

Transformational learning for sustainability leadership – essential components in synergy

Jayne Bryant

Department of Strategic Sustainable Development, Blekinge Institute of Technology, Karlskrona, Sweden and Curtin University, Perth, Australia, and

James Ayers, Merlina Missimer and Göran Broman

Department of Strategic Sustainable Development, Blekinge Institute of Technology, Karlskrona, Sweden

Received 12 January 2021
Revised 20 April 2021
26 June 2021
13 August 2021
Accepted 24 August 2021

Abstract

Purpose – Transformative learning (TL) and leadership are key leverage points for supporting society's transition toward sustainability. The purpose of this study is to identify essential components of TL within an international sustainability leadership master's program in Sweden that has been described by many students as life-changing, empowering and transformational.

Design/methodology/approach – Alumni spanning 15 cohorts provided answers to a survey and the responses were used to map components of TL as experienced by the students.

Findings – The survey confirms the anecdotal assertions that the program is transformational. The findings suggest that community, place, pedagogy, concepts and content, disorientation and hope and agency are essential components, combined with the synergy of those into an integrated whole that support transformational change according to many respondents.

Originality/value – This study provides program designers and educators with suggested components and emphasizes their integration and synergy, to support TL experiences for sustainability leaders.

Keywords Sustainability, ESD, Transformative/transformational learning, Education for sustainable development, Sustainability leadership, Leadership education, Strategic sustainable development

Paper type Research paper

1. Introduction

Continued degradation of ecosystems and increasing social discord demonstrate the need for sustainability transformations (Abson *et al.*, 2017; Fischer and Riechers, 2019). Such fundamental reorientation requires a change in the thinking and perspectives of individuals and the collective. A change that can “[...] only be brought about by learning; hence

© Jayne Bryant, James Ayers, Merlina Missimer and Göran Broman. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licences/by/4.0/legalcode>

The authors would like to thank the staff, students and wider community that have been a part of co-creating the MSLS program. Particular thanks to the alumni who shared their time and responses with us in the survey.



sustainable development has to be understood as a learning process” (Rieckmann, 2012, p. 128). Thus, education for sustainable development (ESD) offers a key leverage point to facilitate this shift by promoting mindsets, worldviews, capacities and competencies that can help bring forth the systems change required for sustainability (Barth and Michelsen, 2013).

Transformational
learning for
sustainability
leadership

1.1 Education to promote sustainable futures

A number of approaches to develop the above-mentioned qualities have emerged in the ESD context (Rieckmann, 2012; Wiek *et al.*, 2011). Pedagogies have moved from transmissive “knowledge retention” and “acquisition” toward emancipatory education that shift students “perspective” (Papenfuss *et al.*, 2019). More recent considerations within the field of ESD are focusing on the “inner work” or personal development needed Ives *et al.* (2020) as evidenced by the inclusion of an “intrapersonal competence” Konrad *et al.* (2020) in the well-cited competence framework proposed by Wiek *et al.* (2011). This includes a call for the development of internal values and commitments as a base for sustainability action Glasser (2016) and ESD approaches that promote shifting consciousness (Wamsler, 2020). Sustainability leadership programs that integrate personal development, such as the one in this study, are increasing in number as the demand for the next generation of sustainability leaders grows (MacDonald and Shriberg, 2016). However, their educational processes and efficacy require further investigation.

1.2 Transformational learning and education for sustainable development

Transformative (or transformational) learning (TL) is an approach that encourages the development of personal aspects and outcomes. Built upon the constructivist theories of Habermas, Kuhn and Freire, TL uses the notion of pairing a disorientating dilemma that alters one’s worldview with a cycle of learning and reflection in which a new perspective is created and adopted in the individual (Calleja, 2014). By using TL education, “habits of mind” are transformed as the process of experience (Mezirow, 1997), reflection and reformation occurs, allowing adults to “acquire [a] more developmentally advanced meaning perspective” (Mezirow, 1991, pp. 198-199). This is required in leadership education if it is to overcome models of leadership that contribute to the sustainability crisis (Bendell *et al.*, 2017). The TL theory suffers from a number of unresolved issues such as: how to evaluate the perspective transformation of adults (Hoggan, 2016; Romano, 2017) and its movement from a distinctly psychocritical approach that focused on individual development toward a theory that considers a social emancipatory perspective that includes context and social change as a part of the transformative experience (Taylor, 2007). Even so, engaging students with TL approaches have found consensus in its ability to provoke the transformation of current worldviews, paradigms, values and habits that perpetuate unsustainability toward ones in alignment with sustainable futures (Papenfuss *et al.*, 2019). It does this by encouraging individuals to reconsider their assumptions and relationships to others and the world, resulting in social action and the adoption of new behaviors (Hoggan, 2016). All of these are desired outcomes of ESD if it is to serve as a leverage point for individual change to affect a wider social system shift toward sustainability.

1.3 Transformational learning for sustainability leadership – understanding the components that support transformation

There is a fair consensus regarding the importance of TL within the ESD field, but the question of “how” and under what conditions TL for sustainability occurs remains a vibrant academic discussion. Different academics use different terms. For example, Mezirow (1991)

calls for the establishment of “ideal learning conditions” in which students engage with accurate information, are free from coercion and self-deception, can weigh evidence, evaluate arguments, be critically reflective and have access to alternative perspectives. [Rodríguez and Barth \(2020\)](#) conducted a systematic literature review of TL in ESD and unearthed “learning conditions,” which support TL for sustainability; [MacDonald and Shriberg \(2016\)](#) conducted an analysis of sustainability leadership programs and identified “best practice methods” for developing sustainability leaders; and [Burns and Schneider \(2019\)](#) identify “elements” within programs that support the development and impact of sustainability leadership. In this paper the word component is used to refer to such conditions, methods, elements, etc., and the components identified by the above-mentioned authors as supporting TL of sustainability leaders and change agents are summarized in [Table 1](#).

This study examined an international sustainability leadership master’s program in Sweden that over 16 years has been described by students as life-changing, empowering and transformational. The program uses many of the components in [Table 1](#) and some more. The aim of the study was to see whether this anecdotal evidence could be more solidly supported, to identify which components in the learning environment contribute significantly to the transformational experience and to develop a model that maps and describes how these components are influential to the transformational experience of the studied program. The intention of doing so is to provide a case study contribution to the study of TL environments within the context of sustainability.

