

Article

Capturing Transgressive Learning in Communities Spiraling towards Sustainability

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Abstract: This empirical paper addresses the need for more in depth understanding of signs and characteristics of transgressive learning in a context of runaway climate change. In a world characterized by systemic global dysfunction, there is an urgency to foster rapid systemic change which can steer our paths towards meeting the SDG goals. The contention of this paper is that, although there is a need for rapid change, it is fundamental to understand how such change can come about, so as to co-create and investigate learning environments and forms of learning that can lead to a systemic change towards sustainability. Anchored in the emerging concept of transgressive learning, this article employs the innovative Living Spiral model to track critical learning moments by facilitators and participants in multi-stakeholder Transformation Labs (T-Labs), which took place in 2017/2018 in various grassroots sustainability initiatives in Colombia and The Netherlands. The results of the analysis highlight the importance of the values of “acknowledging uncertainty”, “community”, and “relationality” in disrupting world-views through promoting reflexivity in participants and facilitators. This paper concludes that more research on the power dynamics of “absences” in transformative research is needed to better capture the challenges of overcoming sustainability challenges.

Keywords: transgressive learning; living spiral model; transformation labs; transformative learning; Colombia

1. Introduction

Definition of Transgression [1]:

1. The act of transgressing; the violation of a law or a duty or moral principle
2. The action of going beyond or overstepping some boundary or limit

From times of old, the concept of ‘transgression’ has been used to forewarn believers of the dangers of overstepping the laws of the divine. A sin is a transgression against God, “the violation of a law or a duty or moral principle” [1]. We can see similar parallels with today’s planetary crisis. Beyond the scientific debate, climate change is a moral issue, questioning our right to over-consume resources, disrespect nature, and put into disbalance the very earthly conditions which keep many species alive, including us [2]. At a biblical scale, taboos have been broken, and as human-induced climate change exacerbates the unpredictable forces of nature, another catastrophe is seemingly just around the corner.

Yet transgression can also mean something else: “The action of going beyond or overstepping some boundary or limit” [1]. Rather than something inherently negative, this subtle difference highlights the crossing of boundaries and exploring what lies on the other side. How many of us have not wanted

to learn new and impossible things, to challenge our limits, to do something that no one else has done? We can call the socially accepted way of doing things “norms,” and they are the collective representations of acceptable group conduct. Norms keep society stable and organized, resist change and can perpetuate unsustainable living [3]. This is exacerbating climate disruptions, with climate change being hailed as the greatest threat to our existence [4]. It is argued that the status quo of the current economic paradigm and disconnection with nature must be heavily disrupted for mankind to develop more regenerative relationships with the environment [5].

Although not a common term in everyday life, transgression is often used to question norms and structures at the heart of evolution and development: from music [6] and fiction [7] to research policy [8] and education [9]. In this paper’s context of climate change and sustainability, we are particularly interested in the debates around the dangers of transgressing planetary boundaries [10–12]. In order to mitigate the extent of this transgression, the Intergovernmental Panel on Climate Change (IPCC) states that “Limiting global warming to 1.5 °C would require rapid, far-reaching and unprecedented changes in all aspects of society” [13]. For this to happen, the contention of this paper is that major shifts in reference points, worldviews, and underlying values, are needed to move society towards more regenerative actions. Therefore, more radical forms of learning-centered transformation are emerging [14], which, for example, the IPCC reports are needed for climate change adaptation [15].

While the concept “transgression” is often used quite vaguely to imply some form of boundary breaking action, the term became a focal point in the ISC funded, international T-Learning project, which explores more radical forms of learning-based change for socio-ecological change within the framework of climate change [16,17]. The T-Learning project has explicitly connected the concept of transgression with learning, highlighting a form of learning which encourages transformation and seeks to disrupt norms and structures which maintain an unsustainable status quo.

The two questions we are answering are the following: What are the characteristics of transgressive learning in practice, and what are the signs of it occurring? We will explore these questions through the application of the Living Spiral model as a means for understanding and representing transgression in the fields of sustainability and climate change [18]. The research context for this paper are three grassroots community initiatives in Colombia, South America, and one such initiative in the city of The Hague in The Netherlands. The four initiatives share a focus on community organization and action-based change, and are all part of the international T-Learning project. Through a transgressive action research (TAR) methodology [19,20], transformation labs (T-Labs) were held in each initiative, during which a critical event inquiry approach was carried out through semi-structured interviews to elicit significant learning moments by facilitators and participants. These were placed in different learning stages of the Living Spiral model, and analyzed for value-based signs of transgression.

The paper is structured in the following way: Section 2 will provide the conceptual framework for this paper, focusing on the emerging field of transgressive learning, and will present the theoretical underpinnings of the Living Spiral model. Section 3 presents the TAR methodology, and the methods of T-Labs, alongside the critical event approach for gathering data. This section also presents the coding system developed to examine the data, and explains how the data were analyzed. Section 4 presents the results of the thematic analysis, by introducing a table of value-based signs of transgressive learning, with representative participant quotes from the four T-Labs. Section 5 is the discussion where we draw key conclusions and limitations, and provide some suggestions for further research.

2. Theoretical Framework

From the seminal work of Mezirow on adult learning in the mid-1990s [21], the field of transformative learning has blossomed. From the rational, cognitive and analytical approach of Mezirow, to more intuitive, creative and holistic focuses [22], there is a lot of interest in forms of learning that generate transformation [23]. Yet a major challenge to transformative learning, and transformation studies in general, is the gap between the often grand rhetoric of what transformation is, and if and how it unfolds in practice [24].

2.1. The Theory of Transgressive Learning

A review by Taylor [23] discusses the new tendencies emerging in the field of transformative learning, such as the increasing focus on the problematic aspects of action, relationships, context, critical reflection, and power. Despite these new tendencies, some critics argue that the substantial theory-action gap renders transformative learning an unidentifiable phenomenon, instead preferring a more general term such as good learning [24]. This is reminiscent of the recognition that education for sustainability in the end is about “good” education [25].

