


Transgressing the norm: Transformative agency in community-based learning for sustainability in southern African contexts

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Abstract Environment and sustainability education processes are often oriented to change and transformation, and frequently involve the emergence of new forms of human activity. However, not much is known about *how* such change emerges from the learning process, or how it contributes to the development of transformative agency in community contexts. The authors of this article present four cross-case perspectives of expansive learning and transformative agency development in community-based education in southern Africa, studying communities pursuing new activities that are more socially just and sustainable. The four cases of community learning and transformative agency focus on the following activities: (1) sustainable agriculture in Lesotho; (2) seed saving and rainwater harvesting in Zimbabwe; (3) community-based irrigation scheme management in Mozambique; and (4) biodiversity conservation co-management in South Africa. The case studies all draw on cultural-historical activity theory to guide learning and change

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processes, especially third-generation cultural-historical activity theory (CHAT), which emphasises expansive learning in collectives across interacting activity systems. CHAT researchers, such as the authors of this article, argue that expansive learning can lead to the emergence of transformative agency. The authors extend their transformative agency analysis to probe if and how expansive learning might also facilitate instances of *transgressing norms* – viewed here as embedded practices which need to be reframed and changed in order for sustainability to emerge.

Keywords community learning · expansive learning · transformative learning · transformative agency · education for sustainable development

Résumé Transgresser la norme : l’agentivité transformatrice dans l’apprentissage communautaire pour la viabilité en Afrique australe – Les processus d’éducation à l’environnement et au développement durable sont souvent orientés vers le changement et la transformation, et impliquent fréquemment l’émergence de nouvelles formes d’activité humaine. *La façon dont* ce type de changement découle de la démarche éducative et dont il contribue au développement d’une agentivité transformatrice dans les contextes collectifs est néanmoins peu connue. Les auteurs de l’article présentent quatre perspectives transversales de l’apprentissage expansif et du développement de l’agentivité transformatrice dans l’éducation communautaire en Afrique australe, à travers l’étude de communautés poursuivant de nouvelles activités socialement plus équitables et pérennes. Ces quatre cas d’apprentissage communautaire et d’agentivité transformatrice déploient les activités suivantes : 1) agriculture pérenne au Lesotho, 2) conservation des semences et récupération pluviale au Zimbabwe, 3) gestion communautaire du réseau d’irrigation au Mozambique, 4) cogestion pour la conservation de la biodiversité en Afrique du Sud. Ces études de cas s’appuient toutes sur la théorie historico-culturelle de l’activité (*cultural-historical activity theory*, CHAT) pour guider les processus d’apprentissage et de changement, notamment la troisième génération de la CHAT qui valorise l’apprentissage expansif en collectivité dans le cadre de systèmes interactifs d’activité. Les chercheurs en CHAT, dont les auteurs de l’article, argumentent que l’apprentissage expansif peut favoriser l’apparition d’une agentivité transformatrice. Les auteurs approfondissent leur analyse d’une agentivité transformatrice pour examiner si et comment l’apprentissage expansif peut aussi favoriser les circonstances dans lesquelles des normes sont transgressées – présentées ici comme les pratiques intégrées devant être recadrées et changées pour que puisse s’instaurer la pérennité.

Introduction

The need for a process of transition to sustainability is widely documented in the literature (see, for example, Geels 2010; Swilling 2013). In recent years, more attention has been given to researching transformative learning as part of such a transitioning processes (Lotz-Sisitka et al. 2015; Blackmore et al. 2011, Reed et al. 2010; Wals et al. 2009). While this is certainly important, there is still a need to

expand insight into *how* sustainability transformations emerge from community learning processes (IPCC 2014; O'Brian et al. 2013). Recent research into transformative learning and sustainability points to the importance of attending to undertones of dissonance in the learning process (Wals and Heymann 2004; Sol and Wals 2015; Belay Ali 2014), critically engaging with multiple stakeholders in multi-voiced forums (Wals 2007; Wals and Schwarzin 2012; Krasny and Tidball 2012; Mukute and Lotz-Sisitka 2012), and engaging the dialectic between tradition and innovation (Tilbury 2011; Mukute and Lotz-Sisitka 2012; O'Donoghue 2016). In doing so, this recent research partly draws inspiration from Paulo Freire (Freire 2006), whose approach to adult learning emphasised criticality, dialogue and learning as an engaged, situated process in community settings. While this approach does focus on participation in engaged, dialogical community education processes, there has been little exploration of *how* such learning processes shape collective expressions of transformative agency (Sannino et al. 2016), understood here to mean the collective capacity to change activity or practice. The ability to observe transformative agency processes in community learning requires that researchers are fully engaged in the research and learning process, and that they develop methods and approaches for observing transformative agency (ibid.). It is this dimension of transformative community learning which this article addresses.