2. The case study

The case study is the Master’s in Strategic Leadership toward Sustainability (MSLS), which is a 10-month, cohort-based educational program linking sustainability science with leadership development. Each year since 2004, 40–60 self-identified sustainability leaders

Table 1.
Summary of TL
components in ESD
for sustainability
leaders and change
agents

Description of components	Rodríguez and Barth (2020)	Burns (2016)/ Burns and Schneider (2019)	Shriberg and MacDonald (2013)
Building community/social interaction among learners (including peer learning, creating trust, cohort-based)	x	x	x
Systems thinking/inter-transdisciplinary perspectives		x	x
Experiential learning beyond formal classroom (for example, a community project, study or work abroad)	x	x	x
Time and space for reflection and dialogue	x	x	
Development of practical leadership skills (for example, collaboration, communication, facilitation)		x	x
Leadership from an understanding of sustainability which includes holistic personal development		x	x
Moving beyond sustainability to restoration, regeneration			x
Readiness and openness to change of the learner	x		
Power relations (have experienced participatory processes that did not work)	x		

from across the globe and from many educational, professional and cultural backgrounds have joined the program in Sweden. It is one of the oldest sustainability leadership master's programs and it has been widely endorsed by, for example, students, scholars and employers. For example, [Trencher et al. \(2018\)](#) identified it as one of 14 best practice programs worthy of study globally.

As [Waldron and Leung \(2009\)](#), the two first program managers, write; “our goal is to provide a learning experience that helps promote and develop a global network of leaders or ‘change agents’ for sustainability. We want our graduates capable of a whole systems perspective, a scientifically relevant world view and a structured, strategic approach to decision making when it comes to sustainable development. In addition, we want them to act as leaders which means able to engage others in collective change efforts – to tap into the collective creativity and innovation that will be necessary for the changes ahead (p. 309).” The foundation for these two major themes is today provided by two major courses named strategic sustainable development (SSD) and leading in complexity (LiC). The themes are integrated with each other, and also permeate the other courses in the program. Examples of concepts and content within the SSD course are: scientific foundations for ecological and social sustainability such as systems thinking, scientific laws, biogeochemical cycles, resilience and theories on human needs, trust and complex adaptive systems; and the framework for strategic sustainable development (FSSD). The latter uses a systems perspective to approach the sustainability challenge and related opportunities in a strategic way that includes “back-casting” and a participatory process called the “ABCD” ([Broman and Robèrt, 2017](#)). Examples of concepts and content of the LiC course are: theories of organizational and systems change such as “Leverage Points” and “Theory U”; facilitation and hosting concepts and methodologies such as “Art of Hosting” and “Social Labs”; and personal leadership concepts and development ([Ayers et al., 2020](#)). Both courses are grounded in an understanding that we are working in complexity which requires a systems thinking approach. In the early years, the course structure was different but the intent and essence were the same.

The pedagogy of MSLS has always built on a spiral approach to learning ([Waldron and Leung, 2009](#)), meaning that content is revisited at successively increasing depth but without losing the relation and anchoring to the structured overview. The pedagogy has always also been characterized by co-learning, meaning that students and staff learn together and from each other, inside and outside of the classroom.

For more details on the program, please see papers by [Waldron and Leung \(2009\)](#), [Missimer and Connell \(2012\)](#) and the program website (www.msls.se).

2.1 Research question

This research aims to understand the components of the MSLS learning environment that contribute to TL. The research question guiding this work is thus:

RQ1. What supports the TL for sustainability leadership in the MSLS program?

3. Methods

An explanatory case study using surveys with qualitative open questions was given to alumni of the program. Explanatory case studies are used when causal relationships are sought from data ([Corcoran et al., 2004](#)) and in this instance, the response to the question of whether the experience was transformative was used in combination with the qualitative

responses provided to the additional questions. This provided the basis of the thematic analysis for the transformational components.

3.1 Participant invitation and survey design

The program has a strongly connected alumni network, which regularly interacts through a social media group, a listserv and email, which were used to communicate the survey. The researchers created a 2-min video explaining the purpose of the research and sent written invitations. The survey was open from October 21 to November 18 2019. Of about 700 alumni, 215 responded. Of these, 45 did not complete all the relevant questions; 170 responded to the majority of questions. Respondents could choose whether to remain anonymous or share their names with the researchers. The primary open-ended questions used for this data analysis included:

- Q1. Was MSLS a transformational experience for you (realized either during or after the program)?
- Q2. If yes, what about your MSLS experience supported this transformation?

3.2 Coding mechanism and structures

The results were imported into Atlas.ti and surveys were read through by respondents. The study used a thematic analysis of the 215 responses (with 170–180 for each question as some were not answered). The initial coding structure was created by two researchers inductively from a sample of 50 responses (Savin-Baden and Major, 2013). A third researcher then used this initial structure to analyze the full data set. Modifications and further iterations to the original structure were discussed within the group. This set-up was intentionally chosen to minimize bias. Alumni were also asked general questions about the content (e.g. “What content pieces were least useful for you in your work post MSLS?”) and the pedagogy (e.g. “The part of my MSLS experience that was most important for my learning and development was...?”). If the respondent answered that the experience had been transformational, their answers from these general categories were included for further coding and analysis.

3.3 Limitation of the research

There are several possible limitations of the research. These include potential bias as all authors are alumni and/or core staff of the program. The analysis and presentation of results may be influenced by the researchers’ own experiences and pre-understandings. In addition, some of the responses were extensive and some were brief – a few words – so judgment and inference were used in the sense-making of the data based on the respondent’s overall answers. The survey participants may also reflect a certain bias, as people with a strongly positive or strongly negative experience may have been more likely to respond. Also, as a small interconnected community, respondents may not feel like negative answers were truly anonymous. Thus, they may not be a complete representation of the student experience. To address these possible biases, the survey asked questions about both the positive and negative aspects of the learning environment and asked respondents to provide a critique of what did not work for them. A large number of responses from alumni allows for repetition and saturation of certain themes, which emerged as key findings to help address possible researcher bias and provide more confidence in the findings.