In this paper we consider the essence of transformative learning to be useful as it implies a more fundamental or deeper shift in reference points, worldviews and underlying values—but acknowledge the limitations this concept has in a messy world of global systemic dysfunction, where we are required to identify new ways to learn in an increasingly uncertain and changing world [26]. This signifies an ontological shift from knowledge production to knowledge embodiment [27], and to “being” in the world [26]. This calls for exploring integrated ways of knowing, being and doing, and how these connect, such as the importance of critical awareness to the emotional aspects of transgression [28].

We therefore present the emerging field of transgressive learning as a sub-branch of the transformative learning tree, which places explicit emphasis on social action and agency in transgressive learning. Although we can say that all transgressive learning is transformative, as it deals with transformations of worldviews and values, we contend that not all transformative learning is transgressive. Beyond the difference in the character of knowledge, transgressive learning furthermore engages in the current ontological turn [29,30], highlighting the relationships between different ways of being in the world [31]. The particular influences of transgressive learning can be found in reflexive social learning and capabilities theory, critical phenomenology, socio-cultural and cultural historical activity theory, and new social movement, postcolonial and decolonization theory [16]. Table 1 shows some common characteristics of transgressive learning:

Table 1. Characteristics of transgressive learning (based on Macintyre and Chaves [32]).

Characteristics of Transgressive Learning
1. Ethics of transgressive learning is based on a philosophy of caring which balances the warrior stance of activism with the empathic pose of vulnerability.
2. Transgressive learning, based on disrupting structural hegemonies of power, is a form of transformative learning.
3. Transgressive learning addresses wicked sustainability issues characterized by their complex, fluid, and transient nature.
4. Transgressive learning as a methodology is normative and characterized by ‘ecologies of knowledge’.
5. With their emphasis on participatory, reflective and narrative approaches, transgressive methods are performative by nature.

One of the first people to use the term transgressive learning was bell hooks (bell hooks is the pen name of writer Gloria Jean Watkins (1952–), who chooses not to capitalize her name so as to place focus on her work rather than her name.) [33], in her pioneering work in the field of critical theory and feminist thought in the classroom. This has led to further research on transgressive learning in teaching pedagogy in (higher) education [16,34–38], as well as the transgressive role of the researcher in decolonizing research practices [32,39]. Building upon this earlier body of work, the T-Learning project has been exploring how transgressive learning can help address the learning challenges in the nexus issues of climate change. The T-Learning team has co-defined T-Learning as “a regenerative, conflictive and hopeful process which involves diversity and drives changes in stubborn cultural practices and identities for sustainability, and triggers change for sustainability in times of (dis)comfort at different levels, scales and in spaces” [40].

In the T-Learning project transgressive learning is explicitly connected to sustainability as there is the assumption that the normative direction towards, in general terms, a more caring, considerate, mindful, social and empathic world, requires for most people, cultures, organizations, companies,

and societies, a deeper shift in reference points, worldviews and underlying values, metaphors and, indeed, ways of being in the world. Such a shift needs to occur both at the deeply intertwined levels of the individual (agency) and of the larger world (structure) [20].

2.2. The Living Spiral Model

Transgressive learning makes a strong case for connecting theory to practice. As highlighted by bell hooks, critical thinking and theory need to be firmly rooted in practice for transformative power to be made visible [33]. In the words of Lotz-Sisitka and colleagues [41], transgressing norms for reframing and transforming embedded practices in order for sustainability to emerge. Important in this process is to cultivate disruption by encouraging participants to leave their comfort zone and personal boundaries so as to embody transgressive experiences [31,42].

A means for reframing sustainability and transformation in the T-Learning project has been the use of narratives and metaphors. At an early stage of the T-Learning project (2017), colleagues came together for a cross-case study workshop, and developed the Living Spiral model (see Figure 1 below), based on theory of change literature [43,44]. The Living Spiral model presents learning as a spiraling, organic process made up of distinct learning stages. These learning stages are comparable to those of the 10 learning phases put forward by Mezirow and associates [45], but follow the metaphor of a generic plant, emphasizing the ecology of learning forms. The learning stage of the roots, for example, recognizes the cultural/historical context of a learning process, and like a plant, provides the platform from which the rest of the process is based on. On the left side of the model below are the elements which connect the learning stages together. The learning stages are connected through “processes”, but in line with the messy nature of socio-ecological transformations, involve “barriers”, which act as lock-in mechanisms [46]. The ontological dimensions of learning relations are shown by “invisible processes”, which represent transformations that take place but appear hidden or not immediately visible. Important for the inclusive and reflexive nature of transgressive learning is “active absence” [47,48], which can refer to real things which are absent, such as actors or perspectives excluded from a learning process, as well as at the ontological level of learning “what is not yet there” [49]. As a means of visualizing the Living Spiral we will identify the moments through critical event inquiry.

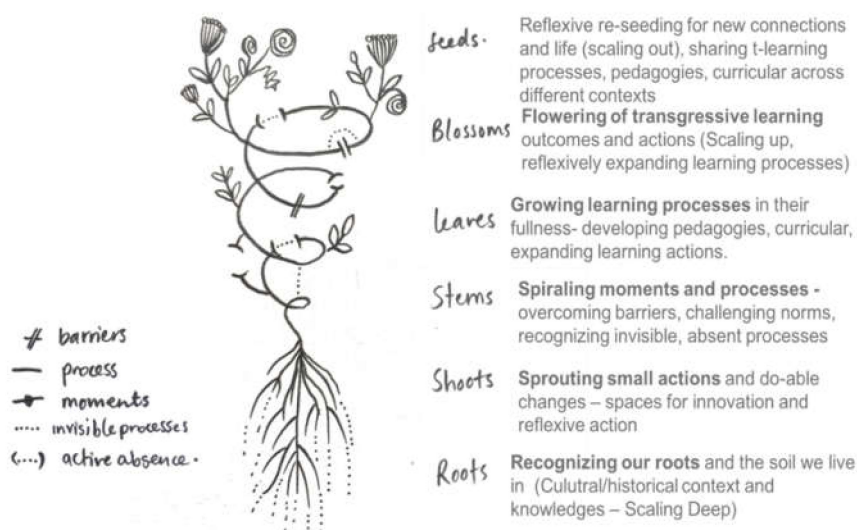


Figure 1. The Living Spiral model. Developed by Martha Chaves, Dylan McGarry, Heila Lotz-Sisitka and Gibson Mphepo during the T-Learning workshop in New Delhi, India, November 2016. Artwork by Dylan McGarry. Figure taken from Macintyre et. al. [19].

