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METHODS FOR INTER- AND TRANSDISCIPLINARY RESEARCH AND LEARNING BASED ON PAULO FREIRE

Special Issue Guest Editors:
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Contents

Ulli Vilsmaier, Gerald Faschingeder, Juliana Merçon
Learning from Paulo Freire for Inter- and Transdisciplinary Research

"The [UN] Charter of Human Rights ought to include an article on the right of everyone to research."
Felix Guattari, 2015 [1992]

1. Introduction

The approach to literacy and liberation created by the Brazilian pedagogue Paulo Freire incorporates ground-breaking principles for individual and social transformation. Fifty years after the publication of his main oeuvre – Pedagogy of the Oppressed (1970) – and 100 years after his birth (1921), the topicality of his work resists the attempt of the current Brazilian government to erase Freire's heritage. In his book *Paulo Freire mais do que nunca*, Walter Kohan (2018) demonstrates that Freire's politics of education is still highly pertinent, perhaps more than ever. His work not only impacted his own country and other Latin American states where Freire was exiled during Brazil's dictatorship in the 1960s and 1970s, but his books were influential all around the world. His work had a significant impact on the reform-pedagogical movement in Europe and there are now hundreds of research and education centres around the world that are dedicated to his heritage. Besides the field of education, in particular popular adult education (Faschingeder/Novy 2007), Freire also contributed to research practices that are grounded in emancipatory and transformative approaches. Influenced by his pedagogy of liberation, a movement of Participatory Action Research (PAR) emerged in Latin America spanning academia and social movements (Fals Borda 2001; Streck 2014; Torres Carrillo 2020). This development was driven by the frustration of

academic researchers in the face of the lack of contributions addressed at ameliorating pressing societal problems. In the words of Orlando Fals Borda (2001: 29):

> "We just could not be blind or silent when we were witnessing – and suffering – the collapse of positive values and attitudes towards humankind and nature. This seemed to require a radical critique and reorientation of social theory and practice. Our conceptions of Cartesian rationality, dualism and 'normal' science were challenged, as we could not find answers or support from universities and other institutions which had formed us professionally."

Since the 1970s, PAR has evolved as an approach to local and regional problems that combines research and action as collective reflection and understanding with concrete action for transformation (Merçon et al. 2018). However, PAR is not a homogeneous methodology, but spans a wide range of approaches that pursue emancipatory epistemic, educational, cultural and political purposes (Fals Borda 2001; Streck 2014). Despite its academic origin, this research approach has been criticised for its qualitative and sociopolitical nature, with alleged lack of scientific rigour and objectivity (Argyris/Schön 1989). While PAR's focus on the nexus between knowledge and action has been perceived as problematic by some epistemological traditions, a growing number of scholars have also redefined research practices and their role in societal transformation.

At the same time, Science and Technology Studies have laid bare the dark side of isolation, specialisation, the resulting fragmentation of the sciences, and the consequences for tackling societal problems (Gibbons et al. 1994; Nowotny et al. 2001; Latour 1999). Feminist and post-colonial studies have significantly contributed to creating visibility for the positionality and situatedness of every kind of research (Bhabha 1994; Haraway 1988; Harding 1998; Rose 1997; Said 1979; Spivak 1988), thus unmasking the myth of an independent and objective production of knowledge (Gibbons et. al 1994). Thereby, visibility was created for the political within the epistemic core of occidental science (Latour 1999; Nowotny et al. 2001), placing ethico-political questions regarding power relations on the agenda. Since social and ecological crises have been recognised as a complex polycrisis (Morin/Kern 1999), and the entanglement of social,

cultural, ecological and economic questions have been framed through the concept of sustainability (Clark 2007; United Nations 1992), the call for "[a] new social contract with science" (Gibbons 1999) and integrative modes of research that pursue epistemic and transformative aims alike have reached international science and policy agendas.

In many world regions, inter- and transdisciplinary modes of research that emphasise knowledge integration, implementation (Bammer et al. 2020; Jahn et al. 2012; Lang et al. 2012), and transformation (Herrero et al. 2018; Ross/Mitchell 2018; Schneidewind et al. 2016) are demanded, developed and tested. They are oriented towards so-called life world problems (Hirsch-Hadorn et al. 2008; Van Breda/Swilling 2018) and aim to tackle the complexity of problems with high degrees of unknowns and uncertainty (Bammer et al. 2020). By taking into consideration different perspectives (Nowotny et al. 2001; Pohl/Hisch Hadorn 2007) they seek to link abstract and case-specific knowledge (Krohn 2010; Pohl/Hisch Hadorn 2007). Conducting this kind of research requires particular abilities of collaboration (Fam et al. 2018; Freeth/Caniglia 2019), mutual learning (Polk et al. 2008; Vilsmaier et al. 2015) and reflexivity (Berger-González 2016; Popa/Guillermin 2015), as well as an attitude of openness and willingness to engage and learn that allows for research within heterogeneous knowledge alliances and teams (Novy et al. 2013; Novy/Howorka 2018; Stokols et al. 2013). However, these research approaches appear ambivalent for diverse reasons.

First, research constellations – such as collaborations between academia and civil society organisations or social movements – are challenged to deal with cultural hegemonies (Fritz/Meinherz 2020; Torres Carrillo 2020; Vilsmaier et al. 2017) which are often not sufficiently taken into consideration. A lack of attention to power asymmetries can significantly impact collaborative research. Power relations need to be the subject of continuous reflection and negotiation and require methodological approaches that tackle existing quality criteria of research and mechanisms of legitimation (Rosendahl et al. 2015), as "[t]here is no interdisciplinarity [nor transdisciplinarity] without decentralization of power" (Gadotti 1992, cit. in Serna 2016, own translation). Second, and linked to the first aspect, inter- and transdisciplinary research that aims at linking case-specific knowledge and practices to abstract, scientific knowledge requires a particular attention to the researchers' positionality and situatedness (Rosendahl et

Ulli Vilsmaier, Gerald Faschingeder, Juliana Merçon

al. 2015) and to the conceptualisation of problems (Meyer/Peukert 2020). What is understood as a problem is not only dependent on perspectives, but deeply informed by values, norms and, ultimately, world-views. Third, in current literature, many transdisciplinary research approaches, particularly those of European provenance, have a strong technocratic flavour (Osborne 2015). Many appear more as additive – in terms of adding knowledge to academic research – than as truly entangled approaches. Likewise, the predominantly project-based culture of research, often dependent on funding organisations, is efficiency and output oriented and does not provide sufficient space for ethically sensitive approximations in heterogeneous research alliances. Fourth, abilities and expertise regarding inter- and transdisciplinary research is often lacking (Bammer et al. 2020; Klein 2000; Juarez-Bourke/Vilsmaier, in this issue). Research integration and implementation requires particular strategies and methods that are rarely taught in higher education (Fam et al. 2018). Further, research collaboration is often only learned while collaborating, and only if sufficient attention is paid to it (Freeth/Caniglia 2019). And last, not least, there is a significant absence of approaches that pay attention to tacit knowledge and embodied ways of knowing. There are only a few approaches supporting integration and understanding that go beyond the cognitive level (Ross/Mitchell 2018). This circumstance causes severe limitations in collaborations that cross highly different cultures of knowing and can reinforce imbalanced power relations and produce misleading research results (Raule/Köck 2018, Donat et al. 2018).

These reasons, among others, lead to limited success in transforming research itself into a practice that contributes to transforming current societal conditions. The social imaginary around research lies at the basis of many barriers to transformation. The questions of who is considered to be a researcher and what is considered to be research are dominated by institutions, and usually responded by specific procedures applied in knowledge production as a process that is methodically designed to meet standards of traceability, verifiability and validity, i.e. scientific robustness (Appadurai 2006; Vilsmaier et al. 2017). The question of "Whose voice is heard?", raised by Gayatri C. Spivak (1988), thus carries not only a sociopolitical meaning, but also an epistemic dimension (Herberg/Vilsmaier 2020). However, where problems require different approaches in order to achieve

a greater variety of perspectives than those which academic researchers can establish, or where the transformation of a concrete, existential situation requires emancipated, self-confident and visionary people (Hensler/Merçon, in this issue), a key to forming powerful research teams is to broaden the concept of research. To acknowledge different ways of generating knowledge (not only academic ones) as different forms of research (Appadurai 2006) may strengthen people's epistemic curiosity and willingness to actively engage with the world. In this sense, research should be conceived a human right (Guattari 2015).

   This is a point of departure of our journey, in re-visiting Paulo Freire's work. His approach to literacy and liberation opens up a perspective on transformative research as a human ability. The idea of learning "to read and to write the world" (Freire 1996) embraces the appropriation and understanding of the world, and a belonging to a world that we transform by inscribing ourselves into it. Learning how to read the world aims at providing orientation within our reality and an awareness of one's own positionality and situatedness, while learning how to write the world allows for (re-)capturing the power of world-making. The underlying principle of what Paulo Freire calls *praxis* is that reflection and action are interconnected, like two sides of a coin. The notion of praxis has been widely explored by scholars and practitioners, as shown, for instance, by the publication series "Action & Reflection" (Novy 2009), produced by the Austrian Paulo Freire Center since 2008.

   It is this entanglement of action and reflection that drives transformative, inter- and transdisciplinary research. The call for research that not only contributes to explanation and understanding – following epistemic objectives – but also to transformations towards a more just, healthy, peaceful, and sustainable futures – following transformative objectives – implies a fundamental shift within the logic of research. It not only has strong implications for the understanding of whom we consider to be a researcher, but raises profound questions concerning the epistemological, methodological and organisational implications.

   Making the attempt to translate the work of a Brazilian pedagogue of liberation to current practices of inter- and transdisciplinary research might appear suspicious. Paulo Freire did not elaborate a specific research methodology, nor was he a systematic philosopher (Novy 2007). However,

ULLI VILSMAIER, GERALD FASCHINGEDER, JULIANA MERÇON

the core of his work, "his dialogical attitude and his non-dualistic access to the world", one that allows for "acknowledging contradictions without becoming cynical or resigned" (ibid.: 29), offers a great potential to contribute to research approaches that "construct the common among the different" (Merçon et al. 2018; Alatorre Frenk et al. 2016). Freire also had the ability "to deconstruct the ideology of power and the power of ideology in simple and effective ways" (Merçon 2009: 32), thus inspiring research processes that aim at bridging different epistemic cultures and communities of practices through the reconfiguration of power relations. Re-visiting his work, we discover that much of what is discussed today as collaborative, interdisciplinary, transdisciplinary and transformative research had already been articulated by Freire. This is also what Edgar Serna's (2016) analysis of Freire's work and its relation to the discourse on transdisciplinarity shows. Serna points to the topicality of Freire's approach to research and education for contemporary societies in leading to "personal liberation, self-determination, mobilization and political action, and a radical social transformation" (ibid.)

2. Paulo Freire's principles of research and learning

In preparation for this Special Issue, we held a workshop with the authors and elaborated on the principles that we consider most significant in Paulo Freire's approach to research and learning. As all the articles draw on these principles, we briefly introduce them in the following.

Liberation: The overall aim of Freire's work is to counter domination, which he considers the "fundamental theme of our epoch" (1996: 84). His approach to learning how to read and write the world is thus a praxis of liberation or a form of education that is conceived as a praxis of freedom to be achieved by humans in their relations with the world (ibid.: 62). In this praxis of liberation, he considers humans to fulfil "limit-acts" (Pinto 1960, in Freire 1996: 80), that is to actively respond to limits, by revealing them as "concrete historical dimensions of a given reality" (1996: 80) that can be overcome. A key to liberation is to gain a critical consciousness (*conscientização*) of the historicity and thus, the contingency of concrete existential situations that humans inhabit, by intervening in the historical reality.

Humans emerge from their submersion and "acquire the ability to *intervene* in reality as it is unveiled. *Intervention* in reality – historical awareness itself – thus presents a step forward from *emergence*, and results from *conscientização* of the situation." (ibid.: 90, original emphasis).

Dialogue: This 'unveiling of reality' (ibid.: 64) can only be achieved through dialogue, which – according to Freire – is revolutionary. "Dialogue is the encounter between men, mediated by the world, in order to name the world" (ibid.: 69). In his analysis of dialogue as a human phenomenon (ibid.: 68ff), Freire emphasises the word and its constitutive elements: action and reflexion. It is this entanglement that he calls praxis. It is where the transformative power of speaking a 'true' word is grounded. According to Freire, dialogue is an 'act of creation' and can only exist through love ("love is commitment to others", ibid.: 70), humility ("self-sufficiency is incompatible with dialogue", ibid.: 71), faith ("[f]aith in people", ibid.: 71), hope ("[h]ope is rooted in men's incompletion, from which they move out in constant search", ibid.: 72), and critical thinking ("thinking which perceives reality as process, as transformation, rather than as static entity", ibid.: 73).

Problem posing: Problem posing is the notion that Freire uses to describe an education that arises by critically perceiving the world as becoming, "as a reality in process, in transformation" (ibid.: 64). It is a praxis that opens up "limit situations" (ibid.: 80), one that demythologises the idea of a fixed and immobile reality, and that can thus be challenged (ibid.: 66). Problem posing is a movement of inquiry that addresses phenomena or circumstances that arise, but are not yet fully understood in their deeper implications and thus assume the character of a problem and, consequently, of a challenge. It "affirms women and men as beings who transcend themselves, who move forward and look ahead […] for whom looking at the past must only be a means of understanding more clearly what and who they are so that they can more wisely build the future" (ibid.: 65). It departs from people's historicity and their concrete, existential situation.

Situationality: When Freire uses the word 'situation', he tends to regard it as 'concrete' and 'existential'. He thereby emphasises the subjective, lived experience of humans that is embedded in the human-world relationship (ibid.: 66). People "find themselves rooted in temporal-spatial conditions which mark them and which they also mark" (ibid.: 90). Becoming aware

of one's situationality enables apprehending concrete, existential situations as interrelations of multiple themes and problems. It is the place from where humans discover their relationship with the world. When departing from concrete, existential situations, challenges will more likely provoke critical reflection and action, as they will not be considered as mere abstract, theoretical questions. However, when situations appear as impenetrable, enveloping and opaque, disclosure requires abstraction. In his problem posing education and approach to literacy, Freire employs iterations of abstraction and concretion through coding and decoding situations. In that process, the interrelation of the various elements, constituting a situation, are discovered, and meaning is made out of the parts to become a whole (ibid.: 86).

3. The contributions

In this volume we gather five contributions from researchers that have been exploring Paulo Freire's work with regards to its potential for transformative inter- and transdisciplinary research. All contributions address methodological questions and present selected methods that serve transformative research in inter- and transdisciplinary teams. Each contribution is based on a case of application, providing methodological frameworks and outlines of methods that have been developed by taking the introduced principles into consideration.

In the first contribution, Sadhbh Juarez-Bourke and Ulli Vilsmaier present research on *conceptual work in inter- and transdisciplinary research*. Conceptual work is largely neglected and rarely systematically approached, despite the significant impact it has on collaborative research for epistemic, but also political reasons. The authors present a method for conceptual work that is based on Paulo Freire's approach to literacy and frames words as generative, knowledge as dialogue, and naming as political. It has been developed through working with an interdisciplinary team of researchers in the highly normative field of sustainability science. Conceptual work is elaborated as a collaborative process of clarifying the meanings and uses of concepts across disciplines and epistemic cultures, developing mutual

understanding and balancing power inequalities amongst participants in order to support knowledge co-creation.

Transformative Learning Tours are explored by Loni Hensler and Juliana Merçon in the second contribution. This proposed method is inspired by peasant-to-peasant approaches, learning tours held in the Andean region, and the agroecological caravans in Brazil. It incorporates movement as a means to strengthen human (and non-human) connections in the territory and analyses the transformation of power relations and collective knowledge generation among diverse participants. The principles of Freire are re-discovered in connection with dialogical encounters, collective reflection and cultural practices, as well as the systematisation of experiences through collaborative research. The article provides insights into experiences developed by the Forest Stewards Network in Xalapa, Mexico, and shows how the applied methodology led to the transformation of collective practices.

The third contribution by Katrin Aiterwegmair, Gerald Faschingeder and Concepción Mérida takes up the work of Oscar Jara and his concept of the *Systematization of Experiences*. In a long lasting research and learning cooperation in Chiapas, Mexico, an activation of peasants as researchers into their own reality, focusing on ecological agriculture, learning and exchange, has been achieved. It demonstrates how the approach of Systematization of Experiences is embedded in concrete existential situations and how it is oriented towards a problem-posing leaning and research strategy, which cannot be realised without dialogue. Working in the tradition of Paulo Freire means working for liberation. In this case it is self-reflexion that constitutes an instrument of change, as it creates space for peasants in the process of knowledge generation and allows them to re-conquer the space in their own transformative agendas.

In the following article, Clara John presents an innovative method, called *Generative Picturing*, for transformative research. She draws on work from Vera Brandner and the collective *ipsum*, who developed a photographic praxis that is based on exploration and dialogue. As a visual, non-cognitive method, creativity and intuitive expression serve to create visibility for tacit knowledge, hidden concepts and agendas. Clara John

discusses how far this method can be applied in the context of school and education. One of the important insights of this research is that critical (self-)reflexion has to be an integral part of the dialogue between researcher and the research partners. John shows that the situatedness of all involved interferes strongly with the research process and needs to be the subject of continuous reflection.

Situatedness is also of high importance in the research presented in the last paper of this special issue – *Act out loud*! Linda Raule draws on the work of Augusto Boal and James Thompson, who adopted Paulo Freire's ideas and developed the *Theatre of the Oppressed* and *Theatre Action Research*. For Boal and Thompson, the liberating perspective is crucial. These embodied approaches are promising to achieve transformative outcomes in transdisciplinary research. But how can this be realised in the context of a project with youngsters? And how can they be guided to a reflexion of their own situationality without following paternalistic ways of knowing for their own liberation? Raule shows that the main challenge consists of translating embodied expressions into texts and, thus, into cognitive understandings. Both John and Raule refer to bell hooks, one of the most important feminist readers and pupils of Paulo Freire, who demonstrates how important – and also difficult – it is to include knowledge of oppressed groups, of those who do not usually contribute to scientific research as actors, but are so often used as informants and objects of inquiry. Embodiment is the central term here. Empowerment and transformation are destinations in a long journey.

Dialogue is a central notion and practice in Freire's work. It is through critical and creative dialogue that we now engage with his legacy, converting his inspirational views on emancipatory education into inter- and transdisciplinary research experiences aimed at societal transformation. This special issue is comprised of articles that show the ample and current potential of transformative research methods based on Freire's principles, as testimonies of how we can continue to critically read our reality and collectively write a more just world.

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The Semantics of Transformation: Conceptual Work for Inter- and Transdisciplinary Research based on Paulo Freire's Approach to Literacy[1]

Abstract *As collaborative and boundary-crossing forms of research, inter- and transdisciplinarity hold great potential to reframe and rename phenomena or problems that cannot be fully understood within individual perspectives. Nevertheless, a common problem within heterogeneous teams is creating mutual understanding of different concepts, perspectives and bodies of knowledge. This is particularly the case when tackling highly normative subjects, as is the case within sustainability sciences. In this contribution, we analyse the principles and practices behind Paulo Freire's approach to literacy and explore their potential to develop integrative methods for conceptual work in inter- and transdisciplinary research. We identify three principles in his epistemology (words as generative, knowledge as dialogue and naming as political) and discuss how they address not just technical, but relational and political dimensions of conceptual work. We use the example of creating a joint glossary to illustrate how the principles can be operationalised.*

Keywords *Knowledge integration, mutual understanding, dialogue, sustainability, normativity*

1. Introduction

The practice of inter- and transdisciplinary research involves revisiting, resignifying and redefining concepts and terminology (Klein 2017). However, collaboration across disciplines poses significant challenges, such as finding common ground when different logics and languages are involved, as well as achieving mutual understanding for the different ways

of framing and naming the envisioned phenomena or problems (Boix Mansilla et al. 2016; Pennington et al. 2016b; Freeth/Caniglia 2019). Thus, conceptual work requires not only exchange and clarification of terms, but a process of negotiation of meanings (Roux et al. 2006; Jeffrey 2003; Bergmann et al. 2012; Klein 2000).

Despite its importance, conceptual work remains an underestimated task (Strasser et al. 2014). Even large projects with a focus on integration do not necessarily incorporate conceptual work explicitly into research design (Hoffmann et al. 2017). To the authors' knowledge there has not yet been an extensive elaboration of formalised methods for conceptual work in the literature of inter- and transdisciplinarity. This can be due to various reasons. One is that the theoretical conceptualisation and methodological development of conceptual work is not considered necessary because it happens informally (Jeffrey 2003). Another is the relative youth of inter- and transdisciplinary research, still in the process of defining its own epistemological and methodological principles and foundations (Frodeman et al. 2017; Regeer/Bunders 2003; Bergmann et al. 2012; Lang et al. 2012). Yet another is that the task as such is unfeasible within the prevailing research paradigms, due to its normativity.

Normativity is an inherent challenge of cross-disciplinary research, both for interdisciplinary research seeking to integrate disciplinary approaches, and transdisciplinary research bridging the science-society interface (Klein 2017). This is particularly the case for sustainability science, with explicit normative goals at its core (Dixon/Fallon 1989; Spangenberg 2011; Boda/Faran 2018). Calls for transformative research point out the need for approaches that pay attention to normative aspects such as participation, reflexivity and power relations (O'Brien 2011; Schneidewind et al. 2016; Fritz/Meinherz 2020). This requires integrative epistemological approaches as well as new method development (Wiek/Lang 2016). In this paper, we explore the potential of Freire's approach to literacy as a form of inquiry that can provide the epistemological foundation for conducting transformative conceptual work and developing research methods for this purpose.