Similar TL research has suffered from a number of limitations. Taylor’s (2007) argument that TL research is reliant on methodology in which participants are interviewed

retrospectively using thematic inductive analysis remains valid and requires acknowledgment as a similar method was used in this study. However, as the MSLS program has been widely “known” as a transformational program without a determined empirical evaluation of that phenomena, this study aims to address that question and to outline the unique contributing components through empirical evidence provided by program participants. We believe that this provides justification for the research and a contribution to the field as mapping processes and efficacy of TL programs for sustainability leadership is an important piece as ESD tries to scale up its response to increasing global challenges.

4. Findings

Of the 174 respondents who answered the question of whether the program was transformational for them, 91% stated that, yes, they experienced MSLS as transformational. Some quotes that support this finding include:

It changed me permanently. Like the red-pill from the Matrix; can't go back.

I learned so much more about myself, who I am and want to be in the world, what my personal connection is to the work that I'm doing. I can see and feel that I'm a different person than the one I was before coming to MSLS

Section 4.1 gives an overview of the key components and a mapping; Section 4.2 goes into detail on the key components while Section 5 presents the synergy of findings and main discussion.

4.1 Key components

The components and their subcomponents are defined and summarized in [Tables 2](#) and [3](#) together with the number of respondents who identified them as important for their transformation.

The importance of integration and synergy, here named the “integrated whole” was a major finding in the data. This “integrated whole” along with two further components, “hope & agency” and “disorientation”, which permeate the program, were also seen to influence. [Table 3](#) illustrates the number of respondents who mentioned these further components.

The findings presented in [Tables 2](#) and [3](#) are visualized in [Figure 1](#). It displays each component and subcomponent with the number of respondents who identified them as integral to their transformation. Individually and seen as categories, these components may not appear as new or unique offerings as many have been discussed before in sustainability education literature ([Pisters et al., 2019](#); [Rodríguez and Barth, 2020](#); [Taylor, 2007](#)). The contribution of these findings is seen in the description of the particular and unique way these components frame the learning environment and the synergy and interaction of these. Each component is mapped and placed in relation to the others visualizing the significant finding that *it is the components operating in synergy* that provides the transformative effect. This synergy is discussed in Section 5 below.

4.2 Results and discussion of components

In this section the components of community, place, pedagogy and concepts and content; and their sub-components are discussed and the components of disorientation and hope and agency. The synergistic component of Integrated Whole is further discussed in Section 5. Direct quotes from the survey participants will be in *italics*.

<p><i>Community (107): This includes the student cohort and staff and the qualities of the relationships</i></p> <p>Diversity 59</p>	<p>“The multicultural nature of the cohort was a priceless experience”</p> <p>“Exposure to important threshold concepts, such as complexity and systems thinking, and to such a vast number of world views and cultural traditions held by my peers”</p>
<p>Staff 43</p> <p>Trust/safe space 24</p> <p>Shared values 16</p> <p><i>Place (62): The physical environment in which the education occurs, such as the geographical location and natural environment that it is situated in</i></p> <p>Natural environment 26</p> <p>Sweden 13</p> <p>Karlskrona and/or small town 31</p> <p>Space 7</p> <p><i>Pedagogy (86): The teaching approaches used within the program to ensure learning outcomes are met</i></p> <p>Group projects 45</p> <p>Reflective learning 29</p> <p>Peer learning 27</p> <p>Self-directed learning 19</p> <p><i>Concepts and content (134): These include theoretical and practical concepts and content studied by the students. Within this program they are situated in sustainability science, leadership and social change fields</i></p> <p>Systems thinking 47</p>	<p>“Also the way we were facilitated by the program staff, a lot of personal attention and coaching contributed to the success”</p> <p>“MSLS puts a lot of effort toward building a strong and trusting space in which relationships can develop. I think this is very important and well done”</p> <p>“I think a lot of us working with sustainability will argue that it can be a lonely task, and the opportunity to meet with others from all over the globe on similar journeys is refreshing”</p> <p>“I came home in myself and connected deeply to nature and all around us. It allows me to declutter the chaos of the world around me and become resilient”</p> <p>“The ability to live in Sweden was hugely impactful. I learned so much just being in another country, seeing how things and thoughts are different from my some in my own country”</p> <p>“I also think MSLS’s setting in Karlskrona contributed to the transformation, as a setting removed from the distractions of a city!”</p> <p>“Being in a remote place, with passionate people”</p> <p>“The chance of pushing myself, of practicing deep learning and listening, being present. Gave me a space to increase awareness and also made my path a little clearer”</p> <p>“I think the intensive group work (including feedback sessions) plays an important role . . . You are confronted with yourself and your behavior in multiple ways”</p> <p>“I started thinking that I was in need of tools and concepts for sustainability. In retrospect, the reflections and POD-sessions in LiC brought me the most in my professional and personal life. I feel I’ve grown as a person and feel more confident in my work”</p> <p>“It gave me the chance to learn from other’s experiences, successes and mistakes. For me collaboration, and exchange of ideas, is one of the best learning tools there are”</p> <p>“All the structures encouraged self-sufficiency to some extent and that has served me well in my work now”</p> <p>“Systems thinking because It showed a different way to see both the exterior world and the interior world”</p> <p>“And Systems thinking – now I think of my life in feedback loops”</p>

Table 2.
Key components
with sub-components

(continued)

<p><i>SSD Course</i> The FSSD 89 for example, Backcasting 25; ABCD 25</p>	<p>“Awareness of silo thinking and how to use the framework to help discuss complex issues”</p> <p>“FSSD helps me to have a practical approach to big problems/any challenge at work”</p> <p>“Backcasting for life!”</p> <p>“ABCD – every damn day :)”</p>	<p>Transformational learning for sustainability leadership</p>
<p><i>LiC Course</i> Leadership concepts and development 77</p> <p>Theories of systems change 33 for example, theory U (18) leverage points (8)</p>	<p>“The leadership skills were the most transformational aspect for me. There were many ‘soft skills’ that I had not had the opportunity to nurture or grow prior to MSLS and learned to embrace my shortcomings in certain areas and improve them rather than resent them”</p> <p>“Societal change methodologies” “Systems thinking taught me about leverage points” “Deep listening”</p>	
<p>Facilitation/hosting 68 for example, art of hosting (33)</p>	<p>“Facilitation of these sorts of conversations between stakeholders in a complex system is very useful”</p> <p>“Art of Hosting and participatory facilitation methods”</p>	

Table 2.