Having previously demonstrated the potential of the Living Spiral model to generate and analyze co-researcher narratives on the transgressive learning qualities needed to respond to climate

change [18,19], the objective of this paper is to explore the use of the learning stages and learning elements of the Living Spiral model to identify potential signs and characteristics of transgressive learning taking place in progressive sustainability initiatives. This makes tangible what transgressive learning might be and how it might occur in contextually embedded localities, with the contention that these examples and insights can help educational practitioners and academics to support processes of transgressive learning in their own environments.

3. Methodological Framework

Transgressive Action Research (TAR), which was developed during the Colombian case study of the T-Learning project, was used as the methodology for this study [19]. In line with the call for more research that simultaneously engages action research and transformative learning to better understand their relationship in terms of dialogue, reflexivity and the need for action [23], the TAR approach merges transgressive learning with action research. This means actively working with co-researchers from studied communities through Transformation Labs (T-Labs) to address shared socio-ecological challenges. While previous publications have employed participatory research methods to explore transgressive learning, such as from co-researcher narratives [19], this paper is based on interviews taking place during T-Labs which revolved around critical events as identified by the participants. The Living Spiral model and values-based indicators [50] were used to identify and explore the signs of transgressive learning.

3.1. Transformation Labs (T-Labs)

The context for this research were T-Labs carried out by co-researchers in the Colombian and Dutch case studies (see Table 2 below). T-Labs are specifically designed to guide transformations in social–ecological systems towards sustainability [51], and formed an integral part of the T-Learning project and the TAR approach, generating spaces and processes of transformation and disruption. T-Labs emphasize the importance of context, whereby through methodological workshops involving a range of methods (e.g., feeling life-history experiences, dragon dreaming, sociocracy as an organization tool) which took place in Colombia, T-labs were co-defined as “pedagogical spaces and processes of restoration and potentialisation of sociocultural tissues in territories. They are developed in living, diverse and intercultural learning spaces giving new reference points and regenerative tools” [52]. It is important to note that T-labs are understood as processes which take place over different periods of time, but which have specific workshops during their course, which in this case was when and where the interviews were carried out. The following is a description of the respective T-Labs held in the studied initiatives where interviews with organizers and participants were conducted. Each initiative represents distinct socio-ecological contexts, but all share a process of community-building, with all initiatives having been undergoing internal disruptions and reflection sessions which provided the opportunity for these T-Labs to contribute as learning spaces.

3.2. Critical Event Inquiry

As a narrative tool, critical event inquiry is a valuable source of qualitative information [62]. This approach understands human existence through stories which have critical significance for participants, and has been employed as a research tool in a range of teaching and learning settings [63]. With focus on the potentially “transgressive” nature of the learning taking place, an emphasis was placed on an “inquiry of discomfort”, so as to identify and promote a transition from dualistic and norm-based subjectivities towards more ambiguous engagement with social realities and experiences [64].

Table 2. Characteristics of the T-Labs held in Colombia and The Netherlands.

Name	Location	Description	Specific Context for Interviews ¹
T-Lab 1: The Call of the Mountain (CotM)	Itinerant. In the year 2017: Ecovillage Anthakarana, Quindio, Colombia	An annual intercultural gathering organized by the CASA network, bringing together a diverse collection of people, communities and projects for five days of communal living, in which participants exchange experiences on sustainable living while partaking in working councils, workshops, panel discussions, dances and other artistic pursuits.	The CotM is characterised by the pedagogy “dialogo de sabers” (knowledge dialogues), whereby ontological encounters between diverse participants are facilitated so as to encourage transformative learning [31]. The 2018 context for the gathering was a future search methodology [53], brought about by a crisis in the organizational team [54]. The interview questions presented the possibility for participants to reflect on critical moments in the CotM process.
T-Lab 2: Ecovillage AldeaFeliz	San Francisco, Cundinamarca, Colombia	Aldeafeliz is an intentional community of 12 people, founded in 2005. T-Labs focused on connecting ancestral technologies with modern social innovation tools, for example in the form of eco-construction, generating cohesion and action around territorial water conservation.	Following an internal reorganization of the ecovillage Aldeafeliz, a focus for the T-Labs was exploring the identity of the ecovillage residents in relation to their “mestizo” heritage, as well as to their local territory. The place-based pedagogy focused on rebuilding the ceremonial house of the community called the “Cusmuy” [55], as well as building relationships between the ecovillage, local neighborhood, and the municipality [56]. The context of the interviews was characterized by the reflection on the identity of the participants, and how this was manifested (or not) through their everyday practices.
T-Lab 3: The Islands of Rosario	Las Islas del Rosario, Bolivar, Colombia	The T-Labs held in the Afro-Colombian community were based on networking community initiatives in the Caribbean region. This included workshops providing tools for implementing sustainable systems in local contexts, such as non-violent communication, alongside practical courses in agroecology.	Following the legal recognition of Las Islas del Rosario as a self-determining afro-Colombian region of Colombia, local efforts have been made to organize the community around addressing climate change challenges such as access to safe drinking water, and local food production. The specific context for these T-Labs was the participation of community leaders from surrounding, Caribbean communities in how to organize themselves to gain territorial rights as native communities, as well as learning sustainable practices such as eco-construction and agro-ecology [57,58]. The context for the interviews was a reflection on these new community-organizing skills, as well as sustainability practices.
T-Lab 4: Lekker Nassuh	The Hague, The Netherlands	A community initiative that focuses on sustainability around a local food system. T-Labs focused on reflection workshops around the organizational principles of running the initiative.	Established in 2014, the initiative Lekker Nussuh has developed into a community comprising roughly 2500 people of which 800 are registered as members and 200 fetch a weekly vegetable package, with values based on ‘fair, local, sustainable food system’ [59]. The T-Labs has involved experiments using the governance system of Holacracy [60], and integration of a community currency called Timebank [61]. The context for the interviews was a reflection on the social relations between organizers, following major changes in how the initiative has been organized and run.

¹ See references for T-Lab reports, where available.