We draw attention to a very basic practice of conceptual work that was established by Paulo Freire as an approach to literacy, one that considers

literacy as an ability "to read and to write the world" (Freire/Macedo 1987: 34). Within Freirean thought, words are the point of departure for individual and collective transformation. It is through words that we name the world, engaging in a collective act of meaning making through dialogue: in naming the world, we make it accessible, and define our relationship to it. Freire's literacy project started with the rural population of his native Brazil, under conditions of political oppression, and was purposed to return a 'voice' to the oppressed of the world (Gerhardt 1993). His transformative approach has informed Participatory Action Research (Fals-Borda 1987; Knapp et al. 2019) and is also situated amongst key transformative learning theories (Taylor 2008). He has had a wide influence on Latin American thought and pedagogical approaches (Gadotti et al. 2003) and has strongly influenced development work and discourses (Gadotti/ Torres 2009). However, references to Freire's work are an exception within German- and English-speaking sustainability transformation discourses (O'Brien 2011) and principles of his work are yet to be systematically incorporated into collaborative scientific research practices.

The objectives of this paper are threefold. First, to advance the systematisation of conceptual work in inter- and transdisciplinary research, particularly in highly normative fields such as sustainability. Second, to demonstrate how Freirean epistemology and methodology can inform method development that supports the transformative ambitions of conceptual work. Third, to contribute to a broader discussion of method development within cross-disciplinary research.

The paper is organised as follows: we first attempt to formalise conceptual work, by exploring the role of concepts in research, and outlining challenges and characteristics in inter- and transdisciplinary research. This allows us to identify dimensions of conceptual work and elaborate a working definition. In the following two sections, we focus on Freire's approach to literacy: first, we identify three epistemic principles and discuss how they might inform the implementation of our working definition of concept work. Then, we describe how he realised his approach in the format of culture circles and illustrate how this may be translated into a glossary process within an interdisciplinary team. We follow with a discussion on method development in cross-disciplinary research and conclude

by outlining potential and limitations for future research. This research is designed to address the needs of inter- and transdisciplinary scholarship in the field of sustainability science. Because of this focus, it also speaks to the broader research community interested in cross-disciplinary ventures.

2. Formalising conceptual work

In the following, we sketch out the role of concepts in research across several disciplines and draw out the main discussions and open questions around the relationship between concept, method and research. We then bring our focus to inter- and transdisciplinary research in the sustainability arena, in particular the relationship between concepts and integration methods. We draw from this literature to elaborate a systematic overview of the integrative functions of conceptual work within this field, and propose a working definition.

2.1 The role of concepts in research

The concept of 'concept' has so far eluded a clear cross-disciplinary definition (Jackendoff 1989; Malt et al. 2010). In textbooks that introduce the practice of qualitative research, there seems to be a general consensus about the fact that concepts are a fundamental part of theory building (Bhattacherjee 2012: 10; Corbin/Strauss 2015). However, their exact function tends to remain vague. The traditional way of conceptualising concepts as building blocks of theories has been contested (Bergdahl/Berterö 2016), and the aforementioned authors argue against the use of concept analysis (Rodgers/Knafl 2000) within their field of nursing as legitimate or useful for theory building, advocating instead for a focus on method. Interdisciplinarity, as a particular form of research that crosses disciplinary boundaries (Klein 2017), adds further challenges to the role of concepts within knowledge production, some of which we explore below. It also opens up a breadth of novel lines of investigation, which allow us to apprehend concepts as an interdisciplinary phenomenon *per se*. Cognitive science, for instance, provides insights into the nature and function of concepts by integrating linguistic, psychological, philosophical and neurological

perspectives (Margolis/Laurence 1999). Several theories of concepts have been developed, all of which call for further investigation (Murphy 2016). For instance, the relationship between concepts and words is far from clear, as is the word-world relationship (Malt et al. 2015). Given the vast amount of knowledge and uncertainty regarding the concept of concepts, it may seem futile to attempt to systematically define the role of concepts within cross-disciplinary research. In the midst of this, cultural theorist Mieke Bal makes a provocative proposal for conducting interdisciplinary research within the humanities, claiming that it "must seek its methodological basis in concepts rather than methods" (Bal 2002: 5). Concepts that travel between disciplines ("traveling concepts" in the author's words) are better suited to take over the central role of method, in order to approach the problem to be solved. Bal's proposal merits that we at least consider conceptual work within cross-disciplinary research as being of interest.

In inter- and transdisciplinary research, integration is generally understood as a central epistemic attribute which requires methodological development (Pohl et al. 2008; Defila/Di Giulio 2015; Pennington 2016a). Conceptual work is positioned as type of integration method by Hirsch Hadorn and Jäger (2008) and Bergmann et al. (2012). For Bergmann et al. (2012: 50), "constant conceptual work regarding core terms and concepts" is essential. However, the literature indicates that in both inter- and transdisciplinary research, conceptual work requires not only exchange and clarification, but a process of negotiation of meanings (Roux et al. 2006; Jeffrey 2003; Bergmann et al. 2012). There seems to be a consensus about the need to foster mutual understanding in both interdisciplinary (Eigenbrode et al. 2007; Jeffrey 2003; Jones/Macdonald 2007; Bracken/Oughton 2006) and transdisciplinary research (Roux et al. 2006; Antrop/Rogge 2006; Vilsmaier et al. 2015; Tress et al. 2005). However, reviews of integration methods (Frodeman et al. 2017; Bergmann et al. 2012; Adler et al. 2018; Eigenbrode et al. 2007) seem to indicate that further methodological development is necessary to be able to integrate such requirements into conceptual work, particularly in its pedagogical or relational and political dimension. In sustainability settings in particular, including the normative dimension is key for the proper clarification and operationalisation of concepts (Zanotti et al. 2020).

2.2 Integrative functions of conceptual work in inter- and transdisciplinary research

Methods in cross-disciplinary research can be considered "systematic, repeatable procedures of pursuing research objectives" (O'Rourke 2017: 278) in service of specific needs and purposes that are highly contextual and can refer to either a specific procedure or family of methods. We understand conceptual work as a family of methods with the purpose of supporting knowledge integration through mutual understanding. In order to better understand the opportunities and challenges of conceptual work, we draw from Bergmann et al. (2012) to identify three integrative functions or dimensions for conceptual work: technical, pedagogical or relational, and political (Table 1).

The technical dimension refers to the integrative function of concepts in the elaboration of theory and method development within research processes, and is mostly concerned with clarifying meaning, producing joint definitions, and defining new concepts. For instance, in interdisciplinary ventures, the use of specialised concepts or jargon may require clarification early on in the work of a research team (MacMynowski 2007; Stevens et al. 2007; Caruso/Rhoten 2001). We may find that the same word is used by a number of different theories and disciplines, with different meanings (Bracken/Oughton 2006; Tress et al. 2005). For instance, the term "resilience" in relationship to sustainability is widely used within engineering, ecology and policy as both a concept, tool, and framework (Zanotti et al. 2020). The opposite case is when different terms are used across disciplines to refer to the same topic (Jeffrey 2003: 548). Thus, some advocate the need for a common language (Caruso/Rhoten 2001) or for elaborating a glossary of terms (Antrop/Rogge 2006; Pohl/Hirsch Hadorn 2008).

The second integrative function we identify is pedagogical or relational. Bergmann et al. (2012: 52) characterise conceptual work as a recursive learning process. This allows us to conceive of conceptual work beyond the parameters of a mere technical exercise, rather as a form of social learning, with potential for developing mutual understanding across contextual and cultural differences, and negotiating values and worldviews that can contribute to a wider process of co-creation within research. Indeed, beyond clarifying terminology, conceptual differences often also

uncover different theoretical foundations and epistemologies (Jones/ Macdonald 2007; Miller et al. 2008; Lélé/Norgaard 2005), values (Lélé/ Norgaard 2005) and worldviews (Eigenbrode et al. 2007) across disciplines and individuals. Thus, the (apparently) simple exercise of generating a joint glossary within a team may be challenging (Freeth et al. 2019), and even if achieved, may require further integration work (Antrop/Rogge 2006).

The third integrative function is political. The authors refer briefly to how disciplines acquire a political dimension when defining concepts, and how this can generate competition within disciplines (and, we would add, amongst stakeholders) over such power of definition (Bergmann et al. 2012: 55). For instance, Vilsmaier et al. (2015) and Wang et al. (2019) describe how cultural differences coupled with unequal power relations constituted (language) barriers in transdisciplinary projects.

2.3 Conceptual work: A working definition

In this paper, we define conceptual work as the collaborative process of clarifying the meaning and use of concepts across disciplines and epistemic cultures, developing mutual understanding and balancing power inequalities amongst participants in order to support knowledge co-creation. Conceptual work is embedded within a wider normative vocation of knowledge integration. The purpose of conceptual work is to develop working concepts that serve as anchors for iterative processes of collective meaning making, rather than to come up with final definitions for concepts. For conceptual work to be transformative, it must include a communicative and political dimension, in addition to the technical function of clarification. This requires cognitive, as well as relational and emotional skills.

3. Paulo Freire's epistemology: identifying three principles for conceptual work

In the following, we discuss three principles that are central to Freire's epistemology: conceptual work as generative, knowledge as dialogue, and naming as political. We discuss how these principles incorporate normative dimensions into knowledge, and the implications for conceptual work.

Integrative functions of conceptual work	Goals	Challenges	Attributes	Available approaches & techniques
Technical	Defining concepts: Clarify meaning Joint definitions New concepts	Precise meaning: Across disciplines Technical vs. colloquial language	Theory building Methodological development	Reaching agreements Joint discussions Elaboration of glossaries
		Vague or metaphorical meaning		Mapping Identifying boundary objects
Pedagogical / Relational	Mutual Understanding Knowledge co-creation	Contexts Values Worldviews	Recursive learning process	Identifying core concepts Linking them
Political	Equal access to the problems under study	(Disciplinary) competition over power to define terms	Legitimacy and leverage to define terms	Open-minded discussions

Table 1: Integrative functions of conceptual work in inter- and transdisciplinary research
Source: Own design inspired by Bergmann et al. 2012: 50-64

3.1 Words as generative

An important feature of Freire´s epistemology are "generative words" (Freire 2009/1969: 106–109). As a key element of his approach to literacy, generative words represent the linguistic universe of participants. Thus, through the investigation of the generative words of a particular community, which is the subject of research, we gain proximity to the situational

reality, i.e., the existential situation, of this community. Freire was seeking to avoid the "banking model" of education (Freire 2005/1970: 72), where educators, administrators or researchers impose their reality and worldview upon students or those being studied. Instead, because generative words are defined by the criteria of normative relevance (see 3.2) they encode the worldviews of those to whom this linguistic universe belongs. The significance of wanting to maintain this situatedness[2] brings us back to Freire's ontology of humans as beings in the process of becoming: "Human beings are because they are in a situation"[3] (ibid.: 109, italics original). By considering ourselves as being in a situation, we have the possibility of becoming. If we remove the human from the situation, we are, from a Freirean perspective, dehumanising by objectifying, as the vocation of becoming cannot happen in a vacuum, but in and with the world (ibid.: 44, 84-85).

What can this mean for boundary-crossing research? Let us consider a concept as belonging to the linguistic universe of a certain community. Part of performing conceptual work involves two elements: (i) the acknowledgement and exploration of the worldviews that the concept belongs to, and (ii) the acknowledgement that the same concept might signify different worldviews, according to the situatedness of the different communities or people involved. Rather than approaching the potential difference of understanding and worldviews as a challenge to overcome, we can approach it with epistemic curiosity. This epistemic curiosity (Freire/Macedo 1995: 382), helps us to avoid adopting a banking approach of knowledge, and initiating instead a dialogue where new knowledge can be co-created (Baraúna Teixeira/Motos Teruel 2009). By constructing a linguistic universe formed by a diverse group of people, we allow for all worldviews to be present. In this way, we approach reality by bringing the language, with all its normativity, into theoretical investigation.

3.2 Knowledge as dialogue

In his main oeuvres, "Pedagogy of the Oppressed" (Freire 2005/1970) and the "Pedagogy of Hope" (Freire 2014/1992), Freire describes the process of knowing, the epistemological process, as a dialogue between situated subjects, mediated by the world (Freire 2005/1970: 88). According to Freire, it is in dialogue that we have access to what is knowable. He describes authoritarian modes of education (the banking model) and colonial rela-

tionships as anti-dialogical, in that one party imposes, delivers, transposes, and transfers information onto another party, which is expected to assimilate this knowledge as if it were an empty vessel (ibid.: 72). In his approach to knowledge, which can be argued is both dialectical and dialogical[4] (Rule 2011) both parties acquire knowledge jointly through mutual curiosity about their different perspectives. This dialogue finds reference and confirmation in concrete, existential situations (ibid.: 109), from which we draw our personal experiences – where the personal experiences occur – and find a place to test and confirm or reconsider assumptions and beliefs.

How do we develop methods that enable dialogue as understood by Freire? Freire himself identified a priori conditions (love, humility and hope), as well as conditions that are constituted during the actual process of dialogue (trust and critical consciousness) (Freire 2005/1970: 90–91, 2008/1974: 40). The almost metaphysical quality of his a priori conditions presents a challenge when it comes to translating them into concrete, formalised methods for academic contexts. We will thus be focusing on the process of dialogue itself, and how this process can be supported methodologically through design and facilitation.

3.3 Naming as a political act

Freire approaches the act of reading and writing the world as a collective investigation in order to understand the world. In this conceptualisation, investigation or research is no longer the privilege or activity of the few educated elite, but the birth right of all (Freire 2005/1970: 88ff., 108). It also becomes a responsibility, as no one can "pronounce" the world for another (ibid.: 88ff.). In his radical transcending of the teacher-student, researcher-researched, theory-practice dichotomies, research presents itself as a still systematic, yet deeply transformative practice.

In contrast to the tradition of normal science, which transformative inter- and transdisciplinary research attempts to transcend, Freire´s pedagogy integrates the normative dimensions of knowledge production, in line with post-normal science (Funtowicz/Ravetz 1993). The situatedness of the knower is central to any investigation of the world. This is not however, an ode to subjectivity, or a form of subjectivism (Freire 2005/1970: 50). Instead, objective knowledge is accessed by distancing oneself from one's own situatedness while maintaining the situatedness as reference point;

that is to say, by taking a step back from the situated self, we can observe ourselves in the world. This step back provides a vantage point from which to observe reality objectively. Thus, it is the capacity to observe the situated self that generates objectivity. However, in contrast to the scientific method, we don't remove ourselves from the subject of study in an objectifying act. Instead, we remain part of it, as what we are observing is ourselves in our particular existential situation. This space between the self situated in the world, and the (collective) observation of it (of our situated selves in it), is the space from which what Freire refers to as "critical consciousness" (Freire 2005/1970: 95) can emerge. In other words, it is the space from which transformative potential can be realised. In a Freirean reading, this situatedness of the subject, which can be observed as an objective reality affecting the subject rather than a limitation inherent to the subject, is deeply political. However, having acknowledged the political nature of knowledge creation, and identified the space of possibility for liberation and transformation, addressing the issue remains an abstract pursuit. It is necessary to turn to the concrete methodology and method behind Freire's literacy approach, to operationalise this transformative potential.

4. Translating Freire's method: from culture circles to a generative glossary

Freire's literacy approach was carried out in "culture circles" (Souto-Manning 2010) where illiterate adults participated. However, Freire was reticent to provide static methods for others to follow, fearing that it would turn into the mechanistic, banking model of education he was attempting to deconstruct (ibid.: 18). Across his work, it is rare to find a step-by-step procedure of how he actually conducted his literacy work. Instead, he offered a blueprint for personal and social change, to be reformulated and applied in different contexts. However, in order to make Freire's approach more accessible, Gadotti et al. (2003), Heidemann et al. (2010) and Souto-Manning (2010) have compiled useful overviews of this blueprint. In the following we draw on these and on Freire's original work (Freire 2005/1970, 2009/1969), and present his method as simultaneously (i) a sequence of iterative steps and (ii) core 'moments' in his approach to literacy. We then

provide an illustrative example of how this might be translated into a conceptual work method in an interdisciplinarity research team.

4.1 The method as five iterative steps

The first step before initiating a culture circle, is investigating the "thematic universe" of participants (Freire 2005/1970: 96–105), formed by their "generative themes and words" (Freire 2009/1969: 106). Through the particular sayings and words of a community, the exploration of the thematic universe aims at identifying the complex of interacting themes that are inherent to the "human-world relationship" (ibid.: 85). This is done in order to gain a holistic understanding of the often constraining situation that people find themselves in, defined as "limit situations" (ibid.: 99). Once the thematic universe has been investigated, a number of "generative words" is selected. These are chosen according to their syntactic relevance (for alphabetisation purposes) as well as semantic relevance (i.e., the intensity between the word and the object it designates), and pragmatic significance for the community (referring to how it relates to a social, political or cultural reality; ibid.: 108). They are called "generative", in the sense that they allow for the generation of new realities.

Selected generative words are then "coded" (usually by the literacy team, or with participants) into representative formats (such as pictures, images, drawings, photographs), which represent existential situations for the given community (ibid.: 109). For instance, drawing an image of the existential situation of "construction work" in order to work with the generative word "tijolo" (brick) (ibid.: 112).

Then, within the cultural circle, participants decode the coded existential situation presented to them, by engaging in dialogue to analyse the possible themes that can be identified within it. For instance, the "construction work" image is presented and explored. This is the "problem posing" phase (Souto-Manning 2010: 37), in which participants begin to question their existential situations. After the pictorial representation has been collectively explored from all possible angles, the generative word that had been coded into the image is presented as a word to participants without the object: "tijolo". This process has helped establish the semantic relationship between the word itself and the object it refers to (Freire 2009/1969: 111).

The word is then decoded into its phonetic parts (ti-jo-lo), from which participants are encouraged to build new syllabic combinations leading to new words, which can then again be coded into images and discussed, as an iterative process (ibid.: 112).

What results from this process, following the problem posing, is the overcoming of "limit situations" (Freire 2005/1970: 99ff.) in which students learn not only how to read and write words and texts, but also how to read and write the world and contexts (Souto-Manning 2010: 17).

4.2 The method as three moments

The main imperative of Freire´s pedagogy is transformation through conscientisation, or awareness (Freire 2005, repr. 2017/1970: 137). Catalysed by the critical unveiling, the process described above is intended to lead to transformative action – that is, the culture circles are not intended just as a mechanical process of alphabetisation, but to be places for political action, as people come together to discuss their socio-historical circumstance as subjects (Freire 2009/1969: 106). This motion of coding and decoding the world can also be understood as three distinct "moments": naming, representing, and renaming the world (Souto-Manning 2010: 17).

The point of departure is that of humans as beings in the world. As cultural beings with the capacity for meaning making, situated in a concrete socio-historical situation, we find ourselves in a world that has been named, i.e., a particular thematic universe. In the second moment, the generative words and themes are coded into a graphical representation of a concrete existential situation. In doing so, we are no longer just 'in' the world, but can start to speak 'about' the world, which is not just any world, but the world that concerns us, containing our generative themes and words. The distancing afforded by the coding-decoding allows for critical analysis, which delivers agency back to the subject. Through this critical analysis between objective and subjective, concrete and abstract, individual and collective signifying, we access the third moment, which is about renaming. Once we become aware of the patterns that shape our circumstance and behaviour, the question of whether to accept them or not becomes an act of choice and this choice is the exercise of freedom to which Freire refers. In this moment we enter the space of possibility of being "with the world" (Freire 2009/1969: 111).

Returning to the concept of 'brick' as an example, conversation topics that this word raised at a particular cultural circle were: urban reform, urban planning and the relationship between different types of reform (ibid.: 148). This ascribes a political – and transformative – nature to the method, as it concerns itself with an act of questioning the status quo. Thus, a word that has been critically examined in this way then becomes a "true word" (Freire 2005/1970: 87), as we do not just use it from a place of unconscious tacit agreement, but instead from a collective critical reflection sourced from and validated by our personal practices. Freire's culture circles reclaimed the right to name or "pronounce" the world (ibid.: 88). Thus, this use of true words in the world was considered inherently transformative.

4.3 Designing a generative glossary within an interdisciplinary team

The graduate school "Processes for Sustainability Transformation" involves 12 PhD students from six disciplinary perspectives and five different institutes within the Faculty of Sustainability at the Leuphana University Lüneburg. It aims to integrate several disciplinary perspectives on sustainability transformation processes in the food and textile sector over a three year timespan. With this aim, a process for creating a joint glossary was designed and then facilitated by one of the PhD students (first author of this article), following Freirean principles. The process was comprised of a first phase of five two hour sessions over four months, and a follow up phase with three sessions a few months later. The sessions resulted in identifying about 40 key words for the team, co-defining about 15 terms, and publishing them as a series of one pagers as the first written output of the three year project. Some of the terms co-defined are: trust, reflexivity, scaling, niche, and change agent. Published one page definitions can be found on the team's web page.[5]

The process of joint concept definition brought the group together and helped generate synergies and mutual understanding. The Freirean principles were incorporated, for instance, by adding the 'generative' element to the concepts. This was achieved by asking participants themselves to bring the terms to be defined, and then jointly deciding on which ones to work on, rather than having the concepts pre-defined by the facilitator or

Sadhbh Juarez-Bourke, Ulli Vilsmaier

project leaders. Whoever brought a concept that the group then agreed to define, was responsible for the co-elaboration of a definition. In this way, other participants could contribute openly with their perspective, without feeling too attached to the outcome. Likewise, the person responsible for a concept could be open to receiving different perspectives, without the need to compromise. The outcome became a definition enhanced by various disciplinary perspectives. Several structural elements seemed to contribute to this. For example, a speed-dating format with rotating one-on-one conversations was helpful to maintain dialogue, rather than debate. The conversations around each concept became increasingly rich towards the final sessions, sessions in which students included their personal field-work experiences. Furthermore, Image Theatre (see Raule in this issue) was introduced in two of the sessions as a method to include the image-word coding and decoding element. These sessions brought forth deeper layers to the conversation, as the assumptions underlying the definition – what can be described as the 'status quo' of the concept – were re-examined, similarly to the process described in Freire's culture circles.