Additional component	Direct quote	
<p>Integrated Whole (83) The way the components integrate and interact together. The program in its entirety including formal and informal elements of interaction</p>	<p>“Participating in a program that has been designed as a whole to help becoming an inspirational person capable of taking leadership” “I can’t isolate just one thing that was most important unless I can call it a synergy of things. What made the program so special was a mix of people, place, constraints, freedom and an overall sense of respect and care” “Because it made sense as a whole”</p>	
<p>Hope & Agency (43) The cultivation of purpose, proactivity and meaning behind actions toward sustainability</p>	<p>“It has been a source of inspiration for me, during and after the program. Finding my tribe, becoming more self-aware, knowing that incredible people are out there trying to save the world” “For me personally it opened a world of possibilities of how I can have a positive impact in the world. It also gave me the tools and practical experience to turn these possibilities into reality”</p>	
<p>Disorientation (30) An event that causes consideration of current perspectives/worldview and causes integration of new knowledge to create new perspectives</p>	<p>“Because I was constantly challenging my assumptions and learned to never take anything for granted” “Turns a lot of thinking upside down. Questions a lot” “A time when I signed up for one of the biggest “shaking up” moments of my life, which brought vulnerability and also trust. A unique life experience which I’m deeply grateful for”</p>	<p>Table 3. Further components essential to transformation</p>

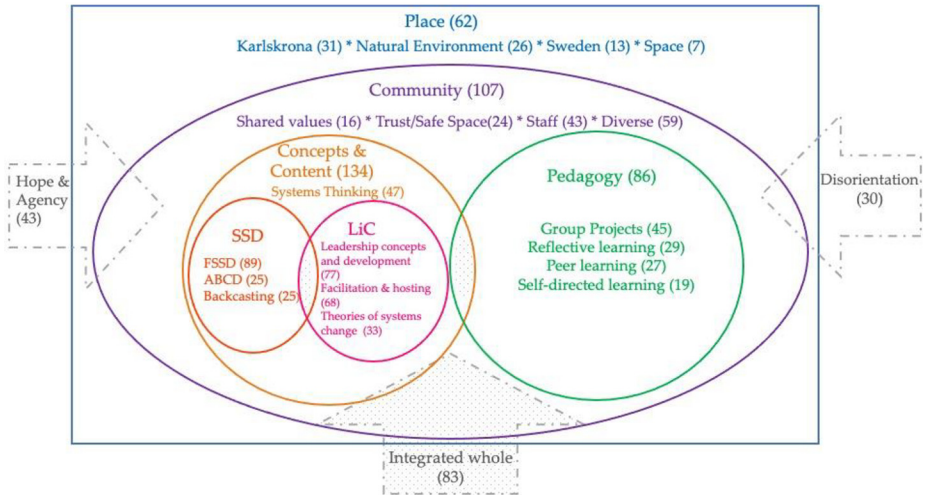


Figure 1.
Mapping the TL
experience of MSLS

4.2.1 The experience of community

The community: the way we interacted with each other, learned from each other, supported each other, challenged each other, growing together, going through a personal and individual transformation process and yet feeling connected to the community. Having a sense of home, of “this is my community”.

The community appears to be an essential component of the MSLS TL experience. One respondent summarized it as *Being able to learn how to connect with humans on a whole other level I didn't know was possible*. The diversity of MSLS, as seen in the difference in academic backgrounds, nationalities, religions, gender, age and personality, was identified as important. This is a deliberate design of the program as engaging with diversity allows for entrenched perspectives to be challenged and overcome, using pedagogies of group work, reflection and dialogue (Rodríguez and Barth, 2020). Respect, trust and openness were also identified by participants as vital aspects, and the promotion of a supportive community, consciously facilitated by staff, was identified by many students as significant.

Shared values of the community, related to sustainability, offer a core ingredient of the community's relationship. This offers a “home for identities” that promotes learning and connection (Wenger, 1998). The program role as a place for renewal and connection with likeminded individuals is also influenced by the context of the program's larger community, which includes alumni and peripheral organizations, for example, The Art of Hosting Community and the Youth Initiative Program. Art of Hosting approaches inform part of the pedagogy, content and experience of the program, and was mentioned as being a key piece to the TL experience. Community building and social interaction are highlighted as integral to TL for sustainability by numerous other studies too (Rodríguez and Barth, 2020). This intensive community experience is not beneficial for everyone, however, and the shadow side of this will be discussed further in discussion Section 5.2.

4.2.2 Place

Place has a big importance. Karlskrona is a safe harbour for this transformation

The program is situated in Karlskrona, (approximately 65,000 inhabitants), in southern Sweden. The distinct character and beauty of the natural environment was identified as

significant, both as a reminder of what we are trying to preserve and because this environment is often experienced as calming and grounding: *Being in nature contributes to both the connection to what we are studying and the personal journey*. Another aspect was the small town remoteness and spaciousness, [. . .] *A setting removed from the distractions of a city!* The inability to distract oneself or escape when the process of transformation or conflict with others gets uncomfortable, is a key to the transformation as students fully participate in the program and try out new perspectives away from the allure of past ones: *The spaciousness to explore transformational leadership development*, away from old patterns and structures was mentioned as key.

Place has been supported by other studies as a component of TL for sustainability (Pisters *et al.*, 2019). For a high percentage of international students, the notion of travel “to” a place is seen as “the outward expression” of, and crucially, a catalyst for, such an inner (psychological or spiritual) journey (Morgan, 2010). The move of most students into a place of difference, with a significant climatic and cultural shift, is a symbolic, yet tangible representation of the disorienting dilemma required for transformation:

“Simply dislocating me from place was a lot, but then combining that with the cohort and the learning and I came out a very different person with far greater capacity for understanding and compassion for others” and, “I could change the environment and open up for a whole new world, which is very hard if you physically stay at the same place”.