Data were collected through a total of 18 semi-structured interviews carried out in the four initiatives (see Appendix A for interview questions). T-Lab participants and facilitators were interviewed about significant moments during the T-Labs, and the extent to which they were transformative (where we defined transformative learning as a change in reference points, and world-visions). Considering the importance of context in transformative learning [65], the interviews were carried in situ at the end of each T-lab, supporting a situated practice by the participants. In this way, critical learning moments by participants could be directly drawn upon and related to more relevant everyday practices.

3.3. Thematic Analysis

This paper does not seek to deliver evidence proving that transgressive learning took place, but rather aspires to identify and describe ‘signs’ that make plausible that some form or act of transgression has occurred. The signs are often more intuitive, speculative and interpretative, requiring a dialogue between those experiencing them and those trying to bring them to the fore. In addition, research of this kind is less preoccupied with assessing the outcome of the learning, but more so in whether the learning spaces, conditions, and facilitation, allowed participants to transgress and transform in the first place. This is in line with the recommendations to focus on how transformative processes can inform learning and curriculum design, rather than an assessment of whether transformative learning has occurred or not [65]. This appreciates that focusing on the process is important if we want to contribute to empowerment and positive change through teaching and learning, rather than measuring up to the theoretical ideals of what transformation is or could be. For this reason, the T-Learning project has preferred the term “signs of” instead of ‘indicators of’ to shift away from the tendency towards measurement and quantification which can get in the way of the kind of emancipatory learning that is advocated.

It is not our intention to identify universal signs of transgressive learning, but rather to identify how forms of transgression emerged and influenced the learning within each of the cases. We are attempting to explore contextual lessons emerging from our investigation and conversations. This is not to say that these signs have no relevance in other contexts, but it is for those in other contexts to determine how relevant these signs are for them or in their situation. Wals and Alblas [66] refer to this as “case-inspired generalization” leaving the agency of generalization not by the authors of research but rather with the readers who mirror what they read to their own context.

Signs of transgressive learning amongst subjects was explored through thematic analysis of interview data [67], using the software NVIVO. The first step involved coding transcribed interview data using prior research driven categories of the six learning stages, and learning aspects, as visually shown in Figure 1 above. This initial coding was carried out by author one, and verified by co-authors two and three. The second round of coding involved the first author inductively coding the first round of coded data through developing value-based themes inspired by Dahl [68]. This first set of value-based themes was discussed between the three authors, whereby the original 30 themes were collapsed into 11 themes, presented in Table 3 below.

Table 3. Themes derived from the second round of coding, with their respective characteristics. Each interview refers to one source, and each reference corresponds to a coded segment of an interview.

Value Theme	Characteristic	Sources/References
Acknowledging uncertainty	Disrupting the status quo of what is normally understood and accepted through addressing and adapting to what we do not understand, often by acceptance and letting go	16/41
Collaboration	Forms of working together, such as through social technologies	10/12
Communication	The way we share or exchange information	5/5
Community	Being part of a group with common characteristics and valuing the greater good of that group over the individual	14/30
Diversity	Focus on multiplicity alongside inclusivity	10/20
Education	Reflection and learning	12/21
Optimism	A sense of positivity through inspiration, compassion, and appreciation	10/17
Order	Planning and design, for example, to ensure safety or to reach goals	13/27
Practice	Hands-on experiential learning, for example through experiencing novelties and local development	13/28
Relationality	An understanding of how everything is connected and related to one another, for example, typical in ancestral knowledge and spirituality.	12/39
Responsibility	Commitment and leadership	9/15

4. Data Analysis: Results

This section analyses the themes prevalent in each of the learning stages/elements of the Living Spiral model, with representative quotes from each of the four T-Labs.

4.1. Roots

We define roots as the recognition and reflection of one's own "place" through a cultural and historical context. Roots are important because they ground a person in the present, alleviating the stress of disconnection in an increasingly complex world. Expressions of learning taking place in this stage was the subject mentioning the experience of connecting to their history, culture, or location.

The dominant values which emerged in this learning stage were that of "community" and "diversity". The importance of belonging to a community was stated by Edgardo in the T-Lab in Las Islas del Rosario: "One has to have a sense of belonging. If I am not aware of things, recognizing myself, then what am I doing?" This assertion of discovering the community one belongs to was shared by facilitator Tatiana Monroy in the Aldeafeliz T-Lab on eco-construction, which involved rebuilding the ceremonial house in the community: "In this moment that we are in love with indigenous cultures, we construct a house and learn about indigenous cultures. But there comes a moment we have to ask ourselves, "who are we?" Are we Indigenous? Are we urbanites that want to learn from the Indigenous world? or are we a blend?"

The value of "diversity" was mentioned by various participants as an important base for their transformation. Participant Carlos, in the Call of the Mountain (CotM) event noted that what impacted him the most was "the encounter with a collective of people who are weaving a network of relations. This experience of weaving, and being part of a network has changed my world vision, the possibility to feel that there are people all over the world working in the same direction." Likewise, in the Lekker Nassuh T-Labs, the connection between diversity and community was shared by participant Anubav, "for this community, the most important part was to have a mix of people who fill in all the gaps and to be able to work together ... with empathy and compassion and understanding".

Just like in nature, where the roots of diverse trees interconnect, sharing information and nutrients together in a wood-wide-web [69], this learning stage show the importance of belonging to a greater community, where diversity and reflexivity about who we are provide a foundation for transgressive learning to take place.

4.2. Shoots

Moving out of the soil are shoots, which are the materializations of small actions and possible changes. Shoots have the potential to develop into further transformations, absorbing nutrients via the plant's roots. Signs of learning taking place at this stage involves the subject mentioning a concrete action they were part of which was significant.

The dominant thematic values which emerged in this learning stage was "practice." Facilitator Margarita, in the T-Lab in Las Islas del Rosario, notes the importance of transformative practices taking place in the context of the community: "I could have talked about facilitation and ecovillages in a hotel in Cartagena [main city close to Rosario Islands], but giving the T-Lab here in the community, talking about eco-hotels, while people are staying and living what the eco-hotel concept can be, construction materials, what food is provided, what the community is fighting for in the territory, it all turns into a pedagogical experience, not just a workshop." This sentiment of carrying out actions together was shared by participant Victor in the Aldeafeliz T-Lab "One of the big impacts was the form of living together, and constructing together in small spaces. Managing to avoid conflicts, the social part, where there is tolerance, and living together with the community".