Southern Africa, where our four case studies are situated, has been identified as one of the areas most at risk from climate change (IPCC 2014), and in this context the sustainability debate is closely intertwined with efforts to address historical underdevelopment and poverty (Cheru 2002; Ferguson 2006), as well as the imperatives of new environmental and sustainability policies (Swilling 2013). Ensuring viable livelihoods for communities is a critically important dimension of sustainability activity in the region (SADC REEP 2014). Our case studies focus on some of the typical practices communities are engaged in to address sustainability challenges, including co-management of fisheries and other natural resources, establishment of conservation-oriented common property associations as part of land reform initiatives, development of communal sustainable agriculture and irrigation practices, rainwater harvesting and seed saving, and upscaling of communal gardening to ensure household food security. All of these are critical issues for rural communities in southern Africa (SADC REEP 2014).

Theoretical and methodological perspectives on change-oriented learning and transformative agency

As indicated above, our research focuses on community-oriented learning and transformative agency, mainly in the context of collaborative management of natural resources and more sustainable agricultural practices. Such learning processes are often placed under the banner of social learning (e.g. Pahl-Wostl and Hare 2004; Pahl-Wostl et al. 2007; Pahl-Wostl 2009; Muro and Jeffrey 2008; Cundill and Rodela 2012; Lotz-Sisitka 2012). Social learning reflects changes in activity and practice at different levels in a system; namely, at the level of the individual (e.g. cognitive, attitudinal and behavioural changes), at the level of

community practice (e.g. changes in practices), and at the level of the wider system (e.g. changes in governance and management systems). *Expansive learning* (Engeström 2000, 2016), as understood in this article, focuses on collective learning at the community level, but also encompasses individual cognitive gains, and engages issues that are relevant to wider system changes. It focuses on learning about what is “not yet there”, and on boundary-crossing learning (Engeström 2016). Expansive learning is a dialectical theory of learning based on post-Vygotskian cultural-historical activity theory.¹ It uses formative interventionist research approaches, especially a methodology called *change laboratories*, which we explain next.

Formative interventionist research is not unlike action research, in as far as it allows educational researchers to become involved in the design and implementation of transformative processes (Engeström et al. 2014; Sannino et al. 2016). Formative intervention research in the tradition of cultural-historical activity theory (Engeström et al. 2014; Sannino et al. 2016) provides researchers with guidance and analytical tools for observing the relationships between transformative learning and transformative agency. It is built on a *dialectical ontology of developing systems* which integrates properties, relationships and movement (Virkkunen and Newnham 2013), and posits that systems develop by overcoming inner contradictions (Engeström 2016; Mukute 2016).

The process of expansive learning can be implemented via change laboratories, which involves participants analysing and re-designing their activity using tools from cultural-historical activity theory (Mukute and Lotz-Sisitka 2012). Annalisa Sannino (2011) and Yrjö Engeström et al. (2014) explain that change laboratories are based on two epistemological and methodological principles: that of *double stimulation* stemming from the work of the Russian psychologist Lev Vygotsky,² and that of *ascending from the abstract to the concrete*, stemming from the work of Evald Il'enkov (1977, 1982) and Vasily Davydov (2008).³ This dialectical method allows for intensive forms of change-oriented expansive learning.

¹ Cultural-historical activity theory (CHAT) is a theoretical framework which helps to understand and analyse the relationship between the human mind (what people think and feel) and human activity (what people do). It emerged from the early 20th-century cultural-historical school of Russian psychology, led by Lev Vygotsky and Aleksei Leontiev, and was developed through the work of Yrjö Engeström and colleagues in Finland.