In addition, to some, Sweden is a role model – a *Social idealistic bubble* – when it comes to sustainable development and the ability to experience it first-hand gives them inspiration to take back home. A particular challenge of the intensively place-based nature of the MSLS program is the accessibility and equality of access to the experience and learning as not many people are able to spend a year studying in another country or place.

4.2.3 Pedagogy

The main aspect I would say is the atmosphere created, the pedagogical aspects selected and put into place. I feel the programme is quite literally walking-the-talk, and there’s no better way of learning something than by doing and experiencing it. So the pedagogical decisions, and their application.

Using group projects uses the diversity of the community (different mental models, different ways of working) and is supported in many studies of TL in ESD and sustainability leadership development (Burns and Schneider, 2019). It is in this collaboration and navigation of group processes that significant learning happens: *The hell of a lot of teamwork, effectively debriefed, in a safe-enough container where frustration happens but it’s okay*. Through [. . .] *discussions, conflict resolution, trading and developing ideas* individual awareness is raised and supports transformation through immediate feedback from respected peers. The importance of critical reflection and dialogue to support TL is supported by other studies (Rodríguez and Barth, 2020) and is scaffolded in the LiC course in the program, which guides reflective practices with distinct pedagogical tools (Ayers *et al.*, 2020).

Peer learning means engagement and collaboration with peers, formalized by a deliberate focus on feedback and dialogue. This applies both to program content where students are asked to teach each other new content and share prior knowledge regarding sustainability and to recreational or cultural activities. The supportive learning environment that results from this enables the learning of new things and a supportive culture has been included in several studies on TL for sustainability leadership (Shriberg and Macdonald, 2013).

A final pedagogy deemed significant was self-directed learning, a method that supports the personal development focus (Grow, 1991) of MSLS. The ability for students to determine

personal learning in many aspects empowers them with agency and skillsets to become self-authored learners. For some, this is an entrance into to life-long learning and self-development. Many of these pedagogies are often used and referred to in ESD literature but it is these pedagogies that are consciously used to create a combination with the other components that create this unique transformative experience.

4.2.4 Concepts and content

The FSSD, or systems thinking, or Theory U where thresholds that changed my worldview and mindset of how the world works and what is my role in it.

Within concepts and content, three subcomponents emerged: SSD, LiC and systems thinking. Systems thinking is a foundation of both the SSD and LiC courses. In addition, respondents singled out a number of specific concepts in each course (Table 2). Systems thinking was highlighted as integral to the transformative experience due to its power as a threshold concept that creates an expansive and previously unseen viewpoint of the world Meyer and Land (2006) causing a shift in student consciousness that alters their way of being (Hoggan, 2016).

As described in Section 2, a core MSLS conceptual framework is the FSSD. Significantly, 89 students described the FSSD as an essential component of their transformational experience. The FSSD may also represent a lens through which the epistemological shift of the student can be seen. Its use of systems thinking, a scientific-based understanding of sustainability and a participatory procedure that promotes co-creation of visions and action plans, strategically capturing the benefit of proactivity for sustainability (Broman and Robèrt, 2017). It provides a perspective which many students adopt and the presence of these worldview shifts is argued as a prerequisite (and evidence) of transformational change (Taylor, 2007). It is worth noting that in critique of the program, 12 people identified the use of *only the FSSD* as not contributing to their learning as captured in the quote: *I guess for me the strict connection to the FSSD felt restricting and my learning would have probably been bigger with less focus on that specific framework.*

Content used within the LiC course includes theories of change and participatory approaches, as well as engaging within personal leadership and self-development and uses pedagogical tools such as written self-reflection and generative dialogue in groups. One respondent noted:

[. . .] the LiC content was mostly new for me. So this is where I moved outside my comfort zone and broadened my horizon. I think the LiC part is (one of the things) what makes MSLS truly unique [. . .] It lifts the MSLS experience to something that is greater than “just” a master’s degree; to something that allows you to get to know yourself better and has the ability to trigger deep changes.

This education is resource-intensive and the challenges of this are discussed in Ayers *et al.* (2020).

Critical self-reflection is central to the process of perspective transformation and these results suggest that MSLS’s combination of engaging in new perspectives through systems thinking and participation in a diverse community support this change. When combined with the comprehensive and critical re-evaluation of oneself provided by the LiC course, this results in fertile conditions in which personal transformation occurs as critical reflection of relationships, purpose and life mission (Taylor, 2007) are examined and understood.

4.2.5 Disorientation

My worldview was very narrow. Simply dislocating me from place was a lot, but then combining that with the cohort and the learning and I came out a very different person with far greater capacity for understanding and compassion for others.

A key component of TL is the disorienting dilemma where paradigms and worldviews are challenged and recreated (Mezirow, 1997). To some degree, disorientation is designed into MSLS, both through content related to the reality of the sustainability challenge, the diversity of people in the program, the group work and through the intense and time-pressured learning process. In addition, the focus on personal development leads to disorientation as a result of introspection, that previously had not time or space to emerge, as evidenced in this quote: *There is a before and after MSLS, it was truly transformational and bang on time on my personal and professional journey.*

4.2.6 Hope and agency

I also got a feeling that it is possible to actually change.

A theme that emerged and weaves itself through the program is hope and agency through the development of inspiration and purpose which leads to individual empowerment. The complexity and magnitude of the sustainability challenge can provoke challenging personal and professional considerations. For many people, the program provides a beacon of hope as it promotes agency and empowerment through narratives of proactivity and success. This sentiment is expressed by many as: *MSLS amplified my view of the world in the sense that now I basically cannot be in the world without seeing the many possibilities of influencing toward a more sustainable trajectory.* The FSSD provides a proactive approach to sustainability and integrating this with the leadership development and participatory processes provide content, concepts and practiced skills for sustainability change agents. This results in MSLS being an *incredibly enriching, eye-opening and empowering* experience for many. Hope, beautiful nature, community and purpose are powerful in overcoming the challenges of the vocation while the experience of finding your “tribe” can be a relief and a celebration for many. In the end, hope becomes a core element of transformation and part of the program legacy. Since many students already come with a “sustainability worldview,” it is not just this that is transformed but also the feeling of agency and empowerment that we, together, can create the needed change.

5. Discussion

Below we discuss one particularly essential outcome from our research – the importance of the integrated whole – as well as challenges, critiques and remaining considerations regarding the TL experience of MSLS.