Participant Yuluka in the CotM T-Lab, shared how such place-based experiences can be embodied: "It affects your ability to act, or not to act. If the territory is sunny, beautiful and calm, then you feel good. But if there is intense rain and you cannot walk because there is so much mud on your shoes, then you need to get something out of yourself, something inside that you do not know about, because you have not experienced it before, and this search for the strength to continue is a strong effort". The relevance of motivation and inspiration for enabling transformation and change was reiterated by participant Anubav in the Lekker Nassuh T-Lab, "I think maybe the biggest factor was working with people who are doing it to just do it. And they're not doing it for an ulterior motive ...to earn money or get respect or power. They just do it because they want to make the world better, and they want to embody the change that they want to see in the world. And to work with such people has really been an eye-opening thing for me and has enabled me to bring that out more in myself... I think that is one of the main factors that has enabled my transformation".

Acting as "germ cells" [46] emergent in our processes, we can see how context contributed to the importance of practices embodying transformation, as well as providing motivation for other participants to partake in transformational processes.

4.3. Stems

The learning stage of stems develops if the previous germ cells are able to challenge and overcome the structural barriers to their realization. Rather than learning stages, the following subsections are the learning aspects involved in the transition between learning stages, located on the bottom left of Figure 1 above (The learning aspect of "moments" has not been included as the interviews are based on these 'moments' in the form of the critical event inquiry).

4.3.1. Barriers

Barriers are lock-in mechanisms that make change difficult. These may be cognitive, cultural, and/or structural challenges to realizing meaningful transformation. Expressions of learning taking place occur when subjects mention dominant paradigms and ideas which they consider as barriers to promoting wellbeing at the individual and collective level. The dominant value theme emerging were "acknowledging uncertainty", where a strong sign was the disruption taking place in the T-Labs, and valuing "order" through design-based approaches to community.

A clear cultural barrier in the context of the T-Lab in Las Islas del Rosario was explained by participant Maria on the prejudices in her community. “We have become accustomed from the colony that “negro no le cree a negro” [black does not believe in black], therefore we believe the one who arrives from the outside [usually white]...everyone follows that person, because that person has to know more than ourselves, even though we are from the community”. The inbuilt prejudices of society are also mentioned by participant Carlos during the Aldeafeliz T-Lab, concerning the implementation of ancestral, ecofriendly construction methods. “We have the idea that what rots is bad. Then we learn from this indigenous technology that rotting is part of the design, and this can result in a longer-term structure, involving the cycles of nature. This is a revelation. The logic of a house as living, instead of eternal”.

Experiencing something disruptive as a means to motivate the opening of one’s mind was shared by facilitator Yuluka in the CotM T-Lab, concerning her interaction with the Indigenous Misak people: “It is a little incomprehensible for us, as westerners, because in the moment of sitting down and talking, the basic principle for them was that Mother Earth was alive, and everything that happens around us in is terms of living entities. To open the mind to the possibility of this comprehension, from the perspective that they live like this, was amazing”. Although disruption may be an enjoyable experience, it may also be more difficult, as Lekker Nassuh T-Lab participant Liselotte shares in the initiative’s attempt to overcome the barrier of hierarchy in their initiative: “We did not have any hierarchy and everything was possible until things didn’t really go as planned. And the feedback of that was, we’re going to have structure and rules. That really opened my eyes in the sense that it made me realize that everything on this earth, not only living beings but also systems, they’re created in such a way as to survive . . . everybody is trained to live in a hierarchical society. So, when we say we’re going to drop this, it’s going to kick us back because it wants to survive”.

Barriers are a natural part of all learning stages, kept alive by societal norms which attempt to keep society stable and ultimately to “survive”, as Liselotte describes above. Finding order is a strong theme in addressing these barriers, and ironically, in a transformative context, this means valuing disruption and uncertain situations where new forms of order can be experimented with. As participant Sebastiaan, in the Lekker Nussuh T-Lab states, “we run into resistance, within ourselves or within the community . . . each moment that could be transgressive to me has something to do with blockage or resistance being solved in a way”.

4.3.2. (Invisible) Processes

Processes highlight how learning stages are interconnected in a spiraling organic process. This appreciates that transformative learning is a lifelong and oftentimes disruptive process, rather than a linear notion of things that can be “learned”. The “invisible” aspects of processes are the tangible but invisible threads which connect learning stages together, but require different perspectives and innovative thinking to recognize and understand them. Acknowledging uncertainty was once again the dominant theme which emerged in this learning aspect.

The uneven process of transformation was highlighted by Margarita in the T-Lab in Las Islas del Rosario. “Another transformative aspect was then letting go of the rhythm. After many things have happened, where there has been a big effort, there is then a contraction where things are processed, becoming sediment. It is important to leave a space for silence, the void, to allow for what is coming next. The first T-Lab was an inhalation, then after this first breathe, we left time for maturing.” This maturing in the process was mirrored by participant Andres at the CotM T-Lab, who noted how the smaller event in 2018 had led to more meaningful interactions with other participants, with more possibilities to learn about people’s life processes, or other projects of people who participated. “The possibility to have this contraction of the spiral, to review the purpose of the event, the “why are we doing all this?” It gives much more sense for what we want to do in the future, it permits us to find an order, find a familiarity that permits us to articulate ourselves more affectively, to be able to reach our collective goals.” The rhythm of transformation was also highlighted in the Lekker Nussuh T-Lab in the Netherlands, where participant Frederik noted the initiative’s acceptance of having to

slow down. “We don’t have the capacity to do this. And, I think, from that moment on, together with Liselotte and Sebastian, we said to ourselves, as an organization which is beginning, we should not do anything that is beyond our capacity. We should really be very conscious of our own internal pace, and judge anything we want to do against our ability to do things”.

In terms of invisible processes, participant Carlos in the CotM T-Lab described his understanding of the transformative processes he was going through: “the mysterious processes of life that cannot be explained, we have the illusion of knowledge that we can find answers, but in reality we are living in a transcendental moment”. Facilitator Eber from the T-Lab in Las Islas del Rosario also noted that “We want transformations to not only be in the physical, but also in the spiritual; that the same “being” with all its feelings are transforming, not only changing the clothes. In other words, not just transformation on the outside but also on the inside”.