5. Implications for method development within cross-disciplinary research

New methods are both the result of epistemic and paradigm changes, and catalysers of paradigm change (Hesse-Biber/Leavy 2010). Thus, to consider method development requires reflection on the epistemological background that will inform the method. These questions come to the foreground, particularly when we address boundary-crossing forms of research. Inter- and transdisciplinary research, for instance, have emerged as fields for both method innovation and epistemological reflection (Defila/Di Giulio 2015; Regeer/Bunders 2003). However, it is hard to identify criteria for defining what makes a method particular to cross-disciplinary research (O'Rourke 2017), and how to devise methods that respond to new requirements, such as supporting integration and transformation.

In this paper, we point to normativity as a key element that both hinders cross-disciplinary method development and can infuse it with transformative potential, particularly when it comes to sustainability science, due

to its inherently normative nature. Throughout this exploratory work, we have illustrated how Freire's approach to literacy can provide the required epistemological basis from which to develop integrative methods, in particular for conceptual work. In considering his approach to literacy, we encounter a non-disciplinary approach that takes situated knowledge as the point of departure. We identify generativity as a principle that allows for the incorporation of normativity into method development. It is close to the concept of 'emergence' as used in method innovation (Hesse-Biber/ Leavy 2010). In both cases, the focus is on the creation of knowledge in the moment, in its particular context and presence, rather than pre-determined through assumptions of conditions and variables. Furthermore, by defining knowledge as realised through dialogue, we point towards the necessary collective nature of conceptual work, as well as the non-static quality of definitions. Finally, by acknowledging the political nature of knowledge co-creation, we emphasise the need to consider the role of power relations as part of method development and implementation.

A major challenge to incorporating the quality of generativity or emergence into method development is that of how to provide a blueprint that can be reproduced by other practitioners in different contexts, yet still maintain its transformative potential. The growing discourse on the need for knowledge transfer within inter- and transdisciplinary research (Lang et al. 2012), stands in contrast to critiques of methodism (Frodeman et al. 2017). Nonetheless, we contend, with Huutoniemi (2014), that methods can be used as heuristic devices if used appropriately. We have attempted to do so by presenting Freire's literacy approach from a multi-dimensional perspective: as three epistemic principles, as a sequence of five steps, and as three transformative moments. This multi-level approach provides the means for re-inventing the approach to fit the needs of the context. With the glossary example, we offer a glimpse of how to translate Freire's approach into a tangible method for conceptual work.

Finally, by defining the method itself (in this case conceptual work) in terms of integration of normative dimensions (identifying its technical, relational or pedagogical and political functions), it is possible to provide a reference against which transformative potential can be evaluated. Thus, we can now attempt to assess the glossary process in terms of our working definition of conceptual work. For instance, as a tangible

Sadhbh Juarez-Bourke, Ulli Vilsmaier

output, the collective definitions of the glossary indicate that concept clarification was successfully achieved. The sessions themselves provided a rich environment for mutual understanding, learning and co-creation. We dare to suggest here that this was enabled by the design of the sessions, geared towards encouraging dialogue rather than debate, as described in 4.3. This is consistent with the literature on collaboration and integration, which attests that attention to design is crucial (Pennington 2016a; Knapp et al. 2019). As for the political dimension, it is hard to assess an equalising effect on power imbalances, due to the relative homogeneity of participants' status (most of them PhD students). The Image Theatre work appeared to instigate 'aha' moments that led to deeper understanding of the topic, and perhaps was supportive of developing critical consciousness (for instance, with understanding the nature of trust and transferability). Whether we consider this transformative action or not is up for discussion. On the whole, we suggest that the process of co-definition and co-creation of concepts within our glossary process contributed to creating a culture of collaboration within an academic setting. Given the documented difficulties of working together in academic teams (Freeth/Caniglia 2019; Antrop/ Rogge 2006), this can be considered, in itself, as a form of transformation.

6. Outlook and further research

Almost 20 years ago, Mieke Bal proposed that concepts play an important role in the practice of crossing disciplinary boundaries, perhaps maybe even to substitute for the role of methods (Bal 2002). Today, conceptual work as a type of integration method for inter- and transdisciplinary research is still in its early stages of development. An effervescent activity around concept research in the field of cognitive sciences, controversy over method in the nursing arena, and a vibrant community researching collaboration for boundary-crossing research, points to exciting new research in this field, as well as the need for further conceptualisation and systematisation.

The conceptual work we elaborate on in this paper is not intended to provide static, directly transferable methods; but rather, to contribute to an arsenal of tools that enable joint meaning-making, learning and knowl-

edge co-creation in heterogeneous teams in order to enhance and broaden disciplinary perspectives, as well as integrate different types and ways of knowing. Broadly speaking, our findings indicate that Freire's approach to literacy can offer valuable contributions to the practice of conceptual work in cross-disciplinary research. Limitations of space and time only afforded a superficial broaching of Freire′s work, as of conceptual work. Further research and empirical data is necessary to explore the viability and effectiveness of translating his principles into specific methods, such as the glossary process presented here. Further research in how the act of naming through Freire′s process enacts agency, and on the relationship between naming, language, identity and politics, could provide depth and help understand processes of mutual understanding and knowledge co-creation within research teams.

Freire asks us to consider the act of literacy as a highly political one. His approach to literacy requests participants to be engaged in a co-creative process and thereby to acknowledge the situated and political nature of performing conceptual work. With this article, we showed that this also holds true for boundary-crossing research. We can consider conceptual work in inter- and transdisciplinary research as a form of literacy per se, as we become familiar with new epistemologies and their corresponding worldviews, ways of thinking, acting and being.

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2   The original translation in this volume uses the term "situationality" (Freire 2005/1970: 109).
3   The Spanish translation is: "Los hombres son porque están en situación" (Freire 2005, repr. 2017/1970: 136). The grammatical structure of both Spanish and Portuguese has two words for being (ser y estar). The implication is that, through being in a situation (of space and time: estar), it is possible for humans to 'be', existentially (ser).
4   While Freire's ontology is dialectical in that it sees knowledge as generated through the transcending of oppositions, his pedagogy is strongly dialogical
5   Processes of Sustainable Transformation 2020: http://post.achievingsustainability. com/project-outputs/glossary-of-terms/, 9.9.2020.

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ABSTRACT *Als kooperative und grenzüberschreitende Formen der Forschung bergen Inter- und Transdisziplinarität ein großes Potenzial, Phänomene oder Probleme, die in einzelnen Perspektiven nicht vollständig verstanden werden können, neu zu strukturieren und zu deuten. Dennoch besteht innerhalb heterogener Forschungsteams häufig das Problem, ein wechselseitig Verständnis für unterschiedliche Konzepte, Perspektiven und Wissensbestände zu entwickeln. Dies ist insbesondere dann der Fall, wenn stark normative Themen behandelt werden, wie dies in der Nachhaltigkeitsforschung der Fall ist. In diesem Beitrag analysieren wir Prinzipien und Praktiken, die Paulo Freires Ansatz zur Alphabetisierung zugrunde liegen, und untersuchen ihr Potenzial zur Entwicklung integrativer Methoden für die Begriffsarbeit in der inter- und transdisziplinären Forschung. Wir diskutieren*

SADHBH JUAREZ-BOURKE, ULLI VILSMAIER

drei Prinzipien – Wörter als generativ, Wissen als dialogisch und Benennung als politisch – und erörtern, wie diese nicht nur technische, sondern auch relationale und politische Dimensionen der Begriffsarbeit betreffen. Am Beispiel der Erstellung eines gemeinsamen Glossars veranschaulichen wir, wie die Prinzipien operationalisiert werden können.

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Walking through Time and Territory: A Proposal for Participatory Action Research based on Movement

Abstract *Transformative co-educational processes through multi-stake-holder collaboration require methods by means of which differences between participating actors can contribute to building common grounds. Transformative Learning Tours is a method that promotes movement in time and space, creating common grounds through the constant dialogue between collective reflection and practice, or praxis. This method of exchange of experiences is based on a peasant-to-peasant approach and the concept of movement as a means to strengthen human (and non-human) connections, by balancing the senses in the learning process. Inspired by the agroecological caravans in Brazil, the tours integrate art, music, and envisioning as important elements of action research. During this process, peasants and other community members become knowledge experts, opening spaces for more horizontal dialogues. Participants critically read the past and collectively dream about a future. This article describes the Transformative Learning Tours method and how it incorporates Freirean principles. We reflect upon the scope and limitations of this method in the specific context of the Forest Stewards Network in Xalapa, Mexico. We share the method's different stages, principles and conditions, as well as the type of facilitation and context that have enhanced this process, while positioning movement as an epistemic approach.*

Keywords *Territory, movement, participatory action research, transformative learning, Freire*

1. Introduction

It is undeniable that we face a period of multiple socio-environmental crises (alarming biodiversity loss, climate change, freshwater crisis, deep inequalities, etc.), which are mostly expressions of a capitalist system

based on the exploitation of common goods (Porto-Gonçalves 2015). The degradation of ecosystems has caused irreversible damage and places us, humans, as a species at risk (Commoner 1992). The complexity of the crises we endure involves different interlinked social, cultural, ecological and political factors, which together create adverse and unpredictable social and ecological consequences. Ludwig (2001) describes these new confronting dynamics as wicked problems. The creation of alternatives and solutions to these issues represent great challenges to our ways of creating knowledge and acting. Part of these challenges consists in the collaboration between different types of knowledge (scientific, traditional, local, spiritual wisdoms, etc.) and forms of knowledge construction based on collective *praxis* – that is, knowledge-action based research directed towards social transformation.

There is a growing call for collaborative networks from members of social organisations, movements, communities and researchers in order to co-produce knowledge and action for a better world (Jara 2020; Bradbury et al. 2019; Klein 2014). Such collaboration has taken different expressions, depending on the socio-political context in which they arise. While transdisciplinarity aims at the co-construction of knowledge between science and society (Klein 2014; Scholz/Steiner 2015) and action research builds links between practice and ideas for human flourishing (Bradbury et al. 2019), participatory action research offers a political-epistemic approach based on reflection and action processes for the transformation of unjust conditions (Fals-Borda 1978). Although these approaches have diverse expressions and important ontological, epistemological, methodological and political differences, they share a critique of conventional research, the need to re-construct academic practices, and difficulties implied by the transformation of dominant structures.

"Regular scientists may discover ways to travel to the moon, but their priorities and personal values may not permit them to solve the knotty problems of the poor woman who has to walk each day to bring water to her home" (Fals-Borda 2001: 29). Scientific knowledge has values and limitations, which are important to recognise if we intend to create alternatives to people's concrete problems. Science is mainly produced in universities, which operate under specific historical and geographical conditions, with their own rules, codes, languages, time frames, values and worldviews. Given those constitutive elements, academia (re)

produces power relations with other communities of practice or sectors of society (Fals-Borda 1970), maintaining or modifying certain social structures (Foucault 1980). Among the many processes that characterise these relations, there is a historical undervaluation of forms of empirical knowledge, such as rural, traditional, experience-based and spiritual wisdoms (Santos 2010). As pointed out by Epistemologies of the South, this "epistemic injustice" in relation to the pluriverse of knowledges, cosmovisions and forms of relating to nature is maintained by dominant colonial forms of knowledge creation and legitimation, contributing significantly to the multiple socio-environmental crises and injustices that we face today (Santos 2010; 2009).

In this sense, academia exerts power *over, with or for* certain actors. It is thus vitally important to recognise power dynamics within multi-actor collaboration processes and to generate methodologies and practices that allow us to transform such historically constructed asymmetrical relations (Turnhout et al. 2019). The dialogue between forms of knowledge emerges within participatory action research from the critique of academic knowledge dominance, generating processes that allow us to establish more equal grounds with different knowledge holders. The intentions to create more horizontal forms of dialogue for the co-construction of knowledge places us on a path that has not been sufficiently problematised. Here, the thinking of Paulo Freire can contribute in important ways. For Freire, research is a process of learning that emerges in *praxis*, that is, in the constant dialogue between reflection and action. Mediated by the world, *praxis* becomes a transformative process for people and their realities. This is how dualities such as education and research, theory and practice, thinking and feeling, teacher and pupils, and researcher and researched subjects, are overcome (Freire 1996b).

In this article, we will describe the Transformative Learning Tours method, a practice created for the collective construction of knowledge and action. It places practical or empirical knowledge in the centre of collective experience and is inspired by the principles of Paulo Freire. The tours were organised by members of the Forest Stewards Network of the Natural Protected Area Archipelago of Forests of Xalapa (*Red de Custodios del Área Natural Protegida Archipiélago de Bosques y Selvas de Xalapa*, in

Loni Hensler, Juliana Merçon

Spanish)[1], a collaborative network of multiple actors who jointly contribute to the management of the territory. Many challenges related to transdisciplinary collaboration were identified in the network, some of which relate to the socio-political conditions of a system based on individualism and vertical structures that generate gaps and asymmetries between different social sectors and forms of life (Hensler/Merçon, 2020), corroborating previous findings (Ayala-Orozco et al. 2018). The need to integrate peasants into the co-management of the protected areas that they inhabit had long been identified by the Forest Stewards Network; however, it had not been fully achieved, mainly due to modes of organisation, language use, spaces, objectives and disagreements regarding the conversion of the territory into a Natural Protected Area, a policy that was imposed without proper public consultation (Hensler/Merçon, 2020).

The experience generated by the Transformative Learning Tours was part of a participatory action research process with the purpose of fostering collaborative practices, creating significant individual and collective learnings, as well as territorial management transformation. We, the authors, are participants and active collaborators in the Forest Stewards Network. We are also inhabitants of the territory in question, where we work as activists and action-researchers. We created, facilitated and analysed the experience of the Transformative Learning Tours in direct collaboration with a core group of participants.

The principles of participatory action research that guide this work involve (i) researchers' engagement in the corresponding collective practices towards social justice, by assuming an explicit ethic-political posture; (ii) a refusal to objectify research collaborators, aiming instead to build more horizontal relationships; (iii) the construction of a common agenda; (iv) dialogue between different types of knowledge; and (v) the construction of collective power in order to transform current unjust power structures (Fals-Borda 1978). In this article, we share a reflexive description of the Transformative Learning Tours method and experience. We also analyse the potential of this method and of some of its theoretical tenets for collaborative forms of research. We highlight movement and dialogical encounters as epistemological elements, as well as the importance of cultural identity in transformative learning processes.

2. Transformative Learning Tours

In the following sections, we present the methods that served as significant sources of inspiration for the creation of the Transformative Learning Tours. We also describe their main features, values, and phases, which are derived from a particular collective learning experience. We thus briefly present this experience and analyse its main outcomes.

2.1 Background: peasant-to-peasant exchange and visions

The Transformative Learning Tours are inspired by the peasant-to-peasant methodology (Holtz-Giménez 2006) promoted by organisations and social movements in Latin America to foster learning experiences regarding agroecological practices. Among the specific inspirations for the creation of this method are the following: Brazil's Agroecological Cultural Caravans[2], which use horizontal analysis to contrast different patterns of rural development in each territory and to create new ways of thinking about agroecology and life; and the Learning Tours promoted by the Andean Change Alliance (Alianza Cambio Andino 2008), based on visits to agroecological experiences that facilitate multi-sensorial learning with which to train specialists for the dialogue between local and external groups (academics, facilitators and other collaborators). Inspiration also came from academic research processes that promote the exchange of experiences with the interest of co-constructing knowledge, such as the *case-based* Mutual Learning Sessions (Ortiz et al. 2017; Vilsmaier 2015). The collective creating of knowledge through experience exchange and cultural interactions between peasants and the society at large are common features of the methods previously mentioned. Moreover, the principle of learning while walking is also an important element in the Transect Walks method (Ganuza et al. 2010). This method includes processes of "systematisation of experiences" (Jara 2020), that is, a systematic description and interpretation of lived collective experiences in order to clarify the logic of the process and create meaningful learning that has the potential to transform practices. As part of this type of process, results are constructed, organised and shared through different media, such as the participants' notebooks, dissemination leaflets and videos.

In the wider field of visions and future scenarios, *visions based on good practices* propose to start from existing experiences to inspire visions grounded in an already constructed present (Bennett et al. 2016). In this case, inspiring experiences termed 'seeds of the Anthropocene' take part in workshops to create images of how the world would be if local projects were applied at a wider scale. In this process, different combinations of 'seeds' are explored in order to learn from their ability to face diverse challenges and innovate. Radical visions are created, based on experiences that propose transformation from the roots, simultaneously showing that such transformation is possible.

2.2 Features and values

The Transformative Learning Tours are a method inspired by Paulo Freire's principles, which link peasant-to-peasant experience exchange to the collective construction of visions based on good practices. They are a decentralised practice of collective analysis and co-creation of knowledge around different dimensions of concrete sustainability experiences. The innovation of this method consists of a combination of experiences exchange, transect walks through the territory, participatory methods of analysis, and practices to encourage collective dreaming. Finally, it fosters the creation of bonds, strategies and commitments so that the visions are truly realised. Beyond exchange practices that are defined as "socialisation processes where knowledge is shared, lessons are learned, with successes and failures of an initiative [...] to be reapplied and/or adapted in other context or situation" (PUNAM 2013: 2), the Learning Tours propose a critical reading or analysis of the territory, identifying strategies and collective actions that allow us to move towards our common dreams. The method does not aim only at the replication of good practices, but also involves the collective analysis of common elements, structural problems, absences and other factors that constitute a particular territory. The combination of journeys through inspiring experiences and the creation of visions promotes the identification of desired practices at collective and individual levels. In sum, the Transformative Learning Tours' main goal is to jointly analyse experiences, to collectively construct knowledge, and to inspire good practices and actions aimed at transformation, creating ties between those who inhabit and defend the territory.

The main values that guide this methodological practice are the following:

• Placing experience at the centre: in this way, there is a special place for those who are the experts in each experience, most of them being peasants. This allows for significant learning to emerge from concrete practices led by a peasant-to-peasant approach.

• Generating multiple moments for exchange, cultural interaction and dialogue between experiences, and between peasants and other actors (both guided and spontaneous activities).

• Promoting collective critical bottom-up reflections and the systematisation of different dimensions of the experiences.

• Encouraging the construction of dreams, utopias and hopes, and contributing to the creation of the necessary elements to follow up on and strengthen social processes of transformation.

• Generating the conditions for more balanced power relations between the different participants.

• Encouraging movement within the territory and the exploration of different senses (vision, hearing, smell, taste and touch), connecting the mind and the body through collective reflections in connection with nature/territory.

• Cultivating art, games and joy in order to strengthen friendships and social bonds, as a basis for transformative learning and collective actions.

2.3 Phases and methodological elements

In order to create transformative practices, a methodological tool in itself is only a small element; although, paradoxically, it often seems to be the most important one. The conditions that allow for a practice to be transformative are many and complex. This is why it is essential to carefully consider the Learning Tours' preparation and follow-up stages, and not only their implementation. During preparation, it is important to collectively analyse different aspects of the territory, defining, planning and organising the tours – to dream about the experience. In the follow-up stage, social transformations based on learning can be weaved through collective actions and social organisation – that is to say, the experience is 'rooted' in its context. The phases and methodological elements are illustrated in Figure 1.
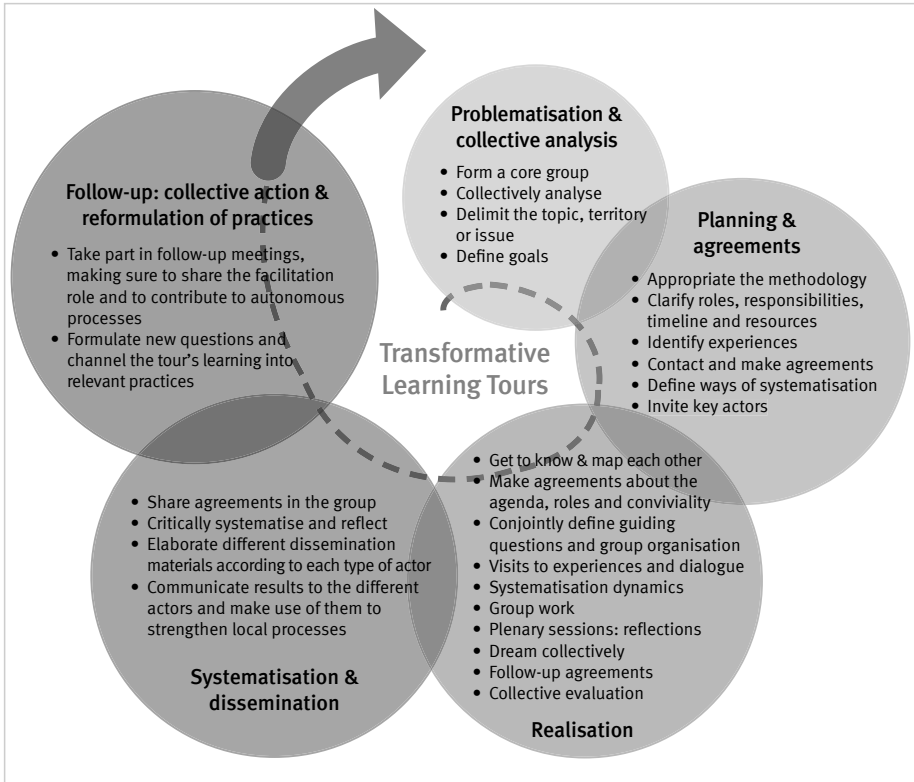
Loni Hensler, Juliana Merçon

Figure 1: Phases & methodological elements of the Transformative Learning Tours
Source: own elaboration.