5.1 The integrated whole– synergy, context and living in community

A main outcome of this research is that it is the “whole package” working together that enables transformation. Previous studies identify various conditions or components to support the design of programs (Rodríguez and Barth, 2020) or highlight the synergy or integration of learning conditions such as the integration of pedagogy design and intent of the facilitator (Sterling *et al.*, 2018). The findings of this study support the need for educators to focus attention on the integration of components of programs beyond specific content and pedagogies. This includes synergizing components such as community, place and hope and agency. In the participants’ words:

“I can’t isolate just one thing that was most important unless I can call it a synergy of things. What made the program so special was a mix of people, place, constraints, freedom, and an overall sense of respect and care” and, “[...] has been designed as a whole to help becoming an inspirational person capable of taking leadership”.

The design of the whole program can be described as a living system that relies on the components as living parts of it, nourishing and interacting with each other. From the “place” which provides an arena for students connecting them to the natural environment, a key theme of their learning, to the promotion of individual growth and personal relationships, small-town living and the Swedish winter; all creating the possibility of transformation. Supported by the quality of a unique and intentional community these connections cultivate a fertile ground in which transformation occurs. Bolstering this, the distinct and deliberate use of pedagogy and content, hosted by skilled staff, takes advantage of the scene set by the components of place and community. The gentle provocation of disorientation is done with structures and scaffolds of support provided formally (by the staff) and informally (by the students) to determine a “safe” change and is combined with a proactive approach to sustainability which provides inspiration and hope. It is these unique components working together that most prominently seems to make the MSLS experience transformational.

The legacy of hand-me-down students’ homes passed between cohorts, the physical presence of students in a place and the physicality of the learning environment all play a part. The living system also extends beyond the immediate MSLS cohort. Most program staff are alumni, meaning they have a shared experience with students and many students come through alumni recommendations. The handing down of narratives before students arrive is influential as these stories draw them to the program and define expectations before they arrive and create their own experience.

5.2 Challenges of the Master’s in Strategic Leadership toward Sustainability experience

The MSLS environment is not supportive for everyone’s TL. A number of critiques were offered. For some, it was particular components and for others, it may be the program as a whole that was not seen as supportive. The intensity of the program surfaced in the critiques, as 13 people spoke of the intensity and time pressure limiting their capacity to integrate the learnings:

“I couldn’t assimilate all the high-quality knowledge and lectures because the time pressure and intensity. All energy had to focus in surviving”. And: “For me, the pace of the program was the most challenging. In the end I didn’t have the energy left to really invest in the work and get the most of it”.

The relationship between the intensity, time pressure and potential transformative nature of this is captured in the following quote: *Most of the learning process work for me. The challenge was the speed of things, but I think that it was part of the process.* The intensity of the program is an outcome of the content and learning process, but also the community aspect with the small cohort, tight boundary and small town where everyone does most assignments in groups and many of the students live together *Doing everything in a group setting. I tend to be somewhat introverted and didn’t always come across as I would have like in groups.* The same conditions that create beneficial grounds to change for some can create challenges for others. Certain intensity remains integral by design as pressure creates challenges and thus opportunity for transformation. Some of the intensity is due to (over) ambition of the staff and the students; for one, because the sustainability challenge is huge and both staff and students have a burning urge to address it. There are many opportunities in the MSLS space for both staff and students to squeeze in too much. In addition, there can be a mismatch of expectation and actual requirements, as well as differing priorities. This means it is a constant balancing act of enough pressure for transformation, but not too much.

5.3 Readiness for change

Many who come to MSLS have a “desire to change” both the world and themselves. This is an important consideration of TL – it can and should only happen voluntarily (Illeris, 2014), but the individual change requires a fertile context to begin (Rodríguez and Barth, 2020). Simply put, the student needs to be “open” to change when beginning their learning journey. Within the MSLS community, this “readiness” seems to be one of the reasons for students to attend the program. As the program is advertised as transformational, the staff assumes that students begin with a recognition of the process as a “potentially transformational one” and select their attendance based on this. Statements such as *That’s why we came, to evolve and grow, at its best, that’s what MSLS does* highlight the expectation of students and the overall narrative of the program.

5.4 Transitioning back to the “real world” post Master’s in Strategic Leadership toward Sustainability

A shadow side of this integrated community and place-based learning experience is that for many, leaving the “MSLS bubble” can be quite a challenging experience. It can be challenging emotionally after having experienced a transformation, a different way of being, and then maintaining that when going “back to reality.” The transition post-MSLS can in fact be extremely difficult as captured in these particular quotes:

I miss a more close relationship after the masters. As it talks about the bizarre state of the world and it is very hard for anyone to take. I felt really depressed coming out of the bubble and into the real world. I felt like breaking lots of times and simply [...] the years after the master were not easy.

In addition, 12 people identified the challenge of transferability of the knowledge, concepts or ability:

How to describe this education and new skillset on a CV or resume because when we go into the real world people are not familiar with these terms.

This challenge in connecting sustainability graduates to jobs occurs as sustainability graduates are being equipped for jobs that world does not know it needs (Thomas *et al.*, 2020; Wiek *et al.*, 2011). The problem is larger than any one individual, program or institution. ESD is often presented as a win–win proposal, yet the reality of power struggles at implementing sustainability in real-world contexts is often not addressed in the classroom (Boström *et al.*, 2018). Sustainability graduates are often required to create and design the jobs they believe have impact while living within the system (Bryant and Thomson, 2020). The difficulties of these post transformational experiences highlight an ongoing challenge faced by the program in the form of a post-transformation “crash.” This is also found in another recent study of a sustainability leadership program by Burns and Schneider (2019) and begs the question of whether the transformations last and how to support graduated in their new “states of being.”

5.5 Limitations and future research

This study is focused on one specific program and the components that students who have taken that program identified as part of their TL experience. Many of the components are present in other programs but mapping the unique details and the synergistic way the components work together in the MSLS program are the key contributions of this paper. The generalizability to other programs cannot be claimed beyond programs of similar design, yet the authors hope that the details provided give educators and sustainability leadership program designers a guide as to how effective TL environments for

sustainability can be constructed. A further question is how the application of any of these findings related to other sustainability leadership programs and courses, academic and non-academic, in person and in online environments. Which components that we have presented here are key to TL experiences also in other places and in what ways? What other components might be there? And what other synergies are out there to create such TL experiences for sustainability?