² Engeström (2016, p. 43) explains double stimulation as follows: “Instead of merely giving the subject a task to solve, Vygotsky gave the subject both a demanding task (first stimulus) and a ‘neutral’ or ambiguous external artifact (second stimulus) which the subject could fill with meaning and turn into a new mediating sign that would enhance his or her volitional actions and potentially lead to a reframing of the task. Expansive learning typically calls for formative interventions based of the principle of double stimulation.”

³ Evald Il'enkov (1924–1979), was a Soviet philosopher who developed Marxist dialectical theory (see Bakhurst 1991). Vasily Davydov (1930–1998) was a Soviet psychologist who developed pedagogical theory based on Il'enkov's work.

In our research, we have used *change laboratories*⁴ in case studies of sustainability-oriented natural resources management. Change laboratories are a research methodology used in structuring engagement of participants which typically follow an expansive learning cycle (see Figure 1) which involves generating data *with* communities on their current object of activity (e.g. communal irrigation scheme, sustainable agriculture, or rainwater harvesting and food gardening) to identify the history, tensions and contradictions in the activity (Learning Action 1: Questioning). These contradictions yield what is called “mirror data”, which allow communities to reflect on problems and tensions in their activity (Learning Action 2: Analysis). This then provides further reflective material for communities to consider alternatives or model solutions (Learning Action 3: Modelling), and then to test the viability of the model solutions and how they might be implemented by the community itself, or by various new combinations of identified stakeholders (Learning Action 4: Examining the model). From here, communities can prioritise which of the proposed model solutions can be implemented, and how (Learning Action 5: Implementing), and then reflect on the implementation of these solutions (Learning Actions 6 and 7: Reflecting, Assessing and Consolidating). At the end of each of these learning actions, further data are produced and shared as “mirror data”, or new stimuli are introduced into the learning process (e.g. new knowledge of water harvesting practices or new scientific knowledge of climate change impacts on existing agricultural practices). These forms of double stimulation allow for the expansion of existing knowledge and activity, and hence this is called a *process of expansive learning* (Engeström 2016; Engeström and Sannino 2010, see Figure 1).

Transformation of activity via processes of expansive learning implies change and movement in terms of both properties and relationships, and is triggered by agentive forces. Individual agency involves the will and capacity to act upon situations towards a purpose (Sibeon 1999, referred to in Lewis 2002), while collective agency involves groups of people who agree to use their collective capacity to act upon situations towards a common purpose (Emirbayer 1997); through relational encounters, they can produce new “relational goods” (Donati and Archer 2015) which are more than the sum of the individual actors’ contributions (ibid.). Yrjö Engeström and Annalisa Sannino (2010), Heli Heikkilä and Laura Seppänen (2014), working within the tradition of cultural-historical activity theory, state that transformative agency is the most important outcome of expansive learning, especially in situations of complex change. Engeström and Virkkunen (2007, as cited in Heikkilä and Seppänen 2014) describe transformative agency as a person’s capacity to make “purposeful changes” to their work or shared activity. Engeström and Sannino (2010) and Engeström (2016) argue that observation of transformative agency is an important way of reflecting on the transformative potential of expansive learning. This is fundamentally different from measuring

⁴ Engeström (2016, p. 30) explains change laboratories as follows “The Change Laboratory process consists of a series of sessions in which practitioners of an organization (or several collaborating organizations) analyze the history, contradictions and zone of proximal development of their activity system, design a new model for it and take steps toward the implementation of the model. The Change Laboratory sessions are regularly videotaped to secure rich and comprehensive data for analysis.”

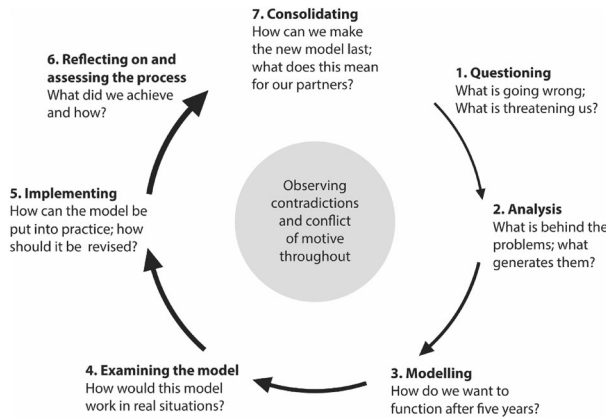


Fig. 1 The expansive learning cycle. Adapted from Engeström and Sannino (2010); 1–7 = learning actions

results of learning, or mapping learning outcomes. This is important in education for sustainable development (ESD), since not all of the outcomes can be pre-determined as new sustainability activities need to be co-created.

