

- Working groups help each other (peer clusters)
- External facilitators are hosted at the program and spend time with the students

List of Actions and Tools for Creating Challenges:

- Posing controversial, provocative and hard questions; questions that let students reflect on things they have not reflected before
- Leave group formation process to students
- Ensure diversity of age, culture and background among students and staff
- Give assignments with short timeframe
- Students call clients and offer services that they have not yet learned
- Put the students in situations that are ambiguous and unpredictable
- Let students design their own curriculum
- Take important decisions as a group
- Bring people with different values to interact with the students
- Challenging games (e.g. fish dock, special card games)
- Focus on group process/dynamics
- Conflict resolution

List of Actions and Tools for Being (intra- and interpersonal development):

- Provide leadership education/training
- Have a small group of students
- Encourage students to step out of their comfort zones
- Facilitators develop a personal relationship with the students
- Internal and external facilitators mentor the students individually on their personal and professional development
- Students have a coaching session once a month with a staff member
- Students have a mentor outside the community
- Fixed check in groups that meet weekly
- Practice of giving and receiving feedback
- Practice communication (express own opinion, respect others, listen)
- Practice facilitation
- Practice individual and group presentations
- Establish the acknowledgement that hosting yourself is important
- Biographic counseling
- Students paint a portrait of themselves
- Dream mapping; students work with their dreams
- Vision/Nature Quest
- Outdoor reflection (spend time alone in nature)
- Time for individual and group reflection

- Keeping a diary and reading it to the group
- Students write a letter about their personal development after the first two months
- Encourage peer support among the students
- Students reflect on what they are most passionate about and what their vocation is
- Students do their assignments and projects on what they are most passionate about
- Reflection essays with feedback in a coaching manner
- Reflections and reports on their own development after each work placement
- Practice of Deep Democracy
- Practice of Nonviolent Communication
- Enneagram/Human dynamics models (understand own behavior)
- Dancing tango and reflecting on what it means to lead/follow a person
- Singing to find harmony in a group
- Intuitive writing
- Roots analysis
- Meditation/mindfulness
- Workshops on creativity

List of Actions and Tools for Doing (Taking Initiative):

- Students design their own curriculum
- Students choose their projects/assignments
- Students choose their groups
- Leave time and space for self-organization
- Students organize forums and trainings themselves
- Students choose where they will do their internship
- Workshop for students to reflect on what they want to bring forward
- Students decide which students come in the following period or year
- Students receive a business card on the first day

List of Characteristics of the Facilitators:

- Openness
- Loving
- Listening
- Authentic
- Experienced
- Trusting
- Calmness
- Wisdom
- Inspiring
- Flexibility/adaptation

- Good feedback giver/receiver
- Transparency
- Sensing skills
- Present
- Non-judgmental
- Interested
- Humility
- Care
- Walk the talk (role model)
- Patience
- Leadership
- Humanity
- Holding (the people, the space)
- Friendly
- Engaging
- Clear (thoughts, knowledge and communication)
- Asking good questions instead of giving solutions
- Alumni of the program
- Vulnerability
- Sense of humor
- Passionate
- Open the space for students to become themselves
- Not hierarchical
- Not always having an answer
- Ability to mirror
- Knowledgeable
- Hosting
- Facilitation
- Empathy
- Dedicated
- Appreciative inquiry
- Acceptance

List of Content:

- Systems Thinking/Interconnectedness/Whole-systems perspective
- Nonviolent Communication
- Art of Hosting methodologies
- Theory U
- Oasis game/Play to Change the World
- Deep Democracy

- FSSD/Sustainability Principles
- Deep Listening
- Lemniscate
- Chaordic Theory
- Dragon Dreaming
- Economics/Money/Shared Economy
- Leadership
- Storytelling
- Design Thinking
- Deep ecology
- Business Model Canvas
- Organizational learning
- Human needs
- Human dynamics
- Graphic Facilitation/Harvesting
- Scenario development
- Cradle to Cradle
- Startup Wheel
- Project Management
- Marketing

List of Methods:

- Experiential learning/learning by doing and reflecting
- Projects in real organizations (local and international)
- Engage in community nearby
- Work on real issues, needs and dreams
- Workshops/informal classes instead of lectures
- Spiral learning (revisiting same content in different contexts and depth)
- Kolb learning model
- Group work
- Group dialogue
- Students teach the content to each other
- Generate content through questions
- Invite students to share their knowledge
- Art of Hosting/dialogue-based methodologies
- Circle
- World Cafe
- Open space
- Storytelling
- Check-ins

- Appreciative Inquiry
- Chaordic Stepping Stones
- Action learning (plan-do-reflect-theorize)
- Use dialogue-based methodologies when self-organizing and performing groups
- Engage with organizations from all 4 sectors (NGO, private, public and media)
- Creative learning methods (sticky notes; 3D modeling; harvesting)
- Bring awareness of the body
- Arts
- Intuitive Writing
- Feedback from group
- Graphic Facilitation
- Theory U
- Have fun while working
- Deep Listening
- Games
- Genuine Contact
- Half year presentations
- Use of talking piece for group dialogue
- Prototyping ideas

List of Places:

- Nature/Outdoor
- Open/Natural Light/Large windows
- Beautiful campus/Area
- Isolation/Middle of nowhere
- Ecovillage/Eco-community
- Countryside/Rural/Farms
- Small city
- Co-created/Open for possibilities
- Space with access 24h/7
- Sharing room
- Quiet/Calm/No distractions/Undisturbed
- Room with round shape

List of Actions and Tools for Evaluation:

- Self-evaluation
- Reports
- Project work
- Students evaluate each other

- Reflection essays
- Presentation
- “Learning wall”
- Surveys on a regular basis
- Have a close relationship to the students
- Create 'learningful' exams when they are needed

6.6 Appendix F.

ABCD Process

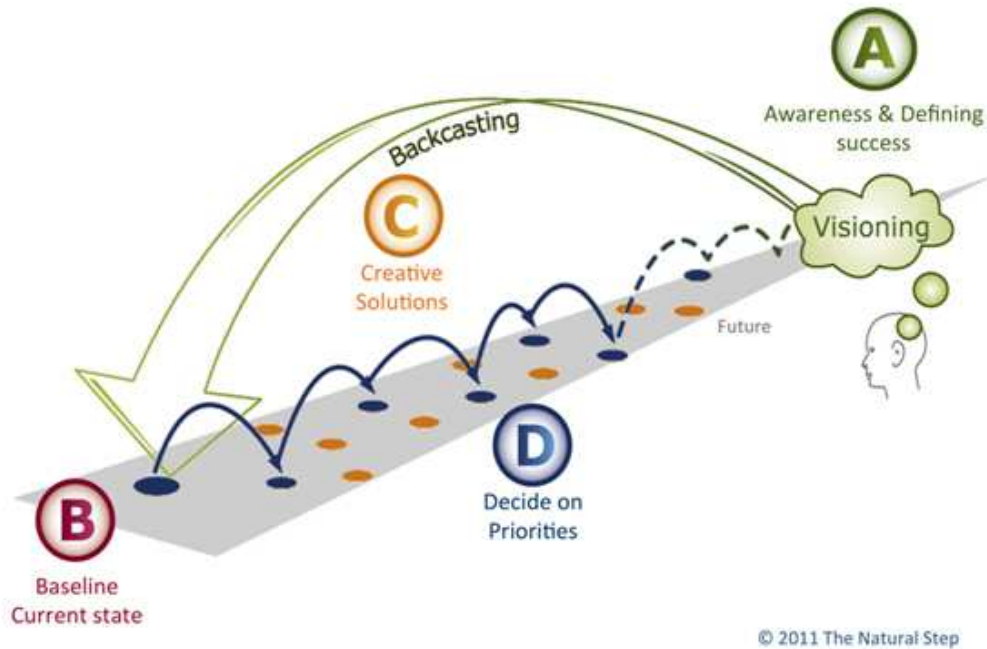


Figure 6.11. ABCD Process (Image Source: The Natural Step 2013a)

Iterative Timeline

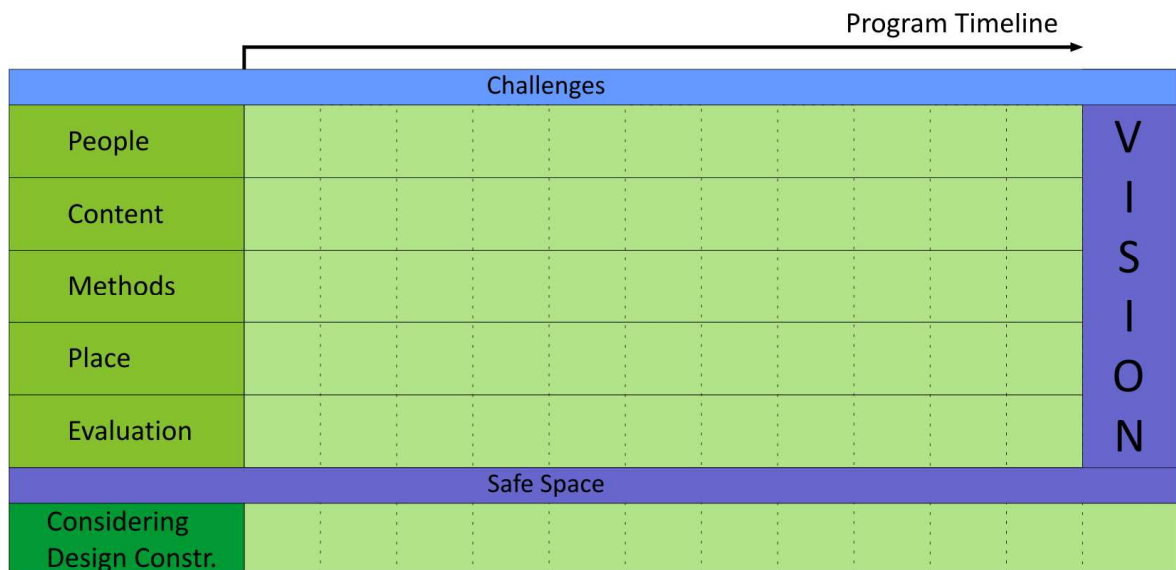


Figure 6.12. Methods



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