Further questions and future research regarding the “outcomes” of the transformation for the participants of the program and the lasting impacts and effects their education has as they move back into their other professional and community contexts remains relevant. This question of outcomes, of “what transforms,” for the students is the subject of a further paper by these authors. Furthermore, an examination of the resources requirements of TL environments would arguably also be valuable for learning designers within the ESD field.

6. Conclusions

The MSLS has been running for 16 years with the aim to create empowered leaders who can facilitate change toward sustainability. The program has been described anecdotally as transformational for years and the findings in this study support these assertions. In this paper, we describe the particular way that community, place, pedagogy, concepts and content, disorientation and hope and agency interact as essential components for TL for sustainability leadership within the MSLS program. Most prominently we specify that it is the intentional use and the synergy of those components into an Integrated Whole based on their relationship that supports transformational change. While many programs use some of these components intentionally in their design, we suggest that they are not always consciously used to frame an integrated program design and the contribution of this paper helps illuminate the need for them to become conscious and integrated components within program design. This provides a frame for sustainability leadership program designers and educators in higher education to support the design of TL experiences for sustainability leadership. Ultimately, we hope this study contributes to the larger TL for sustainability conversation and that our findings could be used to scale up the impact and delivery of TL for sustainability to help meet our global challenges.

References

- Abson, D.J., Fischer, J., Leventon, J., Newig, J., Schomerus, T., Vilsmaier, U., Von Wehrden, H., Abernethy, P., Ives, C.D., Jager, N.W. and Lang, D.J. (2017), “Leverage points for sustainability transformation”, *Ambio*, Vol. 46 No. 1, pp. 30-39.
- Ayers, J., Bryant, J. and Missimer, M. (2020), “The use of reflective pedagogies in sustainability leadership education—a case study”, *Sustainability*, Vol. 12 No. 17, p. 6726.
- Barth, M. and Michelsen, G. (2013), “Learning for change: an educational contribution to sustainability science”, *Sustainability Science*, Vol. 8 No. 1, pp. 103-119.
- Bendell, J., Sutherland, N. and Little, R. (2017), “Beyond unsustainable leadership: critical social theory for sustainable leadership”, *Sustainability Accounting, Management and Policy Journal*, Vol. 8 No. 4, pp. 418-444.
- Boström, M., Andersson, E., Berg, M., Gustafsson, K., Gustavsson, E., Hysing, E., Lidskog, R., Löfmarck, E., Ojala, M. and Olsson, J. (2018), “Conditions for transformative learning for sustainable development: a theoretical review and approach”, *Sustainability (Sustainability)*, Vol. 10 No. 12, p. 4479, doi: [10.3390/su10124479](https://doi.org/10.3390/su10124479).
- Broman, G.I. and Robèrt, K.-H. (2017), “A framework for strategic sustainable development”, *Journal of Cleaner Production*, Vol. 140, pp. 17-31.

- Bryant, J. and Thomson, G. (2020), "Learning as a key leverage point for sustainability transformations: a case study of a local government in Perth, Western Australia", *Sustainability Science*, Vol. 16 No. 3, pp. 795-807, doi: [10.1007/s11625-020-00808-8](https://doi.org/10.1007/s11625-020-00808-8).
- Burns, H.L. (2016), "Learning sustainability leadership: an action research study of a graduate leadership course", *International Journal for the Scholarship of Teaching and Learning*, Vol. 10 No. 2, doi: [10.20429/ijstol.2016.100208](https://doi.org/10.20429/ijstol.2016.100208).
- Burns, H. and Schneider, M. (2019), "Insights from alumni: a grounded theory study of a graduate program in sustainability leadership", *Sustainability*, Vol. 11 No. 19, p. 5223.
- Calleja, C. (2014), "Jack Mezirow's conceptualisation of adult transformative learning: a review", *Journal of Adult and Continuing Education*, Vol. 20 No. 1, pp. 117-136.
- Corcoran, P.B., Walker*, K.E. and Wals, A.E.J. (2004), "Case studies, make-your-case studies, and case stories: a critique of case-study methodology in sustainability in higher education", *Environmental Education Research*, Vol. 10 No. 1, pp. 7-21.
- Fischer, J. and Riechers, M. (2019), "A leverage points perspective on sustainability", *People and Nature*, Vol. 1 No. 1, pp. 115-120.
- Glasser, H. (2016), "Toward the development of robust learning for sustainability core competencies", *Sustainability: The Journal of Record*, Vol. 9 No. 3, pp. 121-134.
- Grow, G.O. (1991), "Teaching learners to be self-directed", *Adult Education Quarterly*, Vol. 41 No. 3, pp. 125-149.
- Hoggan, C. (2016), "A typology of transformation: reviewing the transformative learning literature", *Studies in the Education of Adults*, Vol. 48 No. 1, pp. 65-82.
- Illeris, K. (2014), "Transformative learning and identity", *Journal of Transformative Education*, Vol. 12 No. 2, pp. 148-163.
- Ives, C.D., Freeth, R. and Fischer, J. (2020), "Inside-out sustainability: the neglect of inner worlds", *Ambio*, Vol. 49 No. 1, pp. 208-217.
- Konrad, T., Wiek, A. and Barth, M. (2020), "Embracing conflicts for interpersonal competence development in project-based sustainability courses", *International Journal of Sustainability in Higher Education*, Vol. 21 No. 1, pp. 76-96.
- MacDonald, L. and Shriberg, M. (2016), "Sustainability leadership programs in higher education: alumni outcomes and impacts", *Journal of Environmental Studies and Sciences*, Vol. 6 No. 2, pp. 360-370.
- Meyer, J.H. and Land, R. (2006), "Threshold concepts and troublesome knowledge", *Planet*, Vol. 17 No. 1, pp. 2-3.
- Mezirow, J. (1991), *Transformative Dimensions of Adult Learning*, Jossey-Bass, Oxford.
- Mezirow, J. (1997), "Transformative learning: theory to practice", *New Directions for Adult and Continuing Education*, Vol. 1997 No. 74, p. 5.
- Missimer, M. and Connell, T. (2012), "Pedagogical approaches and design aspects to enable leadership for sustainable development", *Sustainability: The Journal of Record*, Vol. 5 No. 3, pp. 172-181.
- Morgan, A.D. (2010), "Journeys into transformation: travel to an 'other' place as a vehicle for transformative learning", *Journal of Transformative Education*, Vol. 8 No. 4, pp. 246-268.
- Papenfuss, J., Merritt, E., Manuel-Navarrete, D., Cloutier, S. and Eckard, B. (2019), "Interacting pedagogies: a review and framework for sustainability education", *Journal of Sustainability Education*, Vol. 20, p. 19.
- Pisters, S.R., Vihinen, H. and Figueiredo, E. (2019), "Place based transformative learning a framework to explore consciousness in sustainability initiatives", *Emotion, Space and Society*, Vol. 32, p. 100578, doi: [10.1016/j.emospa.2019.04.007](https://doi.org/10.1016/j.emospa.2019.04.007).
- Rieckmann, M. (2012), "Future-oriented higher education: which key competencies should be fostered through university teaching and learning?", *Futures*, Vol. 44 No. 2, pp. 127-135.