Observing the emergence of agency is not easy, and Heikkila and Seppänen (2014), drawing on the work of Sannino (2008), Engeström (2011) and Haapasari et al. (2012), identify six types of agency expression, revealing how people take purposeful action to change their activities (see Table 1). Heikkila and Seppänen (2014) suggest that “agency can be understood as active working through

Table 1 Types of transformative agency. Sources: Engeström 2011; Haapasari et al. 2012, p. 11, cited in and adapted from Heikkilä and Seppänen 2014, pp. 13–14)

Type of agency expression
Resisting the change, new suggestions or initiatives Directed at management, co-workers or the interventionist
Criticising the current activity and organisation Change-oriented and aiming to identify problems in current ways of working
Explicating new possibilities or potentials in the activity Relating to past positive experiences or well tested practices
Envisioning new patterns or models in the activity Future-oriented suggestions or presentations of a new way of working
Committing to actions Commitment to taking concrete, new actions to change the activity. Commissive speech acts are tied to time and place
Taking action Reporting having taken consequential actions to change the activity in between or after the change laboratory sessions

contradictions” (ibid., p. 7), as reflected in the change laboratory processes applied in our case studies. These processes track how new activity is formed, moving from abstract analysis and conceptualisation of possible alternatives by participants to the realisation and evaluation of concrete forms of new activity.

Heikkilä and Seppänen (2014) also suggest that *reframing* is a type of agency expression where participants reflexively seek to change their own practices. The latter expression of agency, we propose, is critical for re-orientation from unsustainable practice to more sustainable practices, which often involves shifts in norms, values and taken-for-granted practices. We suggest investigating whether reframing practices involves transgressing “norms” (by which we mean taken-for-granted ways of being and doing), and in our work we have made this an explicit category of analysis. We consider norm transgressions mainly at the level of activity or practice, which includes transgressing normalised historical power relations, cognitive exclusions, or relationships which affect or shape the formation of new or transformed activity. Roy Bhaskar’s (1993) approach to emancipation and agency offers ways of thinking about transgressing the norm in transformative learning. He explains that agency is an experiential, embodied process of transformative change which involves people who have traditionally and historically been subjugated by oppressive power relations, transforming those power relations through new forms of activity which produce better living conditions or choices. Such transformations, Bhaskar (ibid.) argues, take place as a “tensed spatio-temporalising process”; i.e. in the world with people present, in simple or more complex time-space configurations where various social-ecological conditions, cultural histories and power relations are present.

Case studies of transformative learning and agency formation

In this section, we share insights into how transformative agency emerged in community learning processes using research change laboratories working through the expansive learning cycle. We share insights from the monitoring of transformative agency in each of the case studies. We recognise that we are only able to present somewhat reductive accounts of complex, nuanced data sets which emerged from extensive formative interventionist engagements in each of the case study sites. We therefore offer a synthesis of the data, and draw on certain interview extracts to illustrate trends we identified in our data sets.

Case 1: Sustainable agriculture in Lesotho (Mukute 2010)

Food insecurity and land degradation due to ill-adapted conventional agriculture inspired a farmer from Lesotho, James Jacob Machobane, to develop, between 1944 and 1956, a sustainable system of agriculture which came to be called the Machobane Farming System (MFS).⁵ Machobane initially built up the innovation

⁵ The Machobane Farming System is a simple, low-input technique based on intercropping and localised application of organic manures. For more information, see <http://www.fao.org/agroecology/database/detail/en/c/472756/> [accessed 11 October 2017].

by training farmers, who produced bumper harvests while increasing their self-reliance and the productivity of their land. But the colonial government (and later a succession of post-independent governments), as well as organisations providing agro-inputs and mining companies in neighbouring South Africa who benefited from the dependence and labour of poor farming communities, stigmatised the practice as backward and primitive. A turning point came in 1990 when the state University of Lesotho awarded Machobane an honorary doctorate for his innovation, and several local NGOs began to promote MFS. Consequently, some academic and government actors developed a more positive view of MFS. They helped form a foundation to research MFS and promote its incorporation in the national agricultural policy. However, the donor-supported government budget still does not provide for MFS, and this absence is replicated in district budgets.