To summarize, a strong theme in the learning aspect of processes was the appreciation that transformation takes place at different rhythms, and in all the examples above, the learning outcome was that it was necessary to slow down, reflect on the process, and connect one’s inner purpose with what was happening in the initiative.

4.3.3. Active/Passive Absence

This learning aspect addresses the need to recognize actors, ideas and knowledge which are excluded and hence marginalized in a transformative process [47,48]. Absences are passive when such exclusion is accidental, not premeditated. Absences are active when the actor decides not to be present, or when a specific perspective is deliberately not taken into account. This learning aspect was represented by the value of “practices”, in terms of novel ideas and skills being present.

At one level, we can see how T-Labs filled absences by bringing new ideas to initiatives that were absent before. Edgardo from Las Islas del Rosario shares an important moment in the T-Lab when the T-Lab facilitator “...explained to us that we were going to build with wood and straw, and not with tile or cement. Because I am seeing that in the future my children and grandchildren can live in a less polluted country, it is not only living with money but with what nature is giving us. Before I had not thought about this because I had a lack of this information”. Facilitator Tatiana in the Aldeafeliz T-Lab noted that “...in social aspects, with the construction of a culture of peace, of a social fabric, the T-Labs have contributed a lot. The capacity to sit down with one another and translate our experiences, what we have lived, the possibility to eat together—a peasant, a politician, to talk about the opportunities in the territory. The practical exercises in the T-Labs have helped us communicate. These T-Labs make visible the people who are interested in the topics, who are we, what are we doing? How close, or far away from each other are we? What do we each know, and how can we share this knowledge? It inspires us to get closer to our territories, and see what we can do in our territory”.

Although the value of “practices” was present in this learning aspect, whereby participants appreciated new, concrete information and ideas for sustainable living (i.e., filling in absence), there was a noticeable lack of participant references to more politically charged understandings of “absence” such as blind-spots, marginalization or people left out or excluded from the T-lab processes.

4.4. Leaves

Leaves evolve out of stems through barriers and tensions being overcome, resulting in the grounding and growing of learning processes. They represent energy for the process to continue over time. Examples of this are when subjects refer to learning activities which become periodical and generate solid, long-term changes. The dominant theme emerging was “order”.

CotM participant Andrea emphatically noted the theme of order resulting in an impetus for a long-term process: “[The Call of the Mountain] event told us “Continue! Continue!” We are many, this is happening, this is a reality, and this means to be around the fire and in a circle, and it really works, this is a technology that sticks, relations become a fabric, from the soul, and there are people I met there that I maybe will never meet again, but we are still in contact. Something came together”.

The importance of the structure of the circle as a facilitation tool was also shared by Facilitator Tatiana in the T-Lab in Aldeafeliz: “During our conversations, some of the neighbors [participants] managed to confess that they were having problems with each other, but they felt like they were in a safe space. They were saying “yes we have problems but we are going to be able to resolve them”. These participants gave a lot of significance to the circle, to be able to speak about issues, not leaving things unresolved, to permit that the vulnerability emerges. During an interview I carried out with a neighbor afterwards, the neighbor recognized the talking circle as a very important space where he had learnt to communicate with others. For me it gave a reference point for another way of carrying out things”.

Having explicitly addressed the barrier of hierarchy, Frederik from the Lekker Nassuh T-Lab describes how the process began to expand after recognizing that the initiative was going to need structure, and more individuals to take responsibility. “From that moment on, we were not going to do everything anymore. Anybody who wanted vegetables was going to have to contribute in some way or another in terms of time. We knew that this would have a drawback and things would go less quickly...but it would be more balanced, and that worked. That was the time we created the foundation. It was the time we started to have our finances and accounting in order. We started to make something of a structure. Without that it would have collapsed within a month. And we would have all parted as enemies”.

The examples above demonstrate the importance of developing a structure which works in an initiative. Such a structure can be motivational in learning new ways to communicate and learn from one another, as well as promoting important values such as responsibility to a process.

4.5. Blossoms

Blossoms and fruit appear when a process has been successful, both at the level of the individual and the community. At this stage the process becomes an example for people from outside the process who arrive, learn and become inspired, thus pollinating other processes and fertilizing new ideas. The dominant theme that emerged in this learning stage was that of “education”, especially the subjects’ ability to reflect on their learning process throughout the T-Lab.

Participant Manual, from the T-Lab in Las Islas del Rosario, shared an experience which helped him value communication: “We carried out the exercise of a doll on the floor, with a name on its head, where one should express [to the doll] how one is feeling, learning how to communicate with another person, without rudeness, willingly. I have learned how to solve conflicts here... one learns to listen to people, to communicate well. The change was that before [the workshop], I did not take care of my territory like that, I did not like going to gatherings, but this gathering inspired me and filled me with wisdom, how to take care of a territory”. Participant Victor, in the Aldeafeliz T-Lab shared how the T-Lab was inspiring the local neighborhood “as a pedagogical school, where people go to visit, working towards the caring of the local area, the tourist comes and visits, they are not degrading the land, they are caring for the water, flora and fauna. At the level of the municipality is it interesting, because they are noticing us, that there are grassroots communities that are thinking about what is healthy, in terms of production, which in the long-term influences the minds of the neighbors and the neighborhood”.

This flowering of a process is also evident at the individual level, whereby Anubav, participant at the Lekker Nassuh T-Lab notes that “I now question myself even more. And I believe that anything is possible, which I didn’t maybe a year ago when I thought that these are the guidelines set by society, this is what’s possible”. At the level of the community, Carlos at the Aldeafeliz T-Lab notes that “there are moments with a strong symbolic power that makes us ask who we are, and leads us to a deeper sentiment for the respect of diversity, which in the end we incorporate . . . we are diverse, and we are people in a process of auto-construction, finding out who we are. We are not taking a single teaching which is telling us who we are, we are not on one path that is telling us who we are, but assuming the exercise of finding out ourselves who we are”.

To summarize, this learning stage represents the fruition of a learning process, where participants have had the time to reflect on what he or she has experienced, putting it into context of their own

learning journey. We can note the characteristic of “before” and “after,” signifying a transformation of some kind, whereby replicating such learning outcomes becomes possible.