It is important to create a core group (Villasante 2015) in order to collectively plan, organise and facilitate the tours, as this promotes a better appropriation of the methodology and capacity to follow up. The quality of the tours relies to a great extent on the preparation phase and analysis of the territory's main issues of concern. Therefore, it is important to allow enough time for this stage and to make use of different analysis tools, such as participatory mapping, flowcharts or actor mappings (see Ganuza et al. 2010). In order to reach more balanced power relations, it is crucial to include the experience experts from early stages, to listen to their interests, and to make collective agreements.

The method's key elements are: collaborative definition of the learning objectives or the questions that guide us; facilitation of the moments and tools that allow for systematisation in the field; field trips to experiences

guided by local experts; and, towards the end, a collective analysis of the answers given to the guiding questions, an exercise to encourage shared visions, and follow-up agreements. In order to balance power relations within the groups and promote everyone's participation, it is important to generate activities that highlight each person's voice and that allow for dialogue in smaller groups before sharing in the plenary sessions. Caring for the diversity of forms of expression so that different abilities are fostered (through body, discourse, writing and games) is just as important as the previous elements. In this sense, an atmosphere of trust and joy within the group can be generated through the facilitation of integration activities with festive components that include music, poetry and other forms of expression to inspire creativity and create a sense of community.

The systematisation of experiences is a key element that takes place at different moments: before the tours, generating experience maps; in the narration of the experience and the reflections on-site; the collective analysis in the plenary sessions; the later systematisation within the core group; and the systematisation carried out by the researcher. These are all carried out by different actors and in different ways, matching different curiosities, as Freire proposes. Curiosity is a basic condition for learning: 'I can neither teach nor learn unless driven, disturbed, and forced to search by the energy that curiosity brings into my being' (Freire 2001: 80). This permanent movement to question has the capacity to make us take a step back, observe, delineate, compare, ask, and dialogue. Freire (2001) distinguishes between a spontaneous curiosity and an epistemological curiosity. The methodological rigour and critical reflection of the latter is an important difference between the two types of curiosity. Facilitation guides spontaneous curiosity into becoming epistemological. Creative tools, such as participatory photography, song writing and mind maps, can support this process. The researcher circulates between researching *with, for and about* (Freeth/Vilsmaier 2019), taking different roles and functions throughout the process.

2.4 Navigating Between the Islands of the Archipelago

With the purpose of illustrating the method and highlighting its scope and critical aspects, we now share a Transformative Learning Tour that took place as part of a workshop on Participatory Methodologies for Shared Territorial Management (*Metodologías Participativas para la Gestión*

Loni Hensler, Juliana Merçon

Compartida del Territorio in Spanish), held in June 2018, in the central region of the state of Veracruz, Mexico (Hensler et al. 2019). The goal of this workshop was to strengthen the participants' capacity to know, reflect on and implement participatory methods that promote the shared management of the territory. The workshop, facilitated by the authors of this article, offered the opportunity for core groups to plan, apply and *systematise* three Transformative Learning Tours. In this way, we, the authors, together with the participants of the workshop, were able to deepen our practical knowledge around participatory methods, collective learning processes and facilitation, according to the needs that were identified.

The preparatory phase created conditions for the 20 participants i. to learn about different participatory methods through praxis, ii. to discuss their main theoretical principles, as well as iii. to collectively analyse the territory and its socio-political context in order iv. to dream about possible tours. To identify the tours, we used participatory cartography to map initiatives and alliances in the region and to form groups according to territorial or thematic interest. Three groups were formed, and each of them mapped the relevant actors, created a collaborative plan and a methodological design adapted to the context and the specific goals. At the same time, we worked on the methodological elements, getting to know different methods for the exchange of experiences and visions. In order to construct the process with the experts of the experiences, we invited them to discuss the methodology and agreed on the dynamics of the tours. During these contacts, there were different ways of accompanying the local experts (peasants and community groups) to generate a graphic representation by means of maps and start thinking about what they would like to learn from the tours.

The Transformative Learning Tours "Navigating Between the Islands of the Archipelago" were dreamed, planned and facilitated by one group with 12 people from rural communities, civil society organisations and academia, most of whom belong to the Forest Stewards Network (including the authors). The network was created in 2015 as a response to the decree of the Natural Protected Area Archipelago of Forests in the region of the capital of Veracruz, Mexico. It is comprised of around 60 active members – dwellers, interested neighbours, academics, members of civil society organisations, peasants, professionals, artists, and some representatives of

the local government. Some of the main objectives of this network are to hinder or diminish destructive urban growth, and to promote actions towards more sustainable socio-ecosystems and a higher quality of life in the region. Currently, this grassroot organisation operates as a polycentric platform, operated by commissions and core groups. Among the actions promoted by the network, there are diverse awareness and dissemination activities (tours, festivals, exhibitions and workshops), dialogues between multiple actors and citizen platforms (citizen encounters, round tables, human rights workshops), sustainable practices (demonstration plots, restoration of landscapes, solidarity economy and workshops), as well as collaborative action-research.

The objectives that guided this iteration of Transformative Learning Tours responded to the difficulties that the network has encountered in trying to connect with other inhabitants of the Natural Protected Area, particularly with peasants from the region (Hensler/Merçon, 2020). The objectives were: (1) To know more about the territory and the people who inhabit it, look after it and manage it; (2) to learn from sustainable practices of every region in order to inspire and be inspired; (3) to exchange experiences and co-construct learnings about the threats in the region and the opportunities and strategies to defend the land; and (4) to strengthen links between inhabitants of different areas and with the Forests Network. After mapping experiences and discussing objectives and criteria for selection, it was decided to carry out a tour that would last for two days, visiting eight family initiatives, cooperatives and other collectives with shared interests, among them coffee producers and horticulturists, women's groups with different productive activities, and neighbours' collectives organised to reclaim bodies of water in urban areas. The tour was self-managed and organised collectively without external funding.

With 80 participants in total, this tour created different ways to get to know and relate to the land. This was done, for example, through a map where the participants placed themselves, an integration game that used the metaphor of the islands in the sea, and a brief presentation. The questions that were defined at the beginning of the first day did not focus solely on sustainable practices but also around economic strategies; the presence of culture, traditions and art; strategies to foster participation; ties between actors in a rural-urban space; the role of children, youth and

Loni Hensler, Juliana Merçon

women; threats to the land and proposals for its defence. Four locations were visited each day during the assigned timeslot of an hour and a half, which meant that it was important to support the hosts beforehand in the presentation of their experiences through a significant and viable tour for each visit. During the journey from one place to the other, we invited people to write *Son Jarocho* verses – the traditional music of the state of Veracruz. This allowed for the presence of art and inspiration to share with one another what we learned in each location. Finally, the answers to the guiding questions were analysed in groups and, in a final plenary session, we wove our reflections into our dreams for the territory, reaching some collective follow-up agreements.

After the tour, we collectively created a number of creative dissemination materials, such as a notebook, a song based on the verses written during the tour, and a video[3]. Besides that, semi-structured interviews were carried out in order to analyse the learnings generated in this experience. To follow up on the dreams generated during the process, three workshops were facilitated to promote the conversion of the collective agreements into action: (1) mapping ties between groups in the territory and other possible knowledge exchange activities; (2) dreaming mechanisms of a solidarity economy by analysing the existing initiatives; and (3) formulating a proposal for a solidarity economy network.

2.5 What is generated by the Transformative Learning Tours?

As an experience, each tour is a singular, unrepeatable, and transformative event that cannot be generalised (Larrosa 2006). The outcomes of experiences based on significant encounters are usually diverse and complex. The tangible and intangible results that are generated by these encounters move at different levels. From the analysed tours, we here highlight the following effects:

Learnings: transformations that emerge as participants reflect upon practices and enter into dialogue with different social realities;

Ties: networks of friendship, companionship and alliances that are created with affection and admiration for the other, communities that later facilitate exchanges between forms of knowledge and practices, mutual support in social processes and bases to strengthen the different struggles to defend and look after the territory;

Dreams and utopia: images of desirable futures that can function as horizons for orienting and motivating day-to-day action;

Collective actions: processes of social organisation that enact collective proposals and agreements;

Training in methodological tools: participants actively learn principles and methods that innovate the processes with which they are involved;

Reconstructing territories: changes in the relationship, representation and appropriation of territory by individuals and collectives; and

Collective power: the stances and recommendations which arise from the readings of the territory by its inhabitants can contribute to the construction of public policies that are more environmentally and culturally pertinent.

In order to illustrate what can be generated, we share a summary of the learning outcomes of the Transformative Learning Tours "Navigating Between the Islands of the Archipelago" in Table 1. This analysis shows that it is a valuable method for transformative learning with outreaches in values, practices, approaches, thoughts, identities and relations between humans, nature and time. In this particular tour, the importance of alternative and solidarity economies for sustainable practices was highlighted. Attentive listening allowed us to dream and formulate viable proposals, namely a Solidarity Economy Network (*Red de Economía Solidaria la Gira* in Spanish), which today connects 80 consumers and 25 groups of producers (Hensler et al. 2020)[4]. This tour was collectively singled out in the Forest Network's timeline as ground-breaking for the transformations it promoted in terms of diverse participation, objectives, and activities. Participants also acknowledge how the transformative learning tours prioritise movement as a principle that can be integrated into future experiences.

3. Discussion

In this section, we discuss how the Transformative Learning Tours incorporate principles of Paulo Freire's theory, as well as the role movement plays in this method. In this sense, we explore the possibility of thinking of an epistemology of movement. Moreover, we present a brief discussion on how appropriate this method is for collaborative research.

Loni Hensler, Juliana Merçon

Type of learning	The Transformative Learning Tours' participants share their voices*
Overcoming barriers to change	"I learned about Yola's experience because she gives herself the time to grow all kinds of plants. I told my children that we have to work harder as I have seen that it is possible." Maria, peasant
	"What we experienced in the tour helped us to clarify our path, that some of the things we are doing are not contributing to our goals, they are nonsense; I want to spend more time working with local communities." Juan, member of civil society organization
(Re-)value one's place and reflect on the practices and ends in life	"I wanted to live in the city, but after the tour, I feel and value more where I live, here at the ranch, it feels beautiful. I enjoy that I don't need to have money." Guadalupe, peasant
	"We realize what things we do well, what things we do wrong. It helps us in many ways and it is a protection of the territory that strengthens us." Silvia, researcher
Value and enjoy collective action and collaborative work	"We enjoyed a collective action that you do not have to suffer because of your work or learning process (…). And trust again that collective processes can be built from companionship, solidarity, joy." Ana, researcher
	"I recognized that we do not use what we have very well. (…) We saw that the women's group is well organized (..). All that is new to me, it impresses me." Pedro, peasant
Related to time (rhythms and different forms)	"(…) It reinforced this question of taking care of the strategy and rhythm required for this type of participatory work; there are times to be slow and times to be fast, it is good not to pounce all the time." Andrés, researcher
	"The tours reaffirm that collective time is totally different. It contributes to my deceleration process." Elsa, artist and student
Experiential ways of learning through joy, senses & feelings	"Sharing food is super deep, it is about knowledge, how it is prepared in each place, enjoyment, flavors, we are tasting the flavors of the forest, which are pleasantly shared." Cecilia, researcher
	"I see that people enjoy the tour. You do not have to go to a meeting, sit and listen, it is a fun activity; at the same time educational, it involves learning in many levels and will stay forever." Elizabeth, professional
Know, analyze and engage with the territory	"I identified the need to link more actors in each project, I feel that the ones we saw are still alone. It opens doors to possibilities of change." Antonio, member of civil society organization
	"I did not know the people who inhabit these areas. It is very important that we get together, that we get to know the problems, but also the solutions people are realizing; exploring the territory gives you a lot, it sensitizes you. You understand why people are doing what they do." Martha, researcher
Belonging and collective identity	"Through the tours we can identify ourselves with this movement against the flow and do not feel alone anymore. I felt a common body even though we are separated, that was what I liked most." Alejandra, peasant
	"You can make a popular resistance, it's like we've joined forces and continued weaving. It also opened the desire to weave our threads with other groups, see how to fraternize, to live together." Inés, member of civil society organization
Philosophy of life and relationship with nature	"The most valuable thing for me was to understand conflict as something that has a lot of possibilities, it makes me cry. See the living examples, it has a lot of cavities, it's so colorful." Elsa, artist and student
	"I could feel the connection and feel that I am part of nature; that changes the inertia you are used to, because it makes you look at things differently." Alicia, researcher
Revalue diversity and recognize its potential	"The tour allowed me to experience the power of a multi-actor formative space. The challenge of using the academic space to deactivate in ways, times, wherever possible; we need to change." Luz, researcher
	"Before the tours, my vision was: I studied, I own the information and know what has to be done, but it is not true; not everyone sees a problem in the same way. We have to listen to achieve something." Lucía, student
Sustainable practices and solutions	"I learned about water, to be very careful not to pollute it." Ruben, peasant
	"It gives us the opportunity to exchange things. This is what happened, we handled it this way, and maybe someone tells you something you had not even thought about, even with 20 years of experience." Alberto, member civil society organization

Table 1: Results of the Transformative Learning Tour "Navigating Between the Islands of the Archipelago"

*Source: Analysis of 15 interviews, 2 evaluation forms, a session of collective analysis using photographs with the organisers of the tour, a timeline workshop and participant observation. *Fictitious names*

3.1 Paulo Freire and the epistemology of movement

The Transformative Learning Tours method, conceived as a proposal and experience, encompasses significant relationships with the thinking of Paulo Freire. Some of these connections were mentioned above, but here we further explore them through the following principles:

• The centrality of experience: The knowledge associated with the participants' experiences is the basis for the learnings generated in the tours. As with the "culture circles" created by Freire (1970), knowledge built through real life experiences – or the "corporified word" (Freire 1996a) – is central for the exchanges, while abstract knowledge loses prominence. Likewise, the role of the expert is not limited to a single person, since everyone teaches and learns. The Transformative Learning Tours themselves constitute collective experiences from which new world readings, new critical knowledge and potential transformations arise.

• The transformative *praxis*: The tours are part of broader collective processes with a previous history and a follow-up. The integration of spirals between reflection and action into broader processes strengthens the capacity for critical learning and collective transformation. This transforming or liberating potential of *praxis* is based, according to Freire (1970), on criticism, commitment, solidarity and dialogue.

• Dialogue as a driver for change: For Freire (1970: 71), "dialogue is the encounter that grounds reflection and action". Therefore, teaching and learning for autonomy and transformation require a disposition for dialogue. Critical and liberating dialogue depends both on deep listening, which positions the other as a knowing, historical and transformative subject, and on the shared word based on experience, curiosity and commitment to change. Dialogue is the basis that defines and guides the tours in all stages, from the initial problematisation and planning to the realisation, systematisation and follow-up.

• Recognition of cultural identity: The Transformative Learning Tours promote dialogue through different forms of expression, including artistic and cultural manifestations of the participants. By promoting creative and critical thinking in connection with local culture, this methodological proposal fosters conditions for people to assume themselves as thinking and communicating beings, creators and transformers of their own socio-historical and cultural reality. Freire (1996a) considers this recognition of

cultural identity a key aspect of liberating educational practices and the beautification of the world.

    • Curiosity and research: In dialogical education processes, naive curiosity becomes critical curiosity through rigorous thinking and research. This type of process contains, for Freire (1996a), the greatest potential for generating autonomy and social transformation. In the tours, everyone's curiosity is nurtured through the construction of generative themes, guiding questions and the constant inquiry into topics of collective interest. The systematisation of experiences constitutes a method for organising reflections and investigating them collectively, strengthening learning and the power of social change.

Paulo Freire (1998) was called 'the rambler of utopia' (*o andarilho da utopia* in Portuguese). His life and work inspire us to move reflectively and actively towards a better world. With this inspiration in mind, we explore possible relations between knowledge and movement, as we experienced them through the Transformative Learning Tours. This method allows us to renew our views on Freire's principles and establish novel theoretical articulations between knowledge and movement.

Movement as an epistemic element has not been widely considered in the literature, even though it has a significant presence in non-formal education, in rural communities and social movements (Rockwell 2012). "Just walk, walk questioning and asking" is Freire's advice (quoted in Walsh 2014), a thought that resonates in the worldview of the Zapatista indigenous communities with their 'walk questioning' philosophy. Movement, as an epistemological component, is as old as the experience of the peripatetic philosophers in Ancient Greece. Among its contemporary roots, are the ideas around nomad science developed by Gilles Deleuze and Félix Guattari (1992). These authors propose an itinerant and wandering epistemology based on a type of thinking that seeks singularities, the unique and the subjective, rather than generalised rules. The authors highlight the great transformative capacity of movement, because it challenges the fixed dominant order of languages, discourses and perspectives that explain our world. Furthermore, movement can inspire stories, concepts, and alternative explanations of the *status quo* (Deleuze/Guattari 1992).

Through the Transformative Learning Tours, we realised that movement gives rise to more pronounced senses and feelings, connections between the cognitive, corporal and emotional, which are not valued in formal education due to the assumption that the senses hinder rationality and destabilise authority (Martín-Barbero 2003). This integral experience also plays an important role in reinforcing practices of care towards nature (Gioacchino 2019). Looking, smelling, tasting, listening, touching and feeling allow us to further know the complexity of an experience. By walking on a particular territory, we place our body, and connect and engage with ourselves, with our experiences and problems. As one participant states: "It is very clear to me, that all this collective learning is very valuable and deep, because it is full of playfulness, food, sharing of walks, places".

Movement in a learning process allows for a very lively presence of the world. Aspects that are not usually considered in theory and that cannot be ignored by one's body are acknowledged and incorporated into *praxis*. What Freire (1970) names "mediated by the world" becomes literal and we can even think of a pedagogy that is generated in dialogue, not only with the people who inhabit a place, but together with nature and territory. It can be thought of as a radically different way of constituting a pedagogy that "is not centered on the human but based on the interrelation of all dimensions of nature, of which humans are only a part", as practised by many indigenous peoples (Walsh 2014: 20). When moving, there is a different rhythm and connection with the body and the environment, as one participant mentions: "We were all slowing down and feeling the connection, (feeling) that we are part of nature. This makes you see the crisis we endure differently; if you slow down, you can see it with all its potential".

In this sense, knowledge is shifted from the desk and classroom to a place of movement, also shifting organisational dynamics, daily practices, failures and experiences. As an elder peasant mentions: "I was surprised to understand that we were doing research". He then explained that he has always had the desire to study and thought that schools and universities were the only places of knowledge. What enhances collective learning in the tours is the connection of movement with tools of collective analysis. It is a practice that favours a complex analysis of the territory more than an in depth understanding of isolated cases or aspects. Other experiences

Loni Hensler, Juliana Merçon

become mirrors by means of which values are reconfigured, as another participant indicates: "I was able to redimension what coexists in this protected area, the value of ecosystems, the magnitude and value of people with their ways of relating to the environment".

Moving collectively through a territory becomes an experience of construction of friendships and ties that go beyond the experience itself, generating the desire to be connected and collaborate beyond. In the words of another participant: "It is about identifying ourselves in a common movement against-the-flow and not feeling alone anymore. In general, there were many ephemeral moments, which suddenly lit like fireflies, and we felt a common body even though we are all separated". The Transformative Learning Tours in this sense are encounters in movement, through dialogue held with trust and affection.

Since movement is always in construction, it represents a fertile space for dreams and utopias. "The nomad is not in the past or present, but in the becoming" (Gaggiotti et al. 2015: 6); thus, nomadic practices are ingenious, creative, open and imaginative ways of knowing. The tours were full of spontaneous dreams and proposals, such as what occurred when we were surprised by rain in a coffee plantation and took refuge in some rooftops, taking advantage of the situation to share food and collectively dream of building economic ties based on solidarity. Accompanied by organised people who can act upon dreams, these utopian thoughts can become truly attainable.

Finally, Braidotti (2006) invites us to think that movement can be an existential condition of the human being, perhaps similarly to the "vocation of being more" that Freire proposes. This is so because movement brings different knowledge holders and forms of life into a common ground, and while it excites, entertains and seduces us, we are co-constructing significant knowledge. In this sense, we can think of movement as a key aspect of an epistemology of nomad science, social movements and those who ask while walking.