Formative intervention research using change laboratory workshops took place in 2008/2009, engaging MFS farmers, MFS promoters, district agricultural extension workers and authorities in Mafeteng district⁶ behind policies and budgets which support MFS (Mukute 2010). The intervention resulted in the creation of a demonstration plot in the district with financial and material support from the district authority, and intellectual support from MFS farmers and promoters, as reflected in these transformative agency expressions:

Resistance: When asked by students why MFS was not included in the college curriculum, one professor replied, “Look, we have not come here to play. We have come to discuss serious matters about agriculture.”

Explicating new possibilities for upscaling MFS through demonstration plot development: “So, through having that demonstration [plot] we will be able to document the evidence of how the system works ... Also from that demonstration [plot] we will be able to raise awareness like we are doing among the councillors. Because whatever plans come from the council, they are to take up to district level ... [and] ... every sector, every department is expected to fulfil [them] ... So, if we create awareness among the grassroots, among the people who are making plans, we will be able to have our MFS integrated into their plans, which the Ministry will be bound to support.”

Envisioning a new model of collaborative activity on MFS between MFS farmers and facilitators on one hand and agricultural extension workers on the other: “There has been ... [the] establishment of good relations with the Ministry of Agriculture and Food Security through the office of the District Agriculture Office (DAO). Out of this initiative we established a demonstration plot for documenting MFS as good practice.”

Commissive speech acts: “But what we are trying to do now, after realising that funding can also be a problem ... we are working with the DAO. We are trying to entice them to work with us so that we [can] put demonstration plots in place.”

⁶ Mafeteng, in western Lesotho, is one of ten administrative districts in that country.

Taking action: “We have established [a] good relationship with the DAO, in that the DAO’s office is supporting us [in] the establishment of the demonstration plot ... they are giving us seeds ... and money for ploughing, even for weeding; all the money that is needed is [coming] from the office of the DAO ... So, through having that demonstration we will be able to [jointly with the DAO] document the evidence of how the system works ... Because we know the system works.”⁷

The formative intervention increased the agency of the MFS farmers and promoters to expand the MFS while also increasing the likelihood of spreading the innovative practice for the betterment of local communities. These expressions of agency show the role of the change laboratory expansive learning process in helping productive partnerships to emerge.

Case 2: Community-based irrigation scheme management in Mozambique (Baloi 2016)

Mozambique is emerging from many years of civil war.⁸ Farmers have relied heavily on rain-fed agriculture only, and in recent years the government has focused on helping rural farmers to farm more sustainably using crops that attain a higher value in the market, while also encouraging the development of communal irrigation schemes, allowing more farmers to benefit from the country’s water resources (Baloi 2016). One area targeted for more inclusive (i.e. more local farmers involved) and more sustainable (i.e. improved water and irrigation system development and management) farming practices is the production of sugar cane, as this has the potential to influence the well-being of small-scale producers.

Formative intervention research involving change laboratory workshops was conducted over a period of two years (2012–2014) with sugar cane farmers in the Macubulane irrigation community, in Xinavane district. Included in the workshops were new sugar cane farmers, the community irrigation management board, local representatives of the sugar cane industry, local leaders, and representatives of the local agricultural college. In the workshops, a number of learning constraints were identified, such as farmers’ lack of understanding of sustainable irrigation systems or irrigation system management. In addition, farmers faced many difficulties related to sprinkler systems, affecting the overall yields (Baloi 2016). The communal aspect of the irrigation system also entailed problems such as participants who benefited from the communal activity, but who did not contribute as much as others (known as “free riders”), and distribution of income in a sustainable manner over the year. Results of the change laboratory processes included expanded understanding of sustainable agricultural practices among participants as demonstrated by the following transformative agency expressions:

⁷ All citations are from change laboratory data reported in Mukute (2010).

⁸ The Mozambican Civil War began in 1977, two years after the country won its independence from Portugal. It continued until the early 1990s. Since 2013, there have been renewed incidents of insurgency, but no return to full-scale conflict.