4.6. Seeds

Seeds are the final units of replication that can be stored, planted in other contexts, or thrown into the air to see where they land and germinate transformation. At this learning stage, subjects mention how what they have learnt during the T-Lab could contribute to replicating processes in their community context, for example, through reports, methods, results, new perceptions, skills and tools. The dominant theme that emerged in this learning stage was that of “practices” and “optimism”.

At a practical level, skills learnt during the T-Labs were replicated in other contexts. Participant Victor in the Aldeafeliz T-Lab describes how his neighbor who also participated in the T-Lab put into practice what she learned in the soap making exercise of the workshop. “She is taking advantage of the resources from her neighbors, using vegetable oil, oil from citronella [an aromatic plant] so the soap is better for the body, and she sells soap to the community. This had an impact because the soap is not commercial, and the neighborhood is happy because it is a product from the area. My neighbor is also happy because she makes money from selling the soap”.

In addition to valuing the practical replication of skills learnt during the T-Labs, a dominant value in this learning stage was ‘optimism’. As Ever in the T-Lab in Las Islas del Rosario notes, “It is not about giving workshops for the sake of giving workshops, but that the workshop generated positive results such as the commitment from the participants . . . The participants left with the expectation that all these exercises can help them expand and change towards affirmative actions in their territories”. This optimism is mirrored by CotM participant Stefen, “...there is a common movement that is conscious of the necessity of a transition, to walk this path. But at the same time this is very lonely. If one is alone, in their project, occupied and fighting against all the obstacles, against all the resistance one receives, well this is also exhausting. To see that others are doing something similar, and this exchange of tools and solutions—ah, in this case I did it this way, etc.—this fills the toolbox with tools in oneself, this tool box of options, how to react, solution, support, create, this is very transformative”.

Last, the emancipatory aspect of learning to take responsibility for the transformations needed in society were represented by Anubav in the Lekker Nassuh T-Lab. “I think one of the biggest learnings that everyone can take from here is that the power is really in the peoples’ hands and we don’t have to wait for anyone sitting in a bureaucratic position to make a change for us. The power to change is really in everyone’s hand. I think with the combination of a lot of small changes there will inevitably be a big change. And that will have come from the ground up, instead of from top-down. And I believe that would be the most powerful and lasting change”.

In summary, at a “practice” level, some subjects shared examples of skills learnt during the T-Labs that were replicated in other contexts. Yet a stronger value than the practical replication of skills was the value of “optimism” expounded by subjects. This represented a strong emancipatory aspect of learning to take responsibility for the transformations needed in society, and a conviction that this was possible after participating in the T-Labs.

5. Discussion

One of the most important aspects of education and learning is to motivate individuals to believe and act on the belief that they can transform themselves and the world around them. This involves the difficult task of bridging the difference between what we believe to be sustainable, and our everyday actions [70]. This knowledge-action gap exists despite the ample scientific evidence pointing to the negative impacts of Man on the environment. That the status quo of unsustainability is still the norm highlights the limits of science, and our rational minds to change our behavior towards more sustainable habits.

As Dahl et al. [68] argue, motivation and commitment to change are rooted at the deeper level of values. Building on research into values-based indicators in assessing Education for Sustainability [50],

the authors of this paper developed a set of thematic values which characterize the learning stages and learning aspects of the Living Spiral model (see Table 3 above). The Results Section above provides representative quotes from the four respective T-Labs, derived from semi-structured interview data.

T-Learning colleague Stefan Bengtsson argues that there are no definite understandings of transgression, as transgression itself involves the undermining of rules and boundaries [71]. What we tried to do, however, is empirically show how in specific contexts, there are situations and perceived experiences which provide value-based “signs” of transgressive learning taking place, which is what we will discuss in this section.

5.1. Addressing Uncertainty by Taking a Step Back and Reflecting

The value that received the most coding references in the data was “acknowledging uncertainty”. This value was characterized as disrupting the status quo of what is normally understood, and valuing the ability to accept and let go of what is beyond our control. Earlier research has demonstrated the importance of disruption in learning contexts through opening up possibilities for change within a system, through engaging in ontological politics [31], characterized by a “break with continuity” [71].

Acknowledging the uncertainty resulting from barriers in learning processes promoted reflexivity in the participants. A strong example of transgressive learning taking place in the T-Labs was the case of Lekker Nassuh in the Netherlands, whereby various participants expressed the tension between resisting hierarchy in the organization of the initiative, and the increasing recognition of the need for structure so as to provide order and clear roles and responsibilities for activities. In a common sentiment shared by the other T-Labs, participants in Lekker Nassuh reached the difficult conclusion that they had to change the rhythm of their initiative; stop, take a step back, reflect, and reorganize themselves in relation to their initiative. Margarita in the T-Lab of Las Islas del Rosario described this process as inhaling and exhaling, while Andres in the CotM described this change in rhythm as the contraction of a spiral. Being able to value the need to step back, and not control everything in a process is a clear sign of transgressive learning taking place.

5.2. Community and Relationality Driving Deeper Questions of Purpose and Belonging

A strong theme in the interviews was the importance of building relationships between people and territory in the T-Lab settings. A metaphor used in the CotM T-Lab was the metaphor of “weaving” relations between participants and the territory, and these values were particularly evident in the learning stage of the roots, representing the context from where learning was taking place.

In the Aldeafeliz T-Lab, a fundamental tension was the search for belonging. This was manifested in the tension between the desire to connect to one’s ancestral place (practices and worldviews of people who previously lived in the territory) and the acknowledgement that participants had been brought up in a different modern world, and that there was a need to be true to oneself in deciding how to relate to the world around them. This encounter with different ways of relating to the world also came out strongly in the CotM, represented by how participant Yuluka described relating to the territory through embodying the climatic aspects of mud and rain, and how these difficult experiences taught her to question new things about herself.

With the appearance of these values of community and relationality, a transgressive sign of deep reflection was evident in participants. This involved going beyond simply a connection to a territory, but deeper ontological questioning of who one really is, and one’s purpose in life.