3.2 Potentials and limitations of the method in collaborative research

The potentials of the Transformative Learning Tours include the co-construction of learning between actors, the transformation of power relations, the participation of all actors as researchers, and the participa-

tion of academic researchers in social change processes, among others. The particularity of movement as an epistemological element generates learning that is connected to a specific territory, problematising the present and announcing a future to be built. The social fabric that is woven by the tours contributes to new knowledge that goes hand in hand with changes in practices, power relations and future policies. In this way, it contributes to merging research, education and action, as proposed by Freire (1996a), with the potential of promoting significant individual, collective and territorial transformations, towards a more just and sustainable world.

At the same time, the characteristics of the tours as a method based on movement, experiences and encounters, imply various limitations as a tool for collaborative research approaches. The experience itself depends on the commitment of the facilitators-researchers to a broader socio-political process and their opportunities to collaborate from planning and implementation, to systematisation and follow-up activities. Rather than facilitating a specific research method, it is about sensitively engaging with a group and opening spaces for dialogical encounters. Contributing to "building the common from differences" (Merçon et al. 2018: 12) requires a political position that explicitly seeks to balance voices and powers. The potential of the tours is also limited to the capabilities of the researcher or the facilitation team, since the link between research-education-action implies a diversity of parallel roles and activities. It is thus advisable that one is already involved in collaborative processes in order to generate strategies for the implementation of the methodology.

It is important to clarify that the tours do not constitute a method to deepen our knowledge of a specific disciplinary theme. Instead, they are meant to open up new questions and the amplitude of what can be known, connecting different perspectives, elements and dimensions, while interconnecting themes through different stages. Moreover, it is impossible to control the process, the register of all happenings and the research conditions, what makes it a type of research *in vivo* (Nicolescu 2008). In this sense, the method is limited by the disposition of those who implement it to collectively construct the research questions and to be guided by the curiosities and problems defined by all participants. Besides, the method is not suitable for the dissemination of abstract scientific knowledge, as this would reaffirm unjust power relations and not allow more inclusive

Loni Hensler, Juliana Merçon

dialogue. A peasant woman compared the learning tours with other field trips: "This time it was different because we could express what we like and what should be changed; we learned a lot. In similar visits, there were people who felt very different from us; if you have studied, you are more important, and if not, they ignore you. Here, we felt confident, our voice was important."

In our specific experience, we faced difficulties in sharing the role of facilitation, achieving joint agreements on the planning, and communicating with some of the peasant families who live in remote areas. Moreover, some participants perceived that there was some 'rushing' between activities, what could indicate the reproduction of power relations, since the relationship with time is different in rural areas. Collaboration always implies a great number of challenges, thus constituting a great learning opportunity for all participants.

4. To keep moving: concluding remarks

The Transformative Learning Tours method is inspired by the principles of Paulo Freire in a creative and innovative form. It contributes to a highly experience-based and situated knowledge co-construction, where all participants define together the learning objectives, and culturally sensitive forms of communication and art are implemented. Moving in the field opens multiple opportunities for encounters and for positioning the experiences of local initiatives and communities in the center. *Praxis*, the dialogical reflection on action, is key here as it may contribute to significant changes in participation and legitimation in knowledge co-construction. Movement as an epistemic element can contribute to creating more horizontal relationships and to dislocate learning from institutionalised spaces. In this sense, the Transformative Learning Tours is a practice that challenges dominant forms of research, counteracting epistemic injustices and creating reflexive and active networks. Its potential is mainly situated in participatory action research, action research or transdisciplinary research with a collaborative, critical and creative approach.

The relationship between research, action and learning is not sufficiently considered in collaborative research, as the dominant approaches

tend to separate these aspects and limit the role of researchers to the co-construction of knowledge. It is important to critically acknowledge the presence of power relations in every social process, with special attention to how they are manifested through the institutionalised behaviour of researchers. We, as researchers, can use the socially constructed power relations in order to transform them; by sharing important roles and decisions about forms and content, as well as through the creation of disruptive settings where different voices and ideas can emerge.

In the case of the Transformative Learning Tours held in Xalapa, Mexico, this transformative potential was higher than expected, with significant outcomes in terms of knowledge co-construction, as well as in terms of territorial changes led by strengthened community relations, social processes and collective power. This potential depends, however, on how the method is implemented, as well as the collective capacity to realise the proposals that emerge from it. In this sense, not all the tours had significant transformative effects over the participants and their territories, even though they were generally perceived as highly positive.

To keep moving, we invite you to think of methodologies as inspirations for experiences that are not generated by a series of stages and steps, but by people linked to social groups and territories. Methodologies in this sense do not exist in any immutable or absolute way, but depend on the subjectivities that rebuild them. Therefore, one can always be inspired, adapt and innovate, generating experiences that are sensitive to specific socio-cultural contexts. From this understanding of methods, we reaffirm that, in order to effectively respond to the multiple injustices and socio-environmental crises that we face, it is essential to change our ways of relating to knowledge, to each other and to the place we inhabit. Changes in how we engage with people and the land correspond to changes in how we create knowledge, actions, and the very world we live in.

1   For more information about the Forest Stewards Network, see www.custodiosan-pxalapa.org and www.facebook.com/custodiosdelarchipielago (in Spanish)
2   https://agroecologiasudeste.wordpress.com (in Portuguese)
3   The dissemination materials of the Transformative Learning Tour can be consulted here: https://youtu.be/-7jydrzGHxk; https://issuu.com/reddecustodios/docs/cuadernillo_gira_rdc_digital (in Spanish)
4   For more information on the Solidarity Economy Network: http://custodiosanpxalapa.org/nuestras-actividades/economia-solidaria

Loni Hensler, Juliana Merçon

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ABSTRACT *Transformative koedukative Prozesse durch Multi-Stakeholder-Zusammenarbeit erfordern Methoden, mit denen Unterschiede zwischen den beteiligten Akteuren zur Bildung von gemeinsamen Grundlagen genutzt werden können. Transformative Learning Tours ist eine Methode, die eine Bewegung in Zeit und Raum fördert und durch den ständigen Dialog zwischen kollektiver Reflexion und Praxis, gemeinsame Grundlagen schafft. Diese Methode des Erfahrungsaustauschs basiert auf einem ‚campesino a campesino'-Prinzip und dem Konzept der Bewegung als Mittel zur Stärkung menschlicher (und nicht-menschlicher) Verbundenheit, indem die Sinne im Lernprozess ins Gleichgewicht gebracht werden. Die Touren sind von den agroökologischen Karawanen in Brasilien inspiriert und integrieren Kunst, Musik und Imagination als wichtige Elemente der Aktionsforschung. Während dieses Prozesses werden Bauern und andere Angehörige der Gemeinschaft zu ExpertInnen, sodass Räume für mehr horizontale Dialoge entstehen. Die Teilnehmer stellen sich einer kritischen Auseinandersetzung mit der Vergangenheit und denken gemeinsam über eine Zukunft nach.*

Loni Hensler, Juliana Merçon

Dieser Artikel beschreibt die Methode der Transformative Learning Tours und wie sie freireanische Prinzipien einbezieht. Wir reflektieren die Reichweite und die Grenzen dieser Methode im spezifischen Kontext des Forest Stewards Network in Xalapa, Mexiko. Wir berichten über die verschiedenen Phasen, die Grundlagen und Bedingungen sowie über die Art der Durchführung und den Kontext der Methode, die den Prozess begünstigten, und verorten Bewegung als einen erkenntnistheoretischen Ansatz.

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Systematisation of Experiences as a Methodology of Peasant-Based Action Research

Abstract *This contribution gives insights into methodological procedures and epistemological results from a transdisciplinary research process with the peasants' organisation OCEZ-CNPA Chiapas in South Mexico. Its methodology was based on Paulo Freire's Popular Education (PE) and its related methodologies, Systematisation of Experiences (SoE) and Participatory Action Research (PAR). The central endeavour of the research was the collective reflection on peasants' agroecological learning experiences and, through a feedback loop, on the same praxis. The reflective practice consisted of action, research and training and thus, generated actionable, epistemological and methodological knowledge. These three interconnected dimensions of knowledge nourished the pedagogical and political praxis of the peasants' organisation, as well as the practice and theory of transdisciplinary and participatory research in the context of agroecology.*

Keywords *Popular education, participatory action research, Systematisation of Experiences (SoE), agroecology, peasants' research*

1. Introduction

The purpose of this article is to share methodological and epistemological reflections resulting from a transdisciplinary research project on agroecological learning, undertaken with a Southern Mexican peasants' organisation. Inspired by Paulo Freire's (2005) proposal of a liberating, problem-posing and situated process of learning, its methodology was based on *Systematisation of Experiences* (*SoE*) and *Participatory Action*

Research (*PAR*). These methodological conceptions build on Freire's (2005: 72) assumption that knowledge cannot be transferred by teaching; it can only be created "through invention and re-invention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other". The objective of Freire's (2005: 110) research-based *Popular Education (PE)* is to understand the world we live in, in order to transform it.

Half a century after Freire first published his revolutionary ideas on emancipatory education and transformative knowledge, they continue to be relevant, as we are currently facing a multiple global crisis that is grounded on a crisis of knowledge (Leff 2006). The hegemony of western academic thinking in knowledge production has caused an "epistemi-cide" (Sousa Santos 2010) by negating and destroying the diverse forms of knowledge of the peoples, that do not fit into the Cartesian model of rationalism (Mignolo 2005). However, these "epistemologies of the South" (Sousa Santos 2009) hold the potential for an exit from the crisis model of modernity (Escobar 2015). Thus, Transdisciplinary Studies, *Participatory Action Research* (*PAR*), as well as agroecology, call for a renewal in processes of production and validation of knowledge. Research that is committed to social change must be undertaken through a horizontal dialogue of academic and non-academic knowledges and subjects, which implies the crossing of methodological and epistemological boundaries (Vilsmaier et al. 2017).

Agroecology is a transdisciplinary and action-oriented science, as well as a practice and a movement (Wezel et al. 2009; Méndez et al. 2013; Gliessman 2018: 599). It was conceived from scientists like Hernández Xolocotzi (1985) and Gliessman (2013) by studying the indigenous agri-culture of Mexican peasants. Thus, it should be further conceptualised by the peasants, since they are the experts of their reality and the "drivers of change" (Van der Ploeg 2011), as we argue in this article. Agroecology seeks to discover, systematise, analyse and strengthen the elements of the local identity inserted in a specific ethno-agro-ecosystem and, by that, to design development strategies in a participatory way in order to foster local resistance to the process of modernisation (Sevilla 2006: 211). This transdisciplinary science values different forms of knowledge and integrates "research, education, action and change that brings sustainability to all parts of the food system: ecological, economic, and social" (Gliessman 2018: 599).

Therefore, the pedagogical and epistemological perspective of agroecology is in line with Freire´s conception of education and knowledge, as discussed in this article and emphasised by a variety of authors (Ruiz-Rosado 2006; Altieri/Toledo 2011: 180; Méndez et al. 2013; Rosset/Martínez 2014) and practiced by many agroecological movements (see also the contribution from Hensler/Mercon in this issue).

In this paper, we share methodological and epistemological lessons from a specific experience with transdisciplinary and peasant-based research into agroecological learning. The project, titled *Systematisation of Agroecological Learning Experiences (SALE),* was undertaken from 2016 to 2018 in Chiapas, Mexico. Its mission was to learn from peasants´ agroecological learning experiences in a dialogical relationship of academic social researchers from the Austrian Paulo Freire Institute, with those from the Mexican universities Chapingo and ECOSUR, and with peasant-researchers from the peasants' organisation OCEZ-CNPA Chiapas. The peasants with experiences in agroecological farming, learning and promoting are experts on their praxis and their reality, as well as being the actors of transformation. Thus, they were regarded as "co-investigators", as Freire (2005: 106) proposed. The task of the social researchers was to facilitate participatory and democratic structures and methodologies for enabling the co-generation of peasants' knowledge.

The central endeavour of this project was to organise a systematic way of collective reflection on the peasants' experiences in agroecology by developing and applying a participatory research methodology in order to create knowledge from praxis and for praxis. "Praxis" means for Freire (2005: 87ff.) – and thus, in this paper – collective action and reflection that innovates practice and theory. The project's epistemic objective was guided by the collectively defined question of "How are traditional and innovative agroecological knowledge and practices being (re-)constructed and disseminated?". In addition to the objective of generating "knowledge for understanding" and "knowledge for action" (Cornwall/Jewkes 1995: 1667), the process aimed at producing methodological knowledge on how to do research in a participatory and transdisciplinary way by acting and reflecting on our own investigative praxis.

The project title contains a reference to the central methodological conception on which it is based: The *Systematisation of Experiences (SoE)*. The *SoE* is a methodology of *Popular Education (PE)*, which concretises

Freire's emancipatory learning by means of a specific proposal of designing a process of systematic participatory and critical reflection on a collective praxis. This methodological framework was complemented with principles and methods taken from *Participatory Action Research (PAR)*. The eclectic combination of these related transformative methodologies enhanced the creation of an open and process-oriented investigative context that enabled the re-introduction of research results into the research process in order to deepen the same process (Villasante 1994 cited by Jara 2012: 63). *PAR, PE and SoE,* as well as agroecology, integrate action, research and training in a balanced way. *PAR*, understood "as the way groups of people can organise the conditions under which they can learn from their own experiences and make this experience accessible to others" (McTaggart 1991), has a similar aspiration to that of *SoE*. The popular educator Oscar Jara (2006: 22; translated by the authors) defines *SoE* as a "critical interpretation of one or more experiences that […] discovers the logic of the experienced process, the factors intervening in the process, how they relate, and why they related in this way." While the purpose of *PAR* is to investigate a specific problem, a question or a dimension of reality in a participatory way, the object of *SoE* is the collective reflection on an experienced situation or process (Jara 2012: 57). Since these methodologies have different foci, but are based on the same principles and goals, they can enrich and complement each other, as we affirmed in our research. A central common feature of these methodological conceptions is their embeddedness in the concrete and existential situation of the people, as they are considered to be epistemic and transformative subjects (Jara 2010). Freire (2005: 85) emphasises that the starting point of a liberating research action "must always be with men and women in the ''here and now'', which constitutes the situation within which they are submerged, from which they emerge, and in which they intervene." The importance of situating the research process in the reality and the historical and cultural identity of the subject is highlighted in our analysis, as we found it to be significant for transformative research on agroecological learning.

In the following pages, we share some reflections on both the methodological procedures and epistemological results of the transdisciplinary peasants-based research. In the subsequent section, the methodological framework of the *SALE* project is described, highlighting the transdisciplinary and international structure of the research collaboration, as well as

the design and implementation of its methodology. After the methodological outline, an epistemological result from the peasants-based research on agroecology is highlighted, and its political and pedagogical significance for transformation is analysed in dialogue with Freire´s conception. With this study we suggest that agroecology, as a situated and transformative knowledge, movement and praxis, cannot be taught. It can only be created by a respectful and loving dialogue in the sense of Freire, one situated in the particular territory, history and culture of the peasants.

2. The methodology of the *Systematisation of Agroecological Learning Experiences* (*SALE*) in Chiapas, Mexico

In the following pages, the context and methodological framework of the project *Systematisation of Agroecological Learning Experiences of farmers in Camagüey, Cuba and La Trinitaria, Chiapas, Mexico (SALE)* is summarised. Special attention is given to the research subject and its transdisciplinary collaboration structure, the holistic methodological framework, as well as to the implementation of the procedure *Systematisation of Experiences (SoE),* which was adopted from Oscar Jara (2006) and adapted to our context and to the interests, needs and capacities of the peasants´ research collective. Before that, we give a short introduction to the general setting and the participants of the research process.

The *SALE* project was coordinated by the Paulo Freire Institute and financed by the Commission for Development Research (Kommission für Entwicklungsforschung – KEF), both located in Austria. It was carried out from 2016 to 2018 by two local teams, one in Camagüey, Cuba and the other in La Trinitaria, Chiapas, Mexico. The transdisciplinary, international and intercultural research teams were composed of social researchers, peasants experienced in practising, learning and promoting agroecology, as well as leaders and coordinators of the peasant organisations. In the Mexican research group, investigators from the Autonomous University of Chapingo, a Master's student from the El Colegio de Frontera Sur (ECOSUR), and 17 peasants and three coordinators from the organisation OCEZ-CNPA (Organziación Campesina Emiliano Zapata – Coordinadora Nacional Plan de Ayala) Chiapas participated. The Cuban experience of peasants'

popular education was an important inspiration and support, especially in the kick-off phase of the project, which was dedicated to the collective construction of the methodology. However, the contents discussed in this article are mainly drawn from the Mexican process, with the farmers' organisation OCEZ-CNPA in Chiapas. This is due to various reasons: first of all, to the pragmatic need to reduce complexity for this article; second, to the fact that two of the authors continue to accompany the educational praxis of the OCEZ-CNPA; and third, the stronger commitment of the participants from the OCEZ-CNPA with the research, which led to a wider outreach of the cycle of action and reflection.

Indeed, the engagement of the members of the OCEZ-CNPA Chiapas as peasant-researchers went deeper than initially expected. The "epistemological curiosity" (Freire 2008: 26; see also Hensler/Mercon in this issue) and the consequent high research motivation of the leaders of the OCEZ-CNPA were based on the sense of frustration that the agroecological training courses and discourses, which they have been promoting in the last decade, have not shown the desired outcome. Most of the members of the organisation continue to use agrochemicals and have not been "convinced" by the agroecological approach, as the leaders of the organisation admitted. Thus, they felt the urgent need for a reflection on their own pedagogical praxis. The objective of the OCEZ-CNPA met with the mission of the Paulo Freire Institute – namely of promoting popular education. Their common political-pedagogical principles set the ground for enabling a peasant-based form of research in a transdisciplinary team.

2.1 The transdisciplinary collaboration structure *SoE*

In the *SoE*, only those who have been involved in the inquired experience can be the researchers (Jara 2006). Therefore, the peasant-researchers were considered as the protagonists in the execution of the research, while the role of the academic researchers was focussed on the facilitation, coordination, organisation and documentation of the process. A crucial condition for a transdisciplinary research project is a successful team organisation and collaboration structure, which includes the collective agreement on the specific objectives and methodology of the research, and on the decisions on how, when and by whom it should be carried out.

The transdisciplinary principle was applied in all of the three interacting team levels: the local team of action research, the local facilitation teams, and the international team of coordination and research. The local team of action research was the extended group, predominantly consisting of peasants of the OCEZ CNPA with experiences in agroecological learning and promotion. The local facilitation team was the "core group", using the term of Hensler/Mercon in this issue, that organised, planned and facilitated the research, in which the extended local team of action research participated. The facilitation team was composed of two leaders from the educational area of the organisation, three peasants, and two academic researchers. This predominantly female team carried out the crucial tasks of execution, documentation, and the critical evaluation and interpretation of the research process. It collectively decided on the specific actions and methods to be implemented in order to respond to the emerging questions, challenges, and preliminary findings of the research in an ongoing process of action and reflection. The local facilitation team had a crucial interface position, since it communicated its decisions and analytic observations in a constant dialogue, both to the extended peasants' group (the local team of action research), as well as to the international team of coordination and research. The international coordination team was composed of researchers and national coordinators of the project, that had a consultative and steering function in the process.

2.2 The methodological framework

A methodological design entails methods, techniques and instruments in order to address the objectives, the subject and the object in a coherent way (Jara 2006: 227f.). The methodological conception of Popular Education (*PE*) and Participatory Action Research (*PAR*) goes beyond technical issues, as it essentially considers ethical and political attitudes, behaviours and values, such as empathy, solidarity and sharing (Chambers 1997: 105; Fals Borda 1999: 24). Therefore, the methodology includes monitoring and evaluation in order to critically reflect our methodological and ethical performance (Grundmann/Stahl 2002:17).
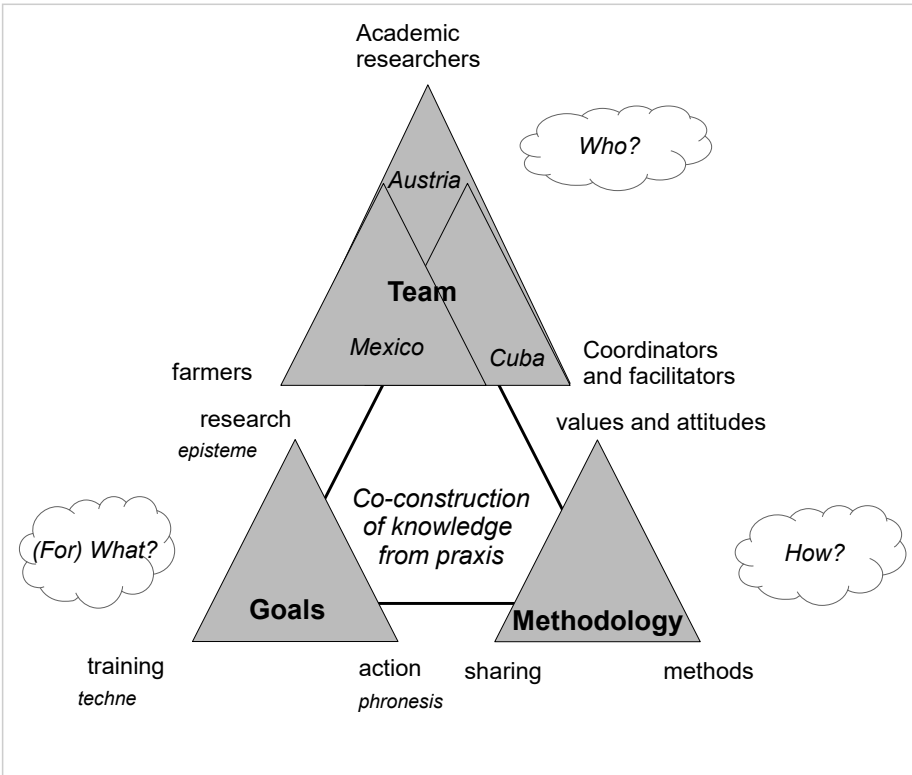
Figure 1: The conceptual triangle of *SALE*
Source: authors' own elaboration

Based on these conceptions, the coordinating Austrian Paulo Freire Institute set the methodological ground. The diagram above (Figure 1) illustrates the tri-dimensional methodological framework of *SALE*. It consists of three equally important components: goals (research, training and action); methodology (values and attitudes, sharing and methods); and, literally on the top, the transdisciplinary research subject, already presented in the former sub-sections. The cornerstones of the three triangles of subject, objectives and methodology are interwoven and designed in a holistic way as a methodological "road map". This flexible design allowed

for the adaptation to the local conditions, political events, pedagogical opportunities and epistemological findings encountered 'on the road'. In that way, the methodological framework offered orientation, and at the same time granted openness for the collective specification of objectives, methods, actions and questions.