Resistance: “Initially, farmers did not want to change from rain-fed agriculture to co-operative irrigation schemes, as they did not have adequate knowledge.”

Explicating a wider range of possibilities: “I have learned about four types of irrigation management, and more about the advantages of community-based irrigation systems ... I have also learned ... that we need to produce more and reduce costs. I think we can do this.”

Envisioning more inclusive and sustainable practices: “I thought that an association may only make profit from the sugar cane, but we have learned that there are other crops that are profitable. I did not know that there are places where we cannot produce some types of crops. I did not know that there is need to leave the soil some periods without cropping, that doing so helps to regenerate the soil. We know we should do this now” ... [and from another farmer] ... “Now we have learned many things about agriculture and we would like it if this knowledge and hope can be transmitted to our children, because they are our future.”

Taking action: “Before, we used to take fertilisers and spread them over all the fields, but now we know how to measure a certain quantity and introduce it into the sugar cane field to ensure that the sugar cane grows well and strong. Today we use weights to measure the required quantity of fertiliser for one hectare.”⁹

These transformative agency expressions show the significance of expanding knowledge and learning processes for development of more sustainable agricultural activities.

Case 3: Seed saving and rain water harvesting in Zimbabwe (Pesanayi 2016)

The economy of Zimbabwe is currently characterised by a large informal sector and by agriculture. Economic depression ensued after the 1998–2008 fast-track land reform programme which converted most large-scale commercial farms to smallholdings with limited irrigation infrastructure (Mlambo 2014; Bonarjee 2013; Scoones et al. 2010). Many people now live from marginal land. Zimbabwe is water insecure, with repeated cycles of drought-related crop failure (Bird and Shepherd 2003). Traditional seed saving and rainwater harvesting and conservation approaches were identified as crucial adaptive actions. The stimulation for expansive learning was provided by proven indigenous and cultural practices (Witoshynsky 2000; Pesanayi 2016). Such celebrated successes were excluded from the agricultural college curriculum, and were not widely promoted by extension services, which instead promoted monoculture and hybrid seed varieties. In transforming agricultural water and seed systems, there is an interplay between different, ambivalent and sometimes contradictory information, knowledge and economic systems, especially along the knowledge chain from agricultural colleges to extension and farmer training.

⁹ Extracts are from change laboratory data reported on in Baloi (2016).

Formative intervention research involving ten change laboratories during the period 2014–2016 took place in the Zvishavane, Kwekwe and Zhombe (including people from Mazvihwa) districts of Zimbabwe, involving students, lecturers and college principals from two agricultural colleges, extension officers and workers, small-scale farmers and farmer innovators. Change laboratory processes led to transformations in college curricula, as well as in farmers' practices, as demonstrated by the following transformative agency expressions:

Resistance to the idea of introducing small grains [allowing for more resilience and diversity in the face of droughts] and rainwater harvesting was found among agricultural college lecturers due to lack of policy support and a resource-deficient economy: “It is very difficult to introduce small grains and water harvesting in[to] the curriculum without policy support from the management [of the Department of Agricultural Education]. All this needs funding. Right now, our engine for the water pump is not working so we cannot even use the dam water for irrigation.” Resistance was also identified in the practices of college lecturers, as stated by one agricultural college principal: “I gave the lecturers a few sorghum seeds to plant last season and they did not. Now the maize crop we have is a failure due to the drought. Our water pump is not working.”

Explicating potential of rainwater harvesting practices became possible through field evidence, as noted by one agricultural extension worker: “Most of the time when you are studying from books, it is very different from learning things that are actually happening on the ground ... So, ... I found some of the farmers doing water harvesting to extend their growing season.”

Envisioning of new possibilities, especially the inclusion of more diverse and sustainable water management practices in agricultural colleges, was evidenced in an interview with a Senior Agricultural education official in Zimbabwe: “My change project will be to... consider implementing water harvesting initiatives like that of Mr Phiri Maseko”¹⁰ ... “Our college would like to introduce small grains to the students. This way we will practise what we are preaching regarding their importance. If you can ask the farmer [Mr Phiri Maseko] to give us a quotation for his millet, we would be grateful ... We would also like him to come to demonstrate ... rainwater harvesting ... to our team.”