5.3. Unveiling ‘Absences’ through Transgressive Learning

While in fields such as collaborative learning there is a bias towards questions of how to work together with actors “present”, a fundamental aspect of transgressive learning is making visible what is “absent” in transformative research so as to better capture the challenges of overcoming sustainability challenges. Although this aspect is not unique to transgressive learning, being present in fields such as

social learning [72], its focus on identifying and addressing subverted forms of knowledge relationships makes absence a vital concept in transgressive learning [73].

At a superficial level, absence was reflected in the results from the different case studies. In the T-Lab in Las Islas del Rosario, there is the appreciation by participants of the importance of bringing new knowledge and skills in the workshop, which were absent before. In the T-Lab in Aldeafeliz, it is noted how the T-Lab made visible actors in the region, and like in Las Islas del Rosario, the experiential activities brought these actors together in a community process.

However, there are notably few references to people, ideas, or perspectives excluded in the T-Labs, or critical perspectives to the T-Labs themselves. It is of course easier to notice and talk about what we know and see, rather than what is absent and invisible in our lives. Yet, beyond participatory learning, an essential aspect of multi-stakeholder environments is working with power [74], which did not appear strongly through participant responses. There is recognition that addressing underlying power relations is often lacking in transformation research [75], and the absence in the results of critical reflection to structural differences between participants demonstrates a barrier to transgressive learning taking place.

5.4. Research Limitations

The Living Spiral model is a heuristic tool to understanding transgressive learning, and although its organic and spiraling nature attempts to better capture the complexity of human–nature interactions, it is important to remember that reality is much messier than what the Living Spiral model represents. Although the model was a useful means of understanding aspects of transgressive learning across the case studies, the lack of attention to “absence” highlights limitations in the methods used in the research. On the one hand, the T-Lab method created safe learning spaces where trust was developed amongst participants, as well as with the lead author, which led to an openness in interviewee answers. On the other hand, the lack of critical perspectives by participants highlights the lack of “discomfort” [64] in the interview interaction, contributing perhaps to a space too comfortable for participants to engage in a more critical conversation. Had the approach been more emancipatory, through the researcher delving deeper into the assumptions of the research subjects, and explicitly questioning ‘absence’ in the T-Lab experiences, then a less romanticized narrative may have emerged. This highlights a tension in transgressive learning between focusing on the empathic connection with interviewees, trying to “understand” the experiences they had gone through, rather than a more disruptive interviewing technique which wanted to “question” what the participants had experienced. In line with the characteristics of transgressive learning (Table 1 above), the balance between the researcher being disruptive and empathic needs careful attention and reflection.

5.5. Key Conclusions and Further Research

Rather than understanding education as a linear process towards predefined goals, the Living Spiral model addresses the “messy” nature of social science research [76] through conceptualizing learning as being composed of uncertain and emergent forms, much like the conceptualization of “wicked” sustainability challenges [77]. For this reason, alongside research by Brockwell [50], we have placed focus on the process of exploring values which characterize the contexts we are studying.

Through the empirical data analyzed in this paper, the values of “acknowledging uncertainty”, “relationality”, and “community” provided signs of transgression taking place in the four T-Labs. The enactment of these values led to the motivation of T-Lab participants and facilitators to reflect deeply on their sense of belonging, and need for order through seeking connections between different ways of learning, being and doing in life, in what we characterize as ecologies of knowledge [78] (see Table 1).

However, inherent to such ecologies of knowledge is the need for epistemological justice [78], whereby a strong characteristic of transgressive learning is the role of dissonance to disrupt and question fixed values and beliefs. This provides opportunities for new worldviews to emerge and enter into dialogue, which is necessary for addressing increasingly polarized issues such as climate

change. Importantly, this disruptive characteristic of transgression needs to be balanced with an ethics of care and a culture of reflection [32] (see Table 1). As Ojala [28] states, hope can be inspired by disrupting unsustainable norms, but such learning can also trigger anxiety at the gravity of climate change problems and the undecided nature of the future.

In conclusion, a key message for educational practitioners and academics who want to support processes of transgressive learning in their own environments is to take into account the strong power dynamics inherent in multi-stakeholder learning environments. This means reflexively balancing the disruptive and empathic characteristics of transgressive learning through acknowledging and addressing 'absence' in their learning environments. Addressing this, transgressive learning can help capture the dynamic processes of learning, providing inspiration and guidance to future educational programs, with the Living Spiral model acting as a means to analyze data and monitor learning processes.

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Appendix A

In the Colombian Case study of the International T-Learning project we are employing critical event inquiry to explore moments and processes of transformative learning. This is a qualitative research approach to identify patterns of transformation that we are investigating, in the form of a story with the events that a person lived through a process (or its existence in other cases). The original questions asked in Spanish are in italics, with bracketed information specifically for the interviewer.

Research questions:

1. "What have been three to five (3–5) events or experiences that have been most significant during the process of the T-Lab you have been part of?" (Original in Spanish: *¿Cuáles han sido los tres a cinco (3–5) eventos o experiencias que han sido más significativas en el proceso del T-lab del que hace parte?*)
2. "If we define transformative learning as a change in reference points, and world-visions, to what extent have these experiences been transformative to you and your community?" [to interviewer: If yes, why; if no, why not? What was the transformation and why did it happen?] (Original in Spanish: *Si definimos el aprendizaje transformativo como un cambio en los puntos de referencia y visiones del mundo, ¿Hasta que punto han sido estos eventos transformativos para usted, para el grupo? ¿Por que si o por que no? (¿cuál fue la transformación? Y porque la transformación sucedió?).*)
3. To interviewer: If the answers to questions 1 and 2 only reference personal changes, ask the following question. "Was there an event or experience that was transformative for the group or the collective?" (original in Spanish: *Si las respuestas de la pregunta 1 y 2 hacen referencia solo a cambios personales/individuales hacer la pregunta: ¿Hay algún evento o experiencia que hayasido transformativa para el grupo como colectivo?*)
4. How would you relate these experiences with the challenges of climate change (food sovereignty/security and water, water, social justice, energy) at the personal and community level? (Original in Spanish: *¿Cómo se relacionan estas experiencias con los retos de abordar el cambio climático (soberanía/seguridad alimentaria y de agua, justicia social, energía) en los niveles personal, en tu comunidad?*)

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