As the research addressed action, research and training, it generated forms of knowledge (in Aristotelian terms) in the same three dimensions: the research interest in understanding farmers' agroecological learning experiences (*episteme*) was complemented by methodological training (*techne*) in the sense of learning by doing, as well as actionable knowledge (*phronesis*) with which to improve our learning praxis. *Phronesis* means prudence, the practical knowledge of how to do the right thing in the right moment, which we experienced to be essential for the participatory action research process. Fals Borda (1999: 24; translated by the authors) adopts this Aristotelian concept of knowledge to highlight the necessary "serenity in participatory political processes, helping to find the just mean and accurate proportion for the aspirations".

2.3 The application of the *Systematisation of Experiences* (*SoE*)

While the triangular methodological framework gave a general orientation to the project´s methodological logic, the Systematisation of Experiences (*SoE*), as was proposed by Oscar Jara (2006), specified our methodological route in accordance with that logic. He suggests five chronological steps for structuring the procedure of *SoE* in a coherent way. The following figure 2 illustrates the methodological outline of the *SALE* process. It was based on Jara's (2006: 89ff.) proposal, but adapted to the specific context of the OCEZ-CNPA and extended by a second loop of collective (auto-) critical reflection in order to respond to our aspiration of researching into our transdisciplinary and transformative performance.

The knowledge generation process was based on a dialectical cycle, which consists of a recursive back and forth movement between reflecting and acting on the research praxis. As depicted in the graph (Figure 2), *SALE* consisted of a "double loop process" (Argyris/Schön 1978) of reflecting on two moments of peasants' learning experiences: 1. the experiences of agroecological learning in the OCEZ-CNPA, and 2. the process of *SoE*. In the terminology of Donald Schön (1983), the first loop of reflective practice is
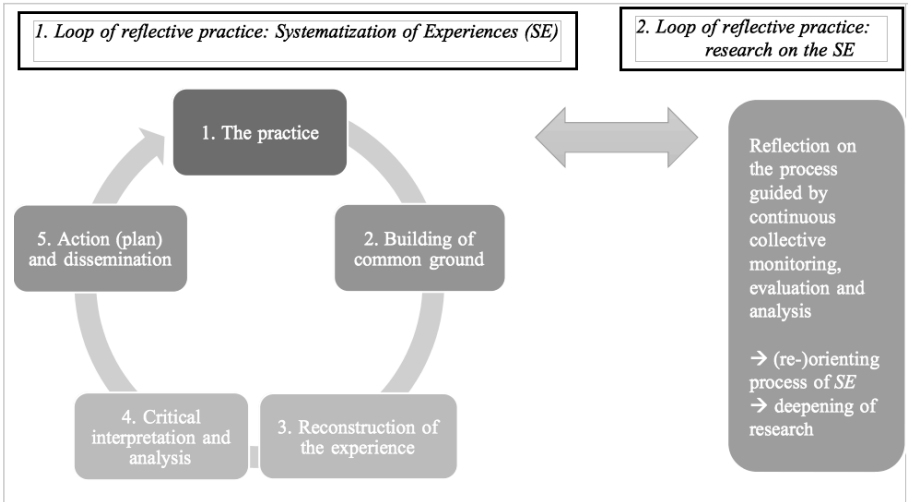
Figure 2: The methodological cycle of the *Systematisation of Experiences*
Source: adapted from the proposal of Jara (2006) and extended by a feedback loop for in-depth reflection

called "reflection in action", while the second loop constitutes a "reflection on action". The latter, consisting of systematic monitoring, evaluation and analysis of our own process, deepened the understanding of our praxis of participatory research and, by that, re-oriented our praxis in the course of the project. This feedback loop enriched the analytical dimension and informed the process in order to continuously align it for the sake of generating transformative theory and practice. A crucial feature of double-loop-learning is the (auto-)critical examination of the pre-set mental and epistemological models and consequent "theories-in-use" (Argyris/Schön 1974: 256), on which the praxis is built, as the following section intends to exemplify. However, before addressing the epistemological results of the process, the core methodological procedure of *SALE*, namely the Systematisation of Experiences (*SoE*), is outlined. The chronology follows the five stages, as proposed by Jara (2006) and depicted in the left cycle of Figure 2, but the specific terms and ways of implementation have been adapted to our particular process.

1. The starting point is prior to the *SoE*, as it refers to the collective experience to be systematised. This was, in our case, the agroecological

learning experiences of the peasants of the municipality of La Trinitaria, integrated in the OCEZ-CNPA Chiapas. Jara (2006: 96ff.) mentions the condition, that records of the experience are available, an aspect which was lacking in our case. Consequently, we deepened the research dimension by implementing a process of famers´ field research in order to get information on the practical outcomes of the agroecological training courses promoted by the organisation (see 3rd stage).

2. As a second step, Jara (2006: 102) proposes the definition of initial questions regarding the object, the objectives and the axis, that limit the topic of systematisation. We implemented this proposal but integrated it into a broader process of 'building the common ground'. This addresses the collective preparation, mediation and construction of the project, including the specification and planning of the methodology as well as the building of the team and of communication structures.

3. This core phase of the collective reconstruction of the experiences was implemented in *SALE* by combining diverse participatory methods and techniques, carried out in workshops at the educational centre of the OCEZ-CNPA, as well as in the fields of the participating peasants. Responding to the research interest in the agricultural realities and practices, as well as to the lack of existing records, the facilitator team designed a methodology for a process of farmers' field research. It was composed of different methods of *PE* and *PAR*, including Participatory Rural Appraisal (Chambers 1994). At the visits to the farms of the peasant families that participated in *SALE*, we applied the method of participatory observation, based on an observation guide. While one part of the facilitation team documented the results and visualised them by mapping the farm, the other part deepened the research by means of a dialogue from peasant to peasant. The semi-structured interview was enhanced by a guide, and the result, the reconstructed learning path, was visualised by means of a flow chart. This on-farm research was complemented by workshops, applying diverse participatory methods and creative exercises adopted and partly adapted from *PE*, *PAR* as well as from the Theatre of the Oppressed (see the contribution of Raule in this issue). These targeted the facilitation of a dialogue on agroecology in consideration of the peasants´ ways of learning, acting, feeling and being.

4. The phase of critical interpretation and analysis of the experience, according to Jara (2006: 117), addresses the crucial question, "Why did what happened, happen?" This implies synthesising and classifying the information, which was, in our case, facilitated by the following categories: 1. Agroecological learnings acquired and practiced; 2. Spaces, processes and ways of agroecological learning; 3. Motivations for and challenges in agroecological learning and practice; 4. The economic, social and ecological results of agroecological learning and practice. The information, structured in this way, was analysed by exposing it to critical questions, which focussed on achievements and challenges, as well as on significant moments and contradictions in the peasants' process of agroecological learning and practice. This (auto-)critical reflection on coherences and incoherences between objectives and practices of the organization, in contrast with the peasants' realities and epistemologies, deepened the understanding of the organisation's praxis in its historical situation. This critical self-reflection paved the way to the last, but not final, stage of the *SoE*.

5. The validity of the knowledge generated in the former stages is measured by its utility for informing and improving praxis. In the fifth phase of *SoE*, the most significant strengths, challenges and limitations as well as lessons learnt were selected and translated into (proposals for) action, in order to nourish the organisation's future praxis. Furthermore, in this concluding phase, the results were disseminated by creative ways of popular communication[2] as well as by academic publications.

2.4 People over plans

Concluding the summary of the methodological process of *SALE*, it should be emphasised that the outlined methodological steps of the *SoE,* proposed by Jara (2006), were neither strictly separated nor chronologically followed, as figure 2 in the former section may suggest; rather, they were intertwined and implemented according to the collective decisions and opportunities of transformative action. For example, we did not wait until the fifth stage to engage in action. Windows of opportunities for transformation, that were in line with the goals and preliminary findings of the project, were integrated into the research project. Following that logic, outcomes that differed from the initial plan were part of the plan,

as we considered them as essential learning results for the transformative research praxis.

The flexibility and people-centred openness in our research process evoked that the transformative outcome went beyond the initially addressed object. As suggested by Jara (2006: 102), for the second methodological step we initially limited our systematisation object to the "learning processes in agroecology in the period of 2009–2016". However, through the deepening of our "thematic investigation" (Freire 2005: 107), we realized that the agroecological knowledge accumulated, which is inscribed in the peasants' historically grown agri-cultural identity, has a greater significance for the desired agroecological transformation than the knowledge taught in agroecological training courses during this last decade. In order to respond to this "generative theme" (ibid.), we needed to dig deeper into the past, and through that, we discovered the ontological bases of a peasants' epistemology. Introspective, creative, corporal and sensual methods, which we elaborated on the way, were able to recall collective memories on traditional agri-clture and consequently to reveal a way of being and of knowing very different from the western academic paradigm, as will be examined in the following section.

From this experience, we emphasise that a transformative methodology should guide the research process in a holistic way, but not over-determine it. A strict adherence to pre-set methods could diminish the opportunities for transformation, such as an overload of firewood suffocates a tiny flame. Social change cannot be 'planned'; the intended transformative incidence of a limited and time-framed project can only be fertile if the project is integrated in the ongoing socio-political process and the historic reality of the epistemic and political subject. The "transformative factor", as Oscar Jara (2010; translated by the authors) points out, "is not the Systematisation itself, but the people, who – as they are systematising – strengthen their capacity to promote transformative praxis."

Transformative research entails fostering innovative knowledge and the ways of producing and validating it. In order to think the formerly unthinkable we have to act and to think outside of the box of conventional methodologies and epistemologies. Political, social and ethical principles and attitudes have to overrule pre-set frameworks in order to enable the procedural and participatory creation of a transformative research praxis.

Consequently, the popular educator and social researcher Alfredo Ghiso (2004: 15), who substantially contributed to the methodological and epistemological conception of *SoE*, advocates exchanging tight methodological frameworks for "investigative ecologies", where knowledge is constructed in a systematic, relational, interdependent, interactive and recursive dynamic. He advises us to "pass from rules, norms and manuals of the research canon to the grammar in which the subjects describe and express the logics to create, recreate, appropriate and socialize their knowledge" (Ghiso 2004:1). This understanding of methodology enhances the situating of the research in the reality of the subject that executes it, which is a crucial condition for generating transformative knowledge both by and for the people.

3. Re-constructing agroecology by recovering the peasants' agricultural roots

In *SALE*, the farmers expressed their experience of having mainly learnt about agroecology from academics, and thus they perceived agroecology as a technical and scientific innovation brought to them by the "educated outsiders". Many training sessions were about teaching the peasants agroecology by transferring to them discourses and certain methods and techniques of agroecological farming. In a personal interview, a peasant recalls the evolution of her conception of agroecology in the OCEZ-CNPA: "At first, they talked to us about food sovereignty. After the training courses started in 2000, we were talking about agroecology. We thought it would be different from our peasants´ agriculture. But then we saw that instead of being something different, it is a way of recovering it" (Gómez-Nuñez et al. 2018; translated by the authors). The expression "they talked to us" reminds us of what Freire (2005: 134) characterises as "imposing words", and therefore represents a "manipulative cultural action". This, and other farmers' reflections, showed that agroecological education was partly reduced to a transfer of knowledge and techniques, far from the peasants' realities. Freire probably would have considered this way of teaching agroecology in a logic of "input-substitution" as an alienating "cultural invasion", as it emphasises "a focalized view of problems rather than on seeing them as dimensions of a totality" (Freire 2005: 142).

Even though the elements of vertical extension detected in the educational projects of the last decade may not have favoured a wider reaching agroecological transformation, still the peasant-researchers were surprised by the many little efforts that indeed have been implemented. When the facilitator team shared and analysed the systematised results of the field research in the farmers' research group, the peasants came to recognise that each of them had his/her strengths and key areas in practicing agroecology, depending on the farm's conditions and the family's priorities. The knowledge behind this practice was in part acquired by the activities and trainings offered by the OCEZ-CNPA, but mainly through peasant-to-peasant exchanges (see the contribution of Hensler/Mercon in this issue), within the family, or with comrades either from the community or from other regions (this latter was usually facilitated by the organisation).

In the course of the *SALE* process, some peasant-researchers revealed that although agroecology might be a new term created by scientists, in the end, it is very similar to their ancestral practice of farming: "They call it agroecology today, but finally it is what we as ever have been doing before". The emphasis on "before" was reiterated constantly by the peasants and thus indicated a "generative theme" (Freire 2005: 107). It emerged from the sorrow over their vanishing peasants' identity, which correlates with the changed agri-cultural system. With the help of creative methods, such as the 'time line' and introspective bio-memorial exercises, we deepened the analysis of their life experience on the change from peasants' traditional (agri-)culture to a modern (agri-)culture. That is how we came to identify the so-called 'green revolution', which invaded their region at the end of the 1980s, as an ontological rupture with the peasant's way of life. It was a turning point that transformed, along with the mode of production, the peasant's sense of existence. The way of practising agriculture changed from the indigenous agroecosystem called *milpa*, a diversified intercropping system (which indeed inspired the founding fathers of agroecology, such as Hernández Xolocotzi [1985] and Gliessman [2013]), to monocultures of corn. Before agrochemicals entered their fields, more hard manual work was required, which was done by collaborating families and communities, as the the middle-aged and elderly peasants explained, accompanied by feelings of nostalgia. Even if their plot was quite small, their families always had enough to eat in both quantity and quality, they remembered.

The collective work on the *milpa* was connected with cultural practices that cultivated knowledge, communality and the relation with the land and with god. The ceremonies and celebrations gave a specific rhythm to time and a certain meaning to life. The way of knowing of their grandparents was in a dialogue with Mother Earth and with their former and future generations. In this indigenous cosmovision, the land is sacred and in a reciprocal relationship with the human community. It only gives when the people give and show respect and veneration. The changed practices and beliefs induced by industrial agriculture have disrupted this relation. The recalled traditional agri-*culture* prior to the era of the 'green revolution' reveals a kind of "relational ontology" (Escobar 2015), understood as a way of being in interconnectivity with the world, which is very different from the capitalist logic of domination and exploitation. While the peasants' identity is grounded on intersubjectivity and communality, the modern food system has caused (agri-)cultural erosion and thus, a process of individualisation, privatisation and migration. These all-to-common phenomena in the Mexican countryside are causing the communities to disintegrate and obstructing the transgenerational transfer of traditional agri-cultural knowledge.

The peasants expressed their sorrow that a vast majority of the new generation would not see a future in the countryside nor attraction to a peasant's way of life; one reason for this is the economic and political circumstances, but the other, less visible cause is of a cultural, ideological and ontological nature, as we analysed. We spotted the root of the problem in the phenomenon of a "cultural conquest", as Freire (2005: 135) would say, which leads to "the cultural inauthenticity of those who are invaded; they begin to respond to the values, the standards, and the goals of the invaders". This "cultural invasion" (Freire 2005: 180) is executed by a "colonization of the minds", as a leader of the OCEZ-CNPA put it. Another "organic intellectual" (Gramsci 1975) from the peasants' organisation, explained this mechanism as follows: "First, they empty us, saying that our traditions and cultures are futile, and then they fill it with something different. […] It converts us to poor-rich, we think like the rich. There is a permanent intentional dispossession going on." This analysis correlates with the one of Freire (2005: 158), when he says that "this invasion is especially terrible because it is not carried out by the dominant elite

as such", but by the oppressed as they are "housing the oppressor". Most of the Mexican peasants show this "divided" (Freire 2005: 48) identity, for example when they articulate the desire that their children could go to school in order to 'become someone'. Consequently, being peasants is perceived as 'not to be', so they are striving to be like the oppressor. For the oppressor, however, "to be is to have" (Fromm 1966 cited by Freire 2005: 58ff.). The aspired farmer's identity is consequently the capitalist "farmer-entrepreneur" (Van der Ploeg 2008), whose identity is defined by having. This capital-intensive way of farming is beyond the peasants´ possibilities and thus they decide to migrate to "the North", which accelerates the cycle of abandonment of their territories and of their agri-culture.

By means of this collective analysis we made a step towards dismantling the narrative of modernity as a strategy to attract the oppressed to the oppressors' system through a process of internal colonisation. Bringing this "colonial mentality" (Fanon 2009) to awareness motivated the participants to strengthen their efforts to engage in their own agroecological practice, education and research. The encouraging experience of the peasants' research enabled them to combat the common self-oppressing belief that they could not be good agroecological promoters or educators, because they lacked school-learnt skills, such as reading, writing or techniques of presentation. By experiencing and reflecting on our peasant-led research praxis, we called into question the formal education system, from which the peasants are being excluded, as an instrument of re-producing social difference. We realised that academic schooling does not necessarily lead to possessing more knowledge or to being a better researcher; but it does create the assumption that those who passed through this socio-economic filter know more than others, and consequently it makes those without formal education believe that they do not know. Through their own research praxis in *SALE,* the peasants became aware that they do know a lot, even though, or perhaps because, they did not learn it in the formal education system; they learnt from their land, from their family and by participating in the political struggle of the OCEZ-CNPA, which is 'a school', as one peasant pointed out.

The direct exchange from peasant to peasant did not only generate knowledge, but also led to the empowering acknowledgment of the achievements and challenges of one's own and of one's companions, which Freire

(2005) considers as an essential pre-condition for the collective construction of knowledge. This (self-)recognition motivated many participants to continue the challenge of improving their practice and understanding of agroecology and to strengthen their efforts in sharing their experience and knowledge with others. As a peasant-researcher put it in an evaluation workshop: "Every [peasants'] exchange motivated me to engage in new challenges."

We experienced the peasants' recognition of their own capacities and knowledge as a crucial step in overcoming the "self-depreciation", which Freire (2005: 63) declares as a central "characteristic of oppression". As a consequence, we could evidence from *SALE* that the more the learning is based on the knowledge, capacities and culture of the peasants, the more it enables them to recognise themselves not only as learners, but also as experts of practice and therefore as teachers and as "historical subjects" (Freire 2005: 160) with transformative agency. The collective research strengthened the trust in the organisation and led to new hope and aspirations for engaging in a self-determined process of teaching and learning the principles of agroecology. "The challenge is to support ourselves as a group, without the need of a scientist", concluded a peasant-researcher in the final evaluation of *SALE*.

We conclude from this analysis that agroecology must be created with the peasants through a decolonising pedagogy, in order to reclaim and recreate their ontologies and epistemologies, that can teach us a deep understanding of agroecology. However, it should also be pointed out that the recognition of peasants as knowing and acting subjects is not the finishing line. It is only the preliminary condition for making a horizontal and respectful transdisciplinary dialogue between different knowledges possible, on which agroecology is essentially built (Rosset/Martínez 2014).

4. Final reflections

As a conclusion from these reflections, we suggest that agroecology, being a situated and transformative knowledge and praxis, can only be created through learning "with the people, about the people's world", in the sense of Freire (2005: 180). The significance of Freire's (2005: 106) central

argument, that an emancipatory learning process must be "situated" in the particular "human-world-relationship", seems to be especially apposite regarding the topic of agroecology. We saw that the historic emancipatory struggle of the peasants and the defence of their land from an exploitative system are connected and in coherence with the principles of agroecology. By recognising and recovering their agri-cultural identity and history, the peasants revealed their own understanding of agroecology, one that is based on a relational ontology very different from the destructive and "necrophilic" (Fromm 1966 cited by Freire 2005: 59ff.) one of modernity. The peasant-researchers demonstrated that epistemic subjects, who have been excluded from the hegemonic system of knowledge generation, can contribute decisively to the necessary task of innovating knowledge, epistemologies and even paradigms for a transformation towards sustainability.

Reflecting the methodological pathway and epistemological results of *SALE* with regards to the aim of transformation, we highlight openness and flexibility, as well as trust in the collective process, as crucial factors for enabling a *PAR*. The pathway was created in a step-by-step process of collective action and reflection, led by open ears and hearts paying attention to the stories and feelings the peasants expressed, not only by using words but also forms of creative and artistic expression. We experienced transformative learning as a sensual, aesthetic and relational praxis that cultivates affectivity, empathy and solidarity among the people (Fals Borda 1999) and with the territory. We consequently re-affirm Fals Borda (1999: 17), when he states that *PAR* is not a methodology in a strict sense; rather, it is a "life philosophy" which "would convert its practitioners into ´thinking-feeling persons´".