Committing to actions: One of the agricultural college principals stated: “We also want to grow grains ... to fight drought and counter the ageing irrigation system and power cuts. Can you assist us to get a quotation for seed from the innovator in Mazvihwa [referring to Mr Phiri]?” Another agricultural college principal stated, “Next season we are going to plant a big portion of small grains under water harvesting.”

¹⁰ The late Phiri Maseko is widely known in Zimbabwe for innovation in farming practice using rainwater harvesting and seed saving techniques (Mabeza 2016).

Taking action was noted in the changed practices in the colleges (outlined above), where colleges started to change the type of demonstration practices shown by the following statement from a college principal: “The water harvesting contours we installed in this demonstration site have started doing wonders. The herbage around the area is much denser than in other areas. We need to harvest it for livestock feed, and then plant beans. We should extend this to the main college farm cropping area.” Changes in grain marketing opportunities were also noted among farmer-innovators, one of whom said: “I have been able to sell most of my stored millet grain to RioZim mining corporation. They distributed it to farmers in our area so more people could plant the millet. Unfortunately, because of drought almost all have eaten the grain.”¹¹

This case study shows the way in which the change laboratory process allows for boundary crossing learning (Akkerman and Bakker 2011), where college lecturers learn from the practices of farmers, which in turn allows the colleges to offer new, more relevant learning opportunities for students. This occurs while farmers are also learning new practices. This attention to the needs of farmers, combined with new knowledge of relevant approaches, also offers an important means of transforming the curriculum of the colleges.

Case 4: Biodiversity conservation co-management in South Africa (Chikunda 2016)

Following South Africa’s first democratic elections in 1994, the government instituted a series of policies that sought to redress the race-based inequalities of previous governments (Carruthers 2006). Land restitution was one of the top priorities, to reverse the legacy of land dispossessions which had started during colonisation, and had been further entrenched through legalised apartheid codified in the *Natives Land Act* (Parliament of South Africa 1913)¹² (Pepeteka 2013; Carruthers 2006). Co-management, as a collaborative strategy between government agencies and land claims beneficiaries, has been identified by the post-apartheid South African government as a key mechanism to deal with the highly contentious issue of land claims in protected areas, and to improve the socio-economic conditions of the rightful landowners (Findlay 2015). Legalameetse Common Property Association (land claimants) and the Limpopo Department of Economic Development, Environment and Tourism (government agency) are two key activity systems working towards developing partnerships to co-manage the Legalameetse Nature reserve, which provides crucial water resources to the Olifants River, whose catchment in turn supports conservation and agricultural activities.

The Association for Water and Rural Development (AWARD, an NGO) has facilitated change laboratory workshops to support systems thinking and social learning in biodiversity conservation in support of the co-management of this reserve and river catchment. This is an ongoing process. Five change laboratory

¹¹ Extracts from change laboratory data reported in Pesanayi (2017).

¹² The *Natives Land Act* (No 27 of 1913) was proclaimed by the Parliament of South Africa under the “Union of South Africa” government (before the country became a Republic). It was the first major piece of segregation legislation passed by the Union Parliament. The Act was not repealed until 1991.

workshops have been implemented since June 2015, to develop better understanding of the cultural-historic context, support the emergence of transformative agency and re-conceptualise co-management, as it relates to this reserve, between Common Property Associations (CPAs) and the Limpopo Department of Economic Development, Environment and Tourism (LEDET). There have been various expressions of transformative agency:

Resistance: CPA: “It is good to protect resources, but there are no benefits at all at the moment; actually, we are suffering. When we were claiming this area, the Land Claims Commission said that people must not suffer more than before, but it is even getting worse. You cannot tell a hungry person that it is important to protect water, trees and animals if they don’t benefit at all from these resources.”

Criticising: CPAs: “The problem is that the level of education in our communities is low. They are not interested in this co-management agreement, but rather they are interested in money. The plans are there and some of the people don’t understand and refuse even to be part of the committee.”

LEDET: “As a government agency we suffer from this big brother syndrome... that zeal to control, yet we are supposed to be co-managing.”