- Rodríguez, A.J.G. and Barth, M. (2020), "Transformative learning in the field of sustainability: a systematic literature review (1999-2019)", *International Journal of Sustainability in Higher Education*, Vol. 21 No. 5, pp. 993-1013.
- Romano, A. (2017), "The challenge of the assessment of processes and outcomes of transformative learning", *Educational Reflective Practices*, Vol. 1, pp. 184-219, available at: www.medra.org/servlet/view?LANG=eng&doi=10.3280/ERP2017-001012&format=html
- Savin-Baden, M. and Major, C.H. (2013), *Qualitative Research: The Essential Guide to Theory and Practice*, Routledge, London.
- Shriberg, M. and Macdonald, L. (2013), "Sustainability leadership programs: emerging goals, methods and best practices", *Journal of Sustainability Education*, Vol. 5 No. 1, pp. 1-21.
- Sterling, S., Dawson, J. and Warwick, P. (2018), "Transforming sustainability education at the creative edge of the mainstream: a case study of Schumacher college", *Journal of Transformative Education*, Vol. 16 No. 4, pp. 323-343.
- Taylor, E.W. (2007), "An update of transformative learning theory: a critical review of the empirical research (1999–2005)", *International Journal of Lifelong Education*, Vol. 26 No. 2, pp. 173-191.
- Thomas, I., Holdsworth, S. and Sandri, O. (2020), "Graduate ability to show workplace sustainability leadership: demonstration of an assessment tool", *Sustainability Science*, Vol. 15 No. 4, pp. 1211-1221, doi: [10.1007/s11625-020-00797-8](https://doi.org/10.1007/s11625-020-00797-8).
- Trencher, G., Vincent, S., Bahr, K., Kudo, S., Markham, K. and Yamanaka, Y. (2018), "Evaluating core competencies development in sustainability and environmental master's programs: an empirical analysis", *Journal of Cleaner Production*, Vol. 181, pp. 829-841.
- Waldron, D. and Leung, P. (2009), "Strategic leadership towards sustainability: a master's programme on sustainability", *Progress in Industrial Ecology, an International Journal*, Vol. 6 No. 3, pp. 307-313.
- Wamsler, C. (2020), "Education for sustainability: fostering a more conscious society and transformation towards sustainability", *International Journal of Sustainability in Higher Education*, Vol. 21 No. 1, pp. 112-130.
- Wenger, E. (1998), *Communities of Practice: Learning, Meaning, and Identity*, Cambridge University Press, Cambridge.
- Wiek, A., Withycombe, L. and Redman, C.L. (2011), "Key competencies in sustainability: a reference framework for academic program development", *Sustainability Science*, Vol. 6 No. 2, pp. 203-218.

Further reading

- Waddell, S., Waddock, S., Cornell, S., Dentoni, D., McLachlan, M. and Meszoely, G. (2015), "Large systems change: an emerging field of transformation and transitions", *Journal of Corporate Citizenship*, Vol. 2015 No. 58, pp. 5-30.

About the authors

Jayne Bryant is Co-Director of the Master's in Strategic Leadership toward Sustainability (MSLS) program and a PhD Candidate at Blekinge Institute of Technology (BTH), Sweden. She recently completed her Licentiate degree titled: "Learning as a Key Leverage Point for Sustainability Transformations." She graduated from the MSLS program in 2009 followed by a Master's in Human Ecology at Lund University in 2012. Jayne has been an Associate of Curtin University for over a decade and has taught in the Leadership in Sustainability and the Climate Change Policy courses. Originally a singer/songwriter, Jayne has more recently used her creativity on organizational and systems change and in teaching and research. Jayne Bryant is the corresponding author and can be contacted at: jayne.bryant@bth.se

James Ayers is a PhD Candidate at the Department of Strategic Sustainable Development (TISU) at BTH in Karlskrona, Sweden where he studies the nexus of sustainability leadership and education. James has previously worked in sustainability communications for a number of major organizations, as well as leading educational programs for Engineers Without Borders Australia in

the Indo-Pacific. He is currently part of the core facilitation team of MSLS. His main research interest is understanding the qualities needed for leading in complexity and the educational environments in which they can be cultivated.

Merlina Missimer has been a Program Director of MSLS for over five years and has been involved in teaching, course design and the evolution of the program for over a decade. As one of the early alumni of MSLS (2007), she now has a PhD focusing on social sustainability and her research interests include education for sustainability leadership. Merlina is Deputy Head for the Department of Strategic Sustainable Development at BTH.

Göran Broman is a Full Professor and Science Director at the Department of Strategic Sustainable Development and Dean of the Faculty of Engineering, at BTH, Sweden. Prof. Broman has more than thirty years of experience in transdisciplinary research and education and has led the establishment of strategic sustainable development as a new academic subject area. He has, for example, co-initiated and co-developed three MSc programs, including MSLS and two PhD programs, including the PhD Program in strategic sustainable development. His main interest is in developing methodological support for companies, municipalities and other organizations intended to aid them in a systemic, systematic and strategic approach to leadership and innovation for sustainability.