Transformation results from a critical reflection on our world and on our way of thinking, feeling, acting, and being in relation to it. The transformational praxis is located at the "frontier which separates being from being more", as Freire (citing Pinto 1960 in 2005: 99) points out. This ontological essence of a humanising and decolonial pedagogy was a living praxis in our research. We registered the fact that the generation of transformative knowledge requires first of all the re-generation of a negated knowledge that underlies oppressed identities. As the peasant-researchers appropriated agroecology as their "peasants' agroecological agri-culture", they also re-signified their ways of knowing, acting, feeling and being.

By reconstructing their history and reclaiming their agri-cultural identity, they left "behind the status of objects to assume the status of historical Subjects", as Freire (2005: 160) would say. This recalling of the collective memory of the peasant's way of life demonstrated a conception of agroecology that is more than a mode of production; rather, it is a way of being in the world as being with the world.

These results comprehend knowledge in the three dimensions addressed by the research: the epistemic, methodological and action-oriented one. The peasants´ deep-rooted notions on their land and their agri-cultural praxis can enrich epistemological and pedagogical conceptions of agroecology and, due to its ontological foundation, can even be understood as a counter-paradigm to capitalist modernity. Furthermore, the reconstruction of the peasants´ own history could sustain a re-orientation of the OCEZ-CNPA's pedagogical and socio-political praxis and even a re-signification of the organization´s identity, linked with a re-orientation of its political strategies. We realised that the future is created by critically analysing the present situation, which means to recall memories from the past. In an evaluation meeting, a leader of the OCEZ-CNPA pointed out: "Sometimes you need to stop and look back in order to view the path ahead. (…) It [*SALE*] helped us to make our steps more assertive". Consequently, we dare to say that the knowledge generated in this process "has converted into an active instrument of critique […], as it turned from `understanding what is happening´ to directing history into `what should happen´, according to the interests of the people", as Jara (s.a.: 9; translated by the authors) described the essence of the Systematisation of Experiences.

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1   The authors present contents that were collectively created by a transdisciplinary research team with 25 members. Therefore, the authorship of this article is one that represents the following researchers from the peasants' organisation OCEZ-CNPA Chiapas: María del Carmen Mérida, Emiliano Mérida, Dora Isabel López, Nely Guadalupe Maldonado, Zoraida Archib, Minerva Espinosa, Fernando López, Hortensia López, Cruz López, Ingrid Guadalupe López, Isabel López, Roberto Alvarado, Paola Vázquez, Argelio Vázquez, Guadalupe Pérez, Teresa del Carmen Pérez, Ovel Hernández, and Germán Hernández y Rodolfo Hernández. The participating academic researchers were Emanuel Gómez (anthropologist, professor and researcher for Rural Development at the University of Chapingo), Julissa Gómez (Master's graduate at the University of Chapingo) and Erika Nájera (Master's graduate at the Colegio de la Frontera Sur).

2   A short video, produced in a participatory way, gives an audiovisual insight in-
     to the research processes of *SALE*: https://youtu.be/BagWAL9rt5M. It concludes
     with impressions from a drama performance, which the peasant-researchers chose
     as a medium to communicate the central results of the research to their compa-
     nions and allies.

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Abstract *Dieser Beitrag bietet Einblicke in methodologische Verfahren und epistemologische Ergebnisse eines transdisziplinären Forschungsprozesses mit der BäuerInnenorganisation OCEZ-CNPA Chiapas im südlichen Mexiko. Die Methodologie basierte auf Paulo Freires Educación Popular, sowie der Systematisierung von Erfahrungen und der Partizipativen Aktionsforschung. Zentrales Anliegen der Forschung war die kollektive Reflexion der agrarökologischen Lernerfahrungen der BäuerInnen sowie, mittels eines feedback loops, des selben Forschungprozesses. Die reflexive Praxis bestand aus Aktion, Forschung und Bildung und generierte demnach Handlungswissen, Verständniswissen und methodologisches Wissen. Diese drei miteinander verbundenen Wissensdimensionen nährten sowohl die polit-pädagogische Praxis der BäuerInnenorganisation als auch Praxis und Theorie transdisziplinärer und partizipativer Forschung im agrarökologischen Kontext.*

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Exploring the Human-World Relationship with Generative Picturing: Experiences from a Research Project at a Lower Secondary School

Abstract *The article presents Generative Picturing as a methodological framework for transformative research. Generative Picturing integrates different elements of qualitative methodology with the visual medium of photography in a recursive and participatory process. Exemplifying the application of Generative Picturing in the context of the author's research with a class of fourth grade lower secondary school students in Vienna, the article offers a practical frame and identifies lessons to be learned.*

Keywords *Generative Picturing, methodological framework, transformative research, participatory research with children/young people, lessons learned*

1. Introduction

"[S]o we are just there collectively grasping,
feeling the limitations of knowledge, longing together,
yearning for a way to reach that highest point.
Even that yearning is a way to know." (hooks 1994: 92)

The article presents Generative Picturing (Brandner 2020) as a methodological framework for transformative research. Generative Picturing integrates different elements of qualitative methodology with the visual medium of photography in a recursive and participatory process. Offering a practical frame, the article describes and discusses the application of the

method in the context of a research project with a class of fourth grade students at a lower secondary school ("Neue Mittelschule") in Vienna.

The yearning that bell hooks (1994: 92) expresses so vibrantly, the yearning for a different way to move about, for a different theory and practice of social change, unites people with different backgrounds and across the most different locations by exploring ways of being and relating to others, ways of understanding the world surrounding us, and nurturing ideas about possible futures. Research oriented at transformation and emancipation is nourished by this collective yearning. Critically inquiring into the status quo of both academia and social conditions, it sets out for a different research practice based on collaboration, contextual relevance, and an emphasis on process.

In the spirit of Paulo Freire, the "challenge is to build new forms of knowledge based on the dialogical situation that provokes interaction and the sharing of worlds that are different, but share the dream and the hope of building our *being more* together" (Zitkoski 2012: 101, original emphasis).

Pursuing the "hope of building our *being more* together" (Zitkoski 2012: 101, original emphasis), transformative research aims at understanding transformative processes, producing knowledge for transformation and advancing transformation through the practice of research itself (WBGU 2011 in Brandner 2020: 35). In opposition to the objectification of "the researched" common in academia (Fals Borda 1991: 4 f.; Letherby 2006: 89), research oriented at transformation and emancipation seeks a research practice committed to the acknowledgement and advancement of the subject status of the people concerned. The objectives of transformative research are addressed through approaches such as action research, participatory action research, emancipatory research and transdisciplinary research.

Transdisciplinarity as a form of transformative research is grounded in difference, in "the sharing of worlds that are different" (Zitkoski 2012: 101), and in the search to mediate difference in a way that its productive potential can unfold (Brandner 2020: 13ff.; Vilsmaier/Brandner/Engbers 2017). Amongst the varieties of transdisciplinary research, the integration of knowledge spans not only across and beyond scientific disciplines but also transgresses the boundaries of academia. Transdisciplinary research as a participatory process of collaboration with actors "from outside

academia" (Lang et al. 2012: 27) and from different social fields and knowledge cultures, can strengthen the contextual relevance of the research and support transformative processes (Vilsmaier/Brandner/Engbers 2017: 170; Jahn 2008: 27).

Generative Picturing is "based on the dialogical situation" (Zitkoski 2012: 101) and provides a setting for communication, learning and the collective production of knowledge. Mediated by pictures taken by themselves, participants experience and reflect the reciprocal relation between the Self and the Other, between subjectivity and objectivity. Developed for "situations of cultural diversity and difference" (Brandner/Vilsmaier 2014: 205, my translation), Generative Picturing can be employed for collaborative and transformative learning processes in different contexts, such as conflict resolution, development cooperation, education, and transdisciplinary research. The wide applicability derives from Generative Picturing's flexible structure and recursiveness, which accommodates a range of adaptations for the respective context and throughout the process. Because of that, it is particularly well-suited for open and explorative settings such as the participatory research project I conducted at a lower secondary school with a high proportion of marginalised and disadvantaged students.

This article presents Generative Picturing as a methodological framework for transformative research and is organised as follows. First, the methodological foundations and constitutive elements of Generative Picturing are outlined. The next chapter takes on Generative Picturing as a Freirean praxis for transformative research. The relevance of doing participatory research with lower secondary school students in a segregated school system is addressed in the subsequent part and contextualises the research. The fifth chapter describes the application of Generative Picturing in a school context, which is analysed and critically discussed in the last part.

2. The methodological framework of Generative Picturing

Generative Picturing is a methodological framework (Brandner 2020) conceptualised for "situations of cultural diversity and difference" (Brandner/Vilsmaier 2014: 205). Drawing on Homi Bhabha's concept of "cultural difference" (Bhabha 2004 [1994] in Brandner 2020: 26 ff.),

culture is understood in a broad sense as established ways of practice and the production of meaning. As a "set of doings and sayings" (Schatzki 2002: 71 in Vilsmaier/Brandner/Engbers 2017: 172), culture shapes and is shaped by differences in lifeworlds and realities between and within societies. Generative Picturing can be employed for collaborative learning processes in situations where people are separated by differences in background, socialisation or specialisation, but connected through their experiences of shared phenomena or problems (Brandner 2020: 13). It is suited for group sizes of between eight to 20 people (ibid.: 134). Generative Picturing integrates different elements of qualitative methodology with photographic practice in a recursive and participatory process. A facilitator provides the frame for the group process to develop, organising and instructing meetings for participants to enter a dialogue with each other – through, with and about each other's photographs.

Based on a Freirean approach (see chapter 3), Generative Picturing is embedded in postcolonial, photo-critical and emancipatory theory (Brandner 2020: 14). It was developed by Vera Brandner in her work as transdisciplinary researcher, photographer, activist and teacher in different contexts that can be described as 'in-between' (compare Bhabha 2004 [1994]: 56 in Brandner 2020: 42; Brandner 2020: 40ff.). Generative Picturing is part of a general shift regarding visual media such as photography within qualitative social research. Approaches in which photography is primarily used by the "researcher as photographer" (Emmison 2016: 298) are superseded by participatory approaches in which photographs are produced by those people whose lifeworlds are the focus of the research. For an overview of photo-based research methods, differentiated by their degree of participation and orientation towards process, see Brandner (2020: 111ff.; Emmison 2016).

Generative Picturing as a recursive and participatory process consists of four constitutive elements: Impulse, Photographing, Picture Dialogue and Mapping. Following an Impulse, through Photographing and Picture Dialogues, participants explore their own and each other's lifeworlds and everyday realms, discovering the range of pictures and themes. Then, Generative Pictures and Generative Themes are identified in Mapping, which concludes a cycle of Generative Picturing. The Generative Map can be used in a continuation of the process as the Impulse for another cycle

of Generative Picturing. The recursiveness of the process allows participants to collaboratively gain ever more abstract and theoretical interpretations and understandings of the themes and questions at stake. For research purposes, the "processes of action, interpretation and communication" (Brandner/Vilsmaier 2014: 198, my translation) as well as the visual material facilitated by Generative Picturing can be further analysed. The following section outlines, in a basic form, the constitutive elements of Generative Picturing. For a more detailed description and options for variation see Brandner (2020). Participants can be encouraged to reflect and document their experiences throughout the process in a journal or research diary (ibid.: 137).

Impulse: The group process is initiated by an impulse given by the facilitator. Whether a specific subject is defined or not, rather than constraining the engagement, the impulse should be designed in such a way as to open possibilities while providing a frame of reference (Brandner 2020: 122). It ought to stimulate the participants' photographic engagement with, and active observation of, their immediate lifeworlds. While its function can be compared to the invitation for narration in qualitative interviews (ibid.), within Generative Picturing the temporality of the response is shifted, which allows for a different dynamic to develop. Brandner (2020: 123) suggests structuring the impulse in two parts, anticipating the composition of the further process. First, each participant contributes something (e.g. an everyday or favourite object), which in a second step leads into the group exchange and reflection. In the context of this first impulse the facilitator should introduce ethical questions regarding photographic practice and, if necessary, instruct the participants on the use of a camera and/or photographic techniques. Both are issues that return throughout the process.

Photographing: Stimulated by the impulse, participants individually take pictures within their lifeworlds until the next group meeting. Exploring the world surrounding them, the lens of the camera literally enables participants to gain different perspectives on the subject and to approach it from different angles, and to document their observations. The interplay with the impulse is dynamic and it may be spontaneous and/or more deliberate and systematic, inquiring more into the depth or width of associations, relations and aspects spanning from the subject. Photo-

graphing as an element of Generative Picturing is located at the intersection of creativity, intuition, experience, observation and knowledge production. Part of the project planning are decisions concerning the type of camera (analogue or digital) and the extent to which technical aspects of photography (e.g. light/shadow, subject, composition) are addressed throughout the process (Brandner 2020: 127ff.). They depend on the context of the project and the facilitator's focus and abilities.

Picture Dialogue: Participants meet again for the Picture Dialogues, each person introducing a selection of their pictures into the group process. The Picture Dialogue constitutes a communicative situation in which participants engage with each other and each other's photographs. Participants inquire into the plurality of meanings and experience the "permanent alignment and comparison between one's own perception and the perception of others" (Brandner 2020: 131, my translation). First, the space is collectively set up as each participant arranges their pictures to be displayed. During an opening sequence participants move around and look at everyone's presentations in silence. Especially with larger groups, this silent viewing can be followed by participants writing down their first impressions of the pictures on adhesive notes and placing them next to the pieces. At the end of this sequence every photographer collects the notes added to their images. In smaller groups of three to five people, participants conduct a Picture Dialogue on every group member's photos. With the facilitator providing a time frame (at least 10 minutes), each Picture Dialogue takes place as a structured interplay between speaking and listening. First, the respective photographer is actively listening while the other participants share their descriptions, interpretations and associations connected to the images. What do they see in the photograph? What do they assume about the photographer's ideas and intentions? What does a picture express in relation to the shared subject of interest? etc. If needed, questions to support the reading of the pictures and to stimulate the exchange can be provided. Then, in response to the statements of the others, the photographer speaks about their own thoughts, intentions and experiences connected to the visual material. A session can be concluded after the Picture Dialogues, with participants returning to their individual photographic practice. Brandner (2020: 120) suggests completing at least two cycles of Photographing and Picture Dialogues before proceeding to Mapping.

Mapping: Mapping enables the condensation of the broad scope of themes, thoughts and experiences that emerged through the interplay of individual and group processes. First, out of all the pictures that have been shared, participants individually select those that gained large significance in the group process and, thus, can be regarded as generative. The group then collectively arranges these Generative Pictures in a Generative Map, which can be done in silence or/and in a group discussion (Brandner 2020: 138f.). The map displays the spatiality of relations, "the nearness and distance, boundaries and connections between the images" (ibid.: 120, my translation) and allows for the further identification and exploration of Generative Themes.

3. Generative Picturing as a Freirean praxis for transformative research

Based on the insight of dialogue as an "epistemic relationship" (Freire/ Macedo 1995: 379) and the "condition for intersubjectivity" (Losso 2012: 197), Generative Picturing facilitates communication, learning and knowledge production through dialogue and collaboration. In a setting of horizontal relationships and mediated by pictures taken by the participants themselves, participants engage with their situatedness, experiences and perspectives, "as differences between different knowledge and everyday cultures are respected and fertilized" (Brandner 2020: 15, my translation). Through these differences participants experience and reflect the reciprocal relation between the Self and the Other, between subjectivity and objectivity. A process itself, Generative Picturing reflects the human situation that is "unfinished, uncompleted" (Freire 2000 [1970]: 84) and constantly in movement. As participants from different backgrounds and epistemic cultures interact and communicate in a dialogic and iterative setting, knowledge as the process of knowing and inquiring, as well as its relational, preliminary and contextual character and boundaries, are experienced and reflected. Generative Picturing is, thus, a dialogical *praxis*: the conjunction of action and reflection that has the power to transform the world (ibid.: 87ff.; Brandner 2020: 238ff.).

Clara John

Freire demonstrates with his "problem-posing education" that "the point of departure of the movement lies in the people themselves. But since people do not exist apart from the world, apart from reality, the movement must begin with the human-world relationship." (2000 [1970]: 85) Departing from their situation, participants in Generative Picturing explore their lifeworlds and generative themes not only through the lens of their camera, but through the eyes of others. In dialogue with each other and mediated by the photographs, participants engage with the "human-world relationship" and their own situatedness. Generative Picturing's dialogical praxis allows participants to trace the connections and boundaries between the pictures and the themes associated to them, challenging a "fragmented view of reality" (Freire 2000 [1970]: 73; see chapter 4). The constant and dynamic change in roles – between photographer, spectator and photographed – enables participants to become aware of the relationship between subject and object, between subjectivity and objectivity (Brandner 2020: 216). Brandner (2017: 209) argues that this experience of and reflection on the fluid boundaries of being subject/object can lead to further inquire questions of power relationships and how such fluid situations can be created outside of Generative Picturing.

Transdisciplinary research as a type of transformative research is "an integrative practice that is grounded in difference" (Vilsmaier/Brandner/Engbers 2017: 169). As a form of praxis, Generative Picturing enables making cultural difference visible and negotiable (Brandner 2020: 242). This, however, is not unambiguous or free of inconsistency or conflict, especially "when a process – such as transdisciplinary research – is from the start designed to provoke, because it feeds on utilizing differences and contradictions in a productive way" (Novy/Beinstein/Voßemer 2008: 35). As transdisciplinary research contexts are marked by uncertainties and the need for exploration and reflectivity, a recursive organisation of the process is beneficial if not essential (Lang et al. 2012: 27). The iteration of the elements of Generative Picturing provides such a structure and rhythm for a collaborative process. Repeatedly moving through the cycle of Impulse – Photographing – Picture Dialogue – Mapping, participants identify and progressively condense the generative themes, gaining and integrating evermore abstract and theoretical understandings.

4. Participatory research with lower secondary school students

"The more completely they accept the passive role imposed on them, the more they tend simply to adapt to the world as it is and to the fragmented view of reality deposited in them." (Freire 2000 [1970]: 73)

From March to June 2017 I conducted a participatory research project with a class of 19 fourth grade students (13-15 years of age) at a lower secondary school in Vienna. I entered this context as a university student, working on my master's thesis (see John 2018). The research had a generative and experimental character. Departing from the "present, existential, concrete situation" of my research partners (Freire 2000 [1970]: 95), the topics and methods took shape in the course of the (research) process. It came to centre around the generative theme of "self-determination", utilising a mix of qualitative methods. To do participatory research with lower secondary school students at their school means going right to the heart of the ambivalent nature of education. Working at the intersection of education's oppressive and emancipatory dimensions requires navigating considerable contradictions, limitations and challenges.

School systems have a critical role in the reproduction and legitimation of societal structures of inequality and exploitation. Authors such as Louis Althusser (2014 [1971]) show how the school system contributes to the production of subjects as an effect of ideological interpellation. It "teaches 'know-how' but in forms which ensure *subjection to the ruling ideology*" (ibid.: 52, original emphasis). Within the "banking concept of education" (Freire 2000 [1970]) students are disciplined, taught to accept "the passive role imposed on them" (ibid.: 73), and learn not to ask questions or challenge the status quo. This socialisation is complemented by the school system's functions of selection, allocation and legitimation of inequality.

With "Maxwell's demon" Pierre Bourdieu (1998: 36ff.) metaphorically refers to a thought experiment on thermodynamics, exemplified by the physicist James Clerk Maxwell, and relates it to the mechanisms of the reproduction of inequality through the school system. A demon is thought

to separate molecules according to their speed into two chambers with different temperatures. While the faster and already hotter molecules heat up even more in the warmer chamber, the slower and colder molecules continue to lose temperature in the other chamber. Maxwell's demon is even more powerful in segregated school systems such as the Austrian one, where children are already separated into different school types at the age of 10. In urban areas such as Vienna the transition to secondary education, and thus the allocation of students to either "Gymnasium" or "Neue Mittelschule", can only to one third be explained by differences in performance. Two thirds of the determining factors are accounted for by parents' socioeconomic background and level of education (Oberwimmer et al. 2019: 146). Due to this segregation, lower secondary schools in Vienna accommodate a high proportion of marginalised and disadvantaged students.

To enter this system at this location, a lower secondary school in Vienna, not only with an interest in the student's lifeworlds and concerns but with the intention of collaboratively doing research, can be considered an intervention into the dominant practice of both school and academia. It means working together with students "who, for various reasons, frequently are not believed to be capable of finishing school with good results, let alone of doing research themselves" (Wöhrer 2017: 44, my translation; Freire 2000 [1970]: 106). Even for participatory research in school contexts, in general, it is quite rare that students have the opportunity to assume an active role as (co-) researchers (Feichter 2015: 37; Wöhrer 2017: 34 f.).

My aim with the project was to open a space within the school system, in which a different way of being and doing research as a learning and humanising process can be explored, a space oriented toward the exploration of active roles, the asking of questions and the problematisation both of "the world as it is" and "the fragmented view of reality" (Freire 2000 [1970]: 73). Encountering the students as capable and knowledgeable, as partners in the inquiry, enables a collaborative process in which knowledge emerges through dialogue in order to "name the world, to change it" (Freire 2000 [1970]: 88).