Explicating new possibilities: CPA: “We have explored a lot of options and we want people to help in this regard. We are trying to link Lekgalameetse with other nature reserves and [the] private sector, but we don’t want chancers – we need to link with agriculture people. When we have lodges, there must be people who supply food to the lodges, but people are not that committed to agriculture because they see others failing. We need education and skills development. Today when I hire you, I need to induct you, but back then, the Generals [referring to the apartheid land owners] were using the people, not skilling them. Education is needed.”

Envisioning new models or patterns in the activity: “The other thing that must be addressed first is land ownership. There is no proof that we own the land and government must devolve their power, and transfer power of control of the nature reserve to the community, they must not just hand over the area without providing training, and we don’t want to be given something we don’t understand.”

Committing to actions: LEDET: “As [a] government we lack communication. It is something we want to fix. Our wish is to communicate more, and once the agreement is signed, we will communicate more ... we want to engage with the larger community as well.”

CPA: “Can we rush to ... sign the co-management agreement before we sort out these basic things? Some beneficiary lists are not up to date, some CPAs are not registered, how can we talk of co-management agreement in such a case? ... It looks like the Department of Lands and Rural Development should come to the party, [and] we need to go and see the Lands Claim Commissioner to clarify issues that are emerging here.”

Taking action: Lack of skills needed for co-management, especially among young people, was identified as a major issue. It was agreed that each of the six communities involved in the CPA should select four young people (2 males and 2 females) for training. Selection criteria were collaboratively developed for this purpose. All communities agreed to use this new instrument for purposes of fairness, transparency and equity.¹³

In this case we see the importance of both parties considering their roles in the transformation of the activity. The need for new knowledge and training (especially for youth) was identified as critical to the process of empowerment, to take up full ownership of the CPAs.

Conclusion: transgressing the norm?

As can be seen from these case studies of expansive learning, in each case transformative agency developed over the period of the change laboratory workshop processes. Typically, the transformation of activity broadly followed the expansive learning cycle (see Figure 1), with resistance to, and questioning of, the activity taking place in the earlier phases of the expansive learning cycle, while commitments to action emerged later on during the expansive learning cycle (Figure 1). This is, however, a broad process framework, and a more nuanced analysis of the agency expressions over the course of the change laboratory process typically involves large data sets which track conversations. It is therefore possible to find expressions of agency emerging at different phases of the expansive learning cycle, and one can, for example, find resistance arising during the action-taking phase, which is also indicative of the emergence of transformative agency (Mukute 2010).

When we analyse these cases applying Bhaskar's (1993) concept of embodied agentive agency, which reflects a shift in oppressive power relations and how this transformation manifests itself in new forms of action, we see that in each case there was also some evidence of reframing involving norm transgression. In the case of the irrigation system in Mozambique (Case 2), we found that new irrigation and planting practices challenging the previous norm of monoculture were leading to soil destruction. In the case of the South African common property association (Case 4), we found that social and power relations were constituted differently to the historically powerful norm which excluded black people from making decisions about their land. In the Lesotho case (Case 1), we found new forms of cognitive justice emerging, as communities were able to reclaim a marginalised indigenous knowledge practice, challenging the previous norm of cognitive and epistemic marginalisation. In the Zimbabwe case (Case 3), we found that the change laboratory processes enabled transgression of the normalised exclusionary relationships between agricultural college lecturers and farmers, which were previously almost non-existent and at best informal.

In conclusion, when viewed across the cases, we see that all of these transformations and norm transgressions which emerged from the change laboratory

¹³ Data extracts are from field records of Chikunda (2016).

expansive learning processes at the levels of practice, power relations, cognitive justice and new relationships appear to be significant for the emergence of a more sustainable, just society in southern Africa, and for realising education for sustainability in southern African community contexts. While the studies outlined above are constituted as case studies, the development of the frameworks and models for researching expansive learning and transformative agency have wider application, are already being spread via learning networks and college curriculum innovation, and have given rise to an expansive social learning research network in the southern African ESD research community. While the above research provides insight into the potential of community-based learning for sustainability, and how such forms of co-engaged research and learning can contribute to reframing processes via norm transgressions, there is still much to learn. Based on these findings from our case study sites, we propose that more attention be given to such transgressive dynamics of expansive learning in order to disrupt and change cultural and structural formations that hold unsustainable practices in place.

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