5. The application of Generative Picturing in a school context

Generative Picturing was developed for situations marked by cultural difference and separation, in which people are, however, connected through their experiences of the same or similar phenomena and problems. The framework creates an intentional and purposeful space, somewhat disconnected from the dynamics and necessities of everyday life, in which participants can enter a collaborative process, exploring their lifeworlds and generative themes (Brandner 2020: 21). Given the context of my research, the decision to use Generative Picturing might seem like a contradiction. Working with an entire school class and mainly during lesson hours, how can a disconnection from everyday life succeed, if we are 'right in it', literally hearing the school bell all the time? However, several of Generative Picturing's qualities outweighed this consideration and motivated my decision to employ the framework in this context. The horizontal organisation of the group process enables participants to interact and discourse with each other without the direct participation of the facilitator/researcher. In research with children and young people this can counteract the double imbalance regarding the dominance of adults and the traditional roles in research (researcher-researched). Jorgenson and Sullivan (2010; see also Woodgate/Zurba/Tennent 2017) recommend methods based on creative activities (e.g. drawing, photographing) for the research with children, as these promote active participation. Photographing as part of Generative Picturing introduces a creative, playful and palpable element into the (research) process. Moreover, I expected that the visual material produced by the participants would support their communicative exchange as a point of reference and a "basis for discussion and reflection" (Brandner 2020: 117).

In research contexts Generative Picturing can be introduced for different purposes and at different points of the process (Brandner 2020: 121). Within my open and experimental research approach, the methodological framework was employed with the intention of entering a collaborative research process and of developing a relevant and meaningful research topic together (Brandner/Vilsmaier 2014: 207). Generative Picturing was preceded by two introductory workshops (each five hours long) aimed at students gaining a basic understanding of social research and laying the foundation for the project. While the students were not asked to docu-

ment their thoughts and experiences in a journal or research diary, reflective elements were integrated at different points. The application of the methodological framework is described below, illustrating adaptations and experiences.

Impulse: As part of the second introductory workshop, Generative Picturing was introduced in a shortened and hands-on manner. Students used their smartphones to photograph a place at school which they associated with positive emotions. After that, a 'trial round' of Pictures Dialogues was conducted. The group was to get an idea of the overall process as a point of reference for the upcoming individual photographic practice, particularly because the impulse was deliberately kept rather open as part of the experimental research design: "What is on your mind? What are you thinking about a lot? This can be both in positive and negative ways." I was curious which aspects and themes the students would capture in their pictures when faced with such openness and liberty. However, a high level of openness carries its own risks, as it can cause confusion, lack of orientation and uncertainty for the participants (Brandner 2020: 120).

Photographing: The general approach to Photographing in this research project can be described as pragmatic. As all the participants possessed a smartphone, they were invited to use the built-in camera in order to encourage spontaneity, familiarity and accessibility for their photographic practice. Yet, the possibility of the medium being overly familiar and too much part of students' everyday habits, brings its own challenges in terms of intentionality and awareness. To some extent this was counterbalanced by the fact that, even if unintended, the students perceived the invitation to photograph as a kind of homework assignment. The participants utilised photography as a tool for documentation and expression. Thus, the pictures primarily held an instrumental function, with the purpose of activating the individual reflexive processes and eliciting different perspectives and interpretations within the group process. My focus on the spoken word resonates with Emmison's critical observation concerning the prevalent usage of visual methods (2016: 300, 307; von Unger 2014: 71). The visual material is frequently disregarded and receives little analytical attention, as communicative processes are the centre of interest.

Picture Dialogue: As shown above, Generative Picturing facilitates the interplay between the Self and the Other in a collaborative process

of learning and knowledge production. Within the Picture Dialogue this dialectic is manifested most clearly, and it is based on every participant contributing selected pieces of their individual photographic engagement to the group process. In preparation for the Picture Dialogues, everyone was asked to send me three pictures for printing. However, only half of the students contributed pictures, which created a dilemma, undermining the methodological premises of the framework. I chose to share these questions and concerns with the group, and the third meeting (2,5 h) started with a discussion about the situation. Most of the students thought that this one time everyone should be allowed to participate in the Picture Dialogues and that groups should be mixed with participants who contributed and participants who did not contribute pictures, with the students dividing themselves into four groups.

For the Picture Dialogues we moved from the classroom to the school's gymnastics room to create a certain change to regular lesson time. After the exhibition space was set up, the students had the opportunity to look at all the photographs displayed, sharing their first impressions, comments and ideas on adhesive notes. I participated in this opening sequence to get a feel for the situation and the space. There was a high level of energy and excitement as students moved around, interacting with each other and the pictures. For the Picture Dialogues, each group was provided with a set of optional questions to support the exchange (see Brandner 2020: 136f.) and asked to record their conversations using an audio recorder. Each round of Pictures Dialogues started in a lively manner and soon significantly dropped in energy and commitment. Although the time limit was adapted to seven minutes, it was difficult for the students to fill that time. Following the Picture Dialogues, the participants documented their experiences with a set of reflection questions.

Mapping: To provide an element of structure, an adapted form of Mapping was employed at the end of the first Picture Dialogues. As part of an individual reflection, each participant identified three key words connected with the Picture Dialogues and wrote each word on a coloured card. The class re-assembled in a circle and, moderated by me, these words were presented, arranged and related to one another. This process took quite some time and it was challenging to maintain the group's energy and attention. Bundling the individual engagements, a thematic map devel-

Figure 1: Impressions from the exhibition and the Picture Dialogues
Source: Clara John, 2018

oped in the form of a mind map (figure 2) and was to act as the impulse for the recurring individual photographic practice.

Second cycle: Every student but one contributed pictures for the next meeting (3 h). Disappointed by the previous occurrence, one student had persistently reminded her class colleagues about the task. Most students, however, contributed old pictures and did not engage in a photographic practice stimulated by the group process. Participation was now optional. Everyone decided to participate in the Picture Dialogues instead of attending the regular lessons. Reflections of the previous meeting and insights gained from listening to the recordings motivated some adaptations. The recordings of the Picture Dialogues were filled with laughter, jokes and private conversations. Some participants playfully engaged with the recorder, changing their voices or mode of speaking. Several contributions gave the impression that students were testing the boundaries of what was 'allowed' in this setting and how I would react once I heard the recordings. They were also filled with repetitive descriptions of the visual

Figure 2: Thematic map (original and translated)
Source: Clara John, 2018

material, comments such as "I don't know what to say", and silence. The students articulated little to no ideas or interpretations with regards to the pictures and the photographer's intentions. As students had grouped themselves with their friends, certain communicative patterns had been facilitated and others inhibited. Together with the class teacher, utilising her knowledge of the social relationships in the class, I arranged groups between people who are usually in less frequent contact with each other. Before the opening sequence, I shared some of my observations of the process and emphasised the difference between description and interpretation. The structure for the session remained similar, but Mapping was structured into two phases. First, students conducted Mapping in small mixed groups with one member from each Picture Dialogue group and supported by a different set of questions. I walked around, listened and asked questions to stimulate the exchanges. All group discussions were recorded. In a second step, together with the whole class, these different maps were arranged in relation to one another to form one large map (figure 3).

The session's atmosphere was calmer and more focused than the previous one. The participants seemed more familiar with the framework's structure and purpose. At the end of the meeting, after the students had answered feedback questions, I paused the next iteration of Generative Picturing to take a closer look at the data and the overall process. So far, the framework of the method had worked differently than expected.

6. Discussion and lessons learned

The previous section described the application of Generative Picturing in the context of a participatory research project at a lower secondary school, illustrating adaptations (e.g. a pragmatic approach to photographing, the introduction of additional elements of structure) and experiences (e.g. missing pictures/photographic practice, group dynamics). While Generative Picturing was employed with the intention of developing a relevant and meaningful research topic, the framework of the method had worked differently than expected. There had been positive responses to the horizontal organisation of the process and the group setting. However, there

Figure 3: Thematic Map as a result of a two-phased mapping
Source: Clara John, 2018

was a certain lack of interest towards what other students said, because "we already know their opinions", as one participant told me. "The others already know how we are and nothing new is said, but rather everyday conversations, normal conversations. With you there is more the effect that one says something new although the others are around" (D. in my research diary, May 18, 2017). During the Mapping exercises, in which I participated as a listener or moderator, participants showed more focus, reflection and interest towards the exchange with their class colleagues. Students actively sought my attention in different situations and asked for my participation in the feedbacks. Overall, I got the impression that many of the students felt the need to be seen, to be recognised as an individual and to receive attention, not just as a member of the class. Looking at the data and the process so far, weighing up the different dimensions and requirements of the process (e.g. research and pedagogy, group dynamics and individual needs, limited time frame), I decided to conclude Genera-

tive Picturing without having identified a generative theme as a research topic, and conducted qualitative interviews in settings outside of school. The framework of Generative Picturing had not sufficiently supported participants to articulate and scrutinise their viewpoints, experiences or interpretations in an exploration of their generative themes. The space was overpowered by the interpersonal relations, group dynamics and communicative patterns within the class. In retrospect, analysing the experiences of this limited application of Generative Picturing, several valuable lessons can be learned.

As the framework of Generative Picturing had worked differently than anticipated in the context of this research, I recognised this discrepancy as a valuable learning opportunity. Reflecting how participants interacted with(in) the methodological framework allowed me to gain further insight into the field. It highlighted the ambiguities connected to the role of a researcher in this context and the challenges of balancing openness and guidance. However, I failed to sufficiently feed these observations back into the dialogue and collaborative learning process with the students. In such a highly immersed situation, established group dynamics, relationships or roles do not dissipate just because of the research setting. For example, those participants who were highly engaged in the (research) process might have reproduced their established role as a 'good student', participating and meeting expectations as a matter of routine. While, what I had perceived as 'boundary testing', lack of focus, disorder or disruption at the time, may have been students expressing agency and self-determination in this space, realizing "the right to their own purposes" (Freire 2000 [1970]: 76). Thus, the research situation, the ways in which it is intertwined with existing structures, dynamics and (power) relationships, and observations of the process as such, need to be an integral part of the shared dialogue and collaborative process between researcher and research partners. If these aspects are acknowledged and adequately reflected, they can advance the process of learning and knowledge production (Brandner 2020: 252). As subjects of action and reflection, this is not opposed to the application of Generative Picturing. On the contrary, the experiences of my research show that it is worthwhile to search for ways in which these concerns can be integrated within or alongside the methodological framework of Generative Picturing. Particularly in highly immersed situations,

such as participatory research with a school class, Generative Picturing can only be realised as a process of actively creating an *intentional* space for dialogical praxis.

Nevertheless, within the immediate surrounding of the school, the methodological framework of Generative Picturing enabled a certain break with the dominant logic of school (e.g. static roles, performance review, clearly defined learning outcomes). Participants could assume active roles and be interpellated as knowledgeable subjects. It opened a space in which participants shared aspects and experiences of their (personal) lives, allowing others to gain insights into what mattered to them. The spatial configuration of the exhibition and the Picture Dialogues created an openness which enabled movement and the exploration of different forms of interaction and participation within and across the space. However, with group dynamics seemingly overpowering the space, participants were not able to inquire into the plurality of meanings and the relationship between the Self and the Other in an exploration of their generative themes. In retrospect, I can see that I concluded the work with Generative Picturing before one of its main qualities and strengths could unfold: the *recursiveness* of the process. As every (group) process is different, a process in such a complex context and with such young participants would have needed more time to develop the inquiry and reflection, and to identify generative themes. For a process that takes time and is ongoing, the recursiveness of Generative Picturing provides a temporal sequence and structure. As participants become familiar with the setting, the thematic exploration and examination can become more focused and intensified. Freire shows that transformative processes based on dialogue need love, humility, faith, trust, critical thinking and hope (2000 [1970]: 89ff.). Hope is "rooted in men's [sic!] incompletion, from which they move out in constant search – a search which can be carried out only in communion with others" (ibid.: 91). Hope nourishes "confidence […] in the dialogue" (Streck 2012: 175). Thus, a dialogical and recursive process such as Generative Picturing needs to be grounded in hope and confidence. Navigating the challenges and specifics of the research situation, the facilitator – and the participants – need(s) to *trust the process* for its actual potential to unfold.

7. Conclusion

Generative Picturing opens a space to explore ways of relating to each other, of learning and doing research as a humanising process. Combining different elements of qualitative methodology with photography in a recursive and participatory process, it offers a valuable methodological framework for transformative research, such as e.g. transdisciplinary research. Even so, the experiences of my research with a class of secondary school students show that "[i]n practice, participatory research rarely follows the smooth pathway implied by theoretical writings" (Cornwall/Jewkes 1995: 1672). Oriented at participation and emancipation, such processes are necessarily messy and unruly. They require navigating the specific context and different dimensions and requirements of the process. The challenges and difficulties of conducting collaborative research in contexts such as the school system, and together with a group of disadvantaged students, are the same reasons that make this kind of work worthwhile and necessary.

The limited application of Generative Picturing in the context of my research has shown that, especially in highly immersed research situations, a critical reflection on that situation needs to be an integral part of the dialogue between researcher and research partners. Generative Picturing, developed and consolidated over many years of practical work, provides a well-founded methodological framework for (research) contexts marked by complexity and uncertainties. However, for the recursiveness of the process to unfold its potential, the facilitator and participants need to trust that very process. Employed in a school context, Generative Picturing can enable communication, learning and the production of knowledge if it is implemented as a process of actively creating an intentional space for action and reflection. Oriented at transformation and carried by the "yearning for a way to reach that highest point" (hooks 1994: 92), Generative Picturing can then facilitate a dialogical praxis in which knowledge emerges "through invention and re-invention, through the restless, impatient, construing, hopeful inquiry human beings pursue in the world, with the world, and with each other" (Freire 2000 [1970]: 72).

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ABSTRACT *Der Artikel stellt Generative Bildarbeit als methodologischen Rahmen für transformatives Forschen dar. Generative Bildarbeit integriert verschiedene Elemente qualitativer Methodologie mit Fotografie in einem rekursiven und partizipativen Prozess. Der Einsatz Generativer Bildarbeit wird anhand eines partizipativen Forschungsprojekts mit Schüler*innen einer vierten Klasse an einer Wiener Neuen Mittelschule gezeigt und analysiert.*

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Linda Raule
"Act Out Loud!" – Theatre and the Body in Transformative Research Praxis

Abstract *Based on Freire′s principles of transformation, the author conducted a Theatre Action Research project with girls* using methods of Theatre of the Oppressed as a main tool to collect data. Throughout the article, the author connects the necessity of rethinking power structures in academia with the importance of using body knowledge in feminist and transformative research and introduces concrete methods and experiences for the application of such a research.*

Keywords *Theatre Action Research, body knowledge, Theatre of the Oppressed, feminist research, transformation*

1. Introduction

"We can shut our mouth but not our body: it will always be speaking"
(Boal 2002: 272).

Knowledge and knowledge production are embedded in power structures and hierarchies. Particularly from decolonial and feminist perspectives science oppresses 'other' forms of knowledge and doesn′t acknowledge it as a form of 'true' knowledge. This includes knowledge that does not correspond with the masculine, *white* and heteronormative standard (Hill Collins 2000; Mendel 2015), as well as knowledge that is not purely rational (Quijano 2007; Lugones 2008) – such as embodied knowledge. Against this background, it is important to raise the question of the importance of rethinking our research praxis. How can we gain equal apprecia-

tion for different forms of knowledge? What does research have to look like in order to avoid a reproduction of oppressive structures? The research project "Act Out Loud!" includes these questions in choosing Theatre Action Research (TAR) as its research approach and in using body knowledge as a key to reflect on life situations of girls* and young women* living in Vienna – and so to generate situated knowledge and open dialogue.

Here, transformative research contains one key word: 'transformative' is understood as the proccess of realising one's own situatedness (and even participation) in oppressive power structures in society, thereby developing a desire to change social reality and become active (Fritz 2017). Transformation does not only concern individual change but signifies a sustainable social change that tackles oppression (Deshler/Selener 1991) and thus becomes a philosphical paradigm in research praxis (Mertens 2009).

Concerning transformative methods, three aspects were crucial in carefully choosing my research methods. First, using the body – which is subordinated in the traditional dichotomy of body and mind – and its knowledge as a language and as an agent through which we can collect data is a good start for challenging oppression in research. Second, it is Freire who writes: "Knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other" (Freire 2005: 72). Thus, research is something full of social interaction, curiosity and the persistence of never stopping posing new questions. And third, according to standpoint epistemologists such as Patricia Hill Collins (2000) and Sandra Harding (1991), it is essential to include knowledge from oppressed groups, since they contribute with their experiences to a holistic understanding of social power hierarchies and oppressions (Hill Collins 2000: 24ff.). Or, as bell hooks states: "Living as we did – on the edge – we developed a particular way of seeing reality. We looked both from the outside in and from the inside out. We focused our attention on the center as well as on the margin. We understood both" (hooks 2015: xvii).

The idea of focusing on the body and, as Freire advocates, doing research with each other from a marginalized standpoint, led me to my research project, where I conducted a transdisciplinary TAR (Thompson 2003) with methods of the Theatre of the Oppressed (TO) created by Augusto Boal (2002, 2008).

Linda Raule

TO is based on and inspired by Freirian principles of action, reflection and transformative education. The body itself produces knowledge about the research partner's daily experiences and supports the partner in finding ways of taking transformative action. Hill Collins asserts that the possibility to speak for oneself and the ability to generate knowledge from one's own point of view is crucial for one's self-determination within marginalised groups (Hill Collins 2000: 35f.). The claim by Freire and Hill Collins, namely that everyone in society can and should be an intellectual and a researcher, is shared by the basic philosophy of TO: everyone is an artist and/or an actor/actress and everyone has the right to become an active change-making agent in society (Boal 2016: 68f.).

In this contribution, I will highlight the importance of scenic research and TAR, the inclusion of embodied knowledge in the research process, and its emancipatory implications for transformative and transdisciplinary research. Therefore, I will first introduce Theatre Action Research as a research approach. Second, I will elaborate Theatre of the Oppressed as a research method and underline its Freirian principles as well as its integration of body knowledge. After introducing my research project, entitled "Act Out Loud!", I will include a precise description of the methods used and further tips for its implementation. Finally, the introduced approach will be discussed with regards to transformative and transdisciplinary research.

2. Theatre Action Research (TAR) as an approach in transformative research

"Any situation in which some individuals prevent others from engaging in the process of inquiry is one of violence" (Freire 2005: 85).

In Theatre Action Research (TAR), Thompson, influenced by Boal´s Theatre of the Oppressed, combines aspects of Participatory Action Research (PAR) with theatre as a research method. There are many different forms of and perspectives on Participatory Action Research, such as feminist participatory research (Lykes/Coquillon 2007; Gatenby/Humphries 2000; Joyappa /Miartin 1996; Maguire 2008), which, for example, acknowledges

different forms of knowledge and has a clear stance regarding the aim of research. According to Maguire it is not about describing or interpreting social realities, but about transforming them. Traditional dichotomies in conventional science such as knowledge and action or research subject and research object are abandoned, and the focus is shifted to a joint research process: "We both know some things; neither of us knows everything. Working together we will both know more, and we will both learn more about how to know" (Maguire 2008: 421).

Feminist participatory research connects to the considerations of PAR highlighted by Fals Borda (Rahman 1991; Greenwood/Levin 1998; McNiff 1988; Zuber-Skerritt 1996), who includes power structures and oppression of groups in his methodology). For Borda, knowledge should be a technique for the politicization of oppressed groups and a means to generate access to participation and articulation (Fals Borda 1991: 3f.). In this sense, it is also crucial to choose the research method according to the needs of the research partners. In its essence, the term 'participatory' means that the research partners become active researchers who themselves collect and analyse their data material (Wöhrer 2017: 28).

In this sense, theatre creates a low-threshold space in which body and language are combined and therefore an examination of actions can be more critical and detailed than a typical narration. In Theatre Action Research, the group itself has the power to examine, change and validate the images and scenes which embody their knowledge (Thompson 2003: 151f.). The first steps of TAR, according to Thompson, are to understand that bodies are constituted by many layers of learned social conventions and that they are socially constructed. Participants need to learn how to use their bodies and to get to know their own way of communicating with and through the body. Thus, the first aim in Theatre Action Research is "developing the ability to play with the ´matter of action´" (Thompson 2003: 154). The research group uses the body in motion to find their research questions, to collect data to enable the investigation of these questions, and finally, to develop proposals for change (Thompson 2003: 159f.).

The next step in TAR is to collect stories from the daily experiences of group members, to name relevant conflicts of this stories and define the research interests of the group. Starting with raw theatrical scenes, the

group develops profound versions of the collected stories over time. In this process-oriented scenic research, the knowledge of the group concerning the topic is revealed, or as Thompson puts it: "The sketch becomes the ´full account´ when the group agrees that the scene or scenes adequately demonstrate the problem, illustrate the knowledge they have of it and express the way that it affects their lives. The ´full account´ is of course still a partial one, but it is as full a version of the account as the group wish to express or are able to construct" (Thompson 2003: 162).

Within Theatre Action Research, nobody can decide which aspects are important and which are trivial for the research process. It is rather more relevant to create rich analyses of the lives of the participants. To capture the content of the stories in all their dimensions, aesthetics plays a crucial role in ensuring "that the investigation includes the non-linear, unpredictable, unsayable and visual as vital parts of the construction of the group´s knowledge of the particular issue" (Thompson 2003: 163). Thus, aesthetics gives another perspective with which to interpret the complex information generated in the research process.

In Boal´s forum theatre, Thompson sees the possibility of validating and increasing the knowledge through the interventions and ideas of a broader audience. Are the scenes developed in the research group also connected to the experiences of the spectators? Forum theatre is a possibility to collect new ideas and next steps, but at some point, TAR claims to leave the realm of theatre and implement actions in the "real" world (Thompson 2003: 164f.). Thompson emphasises the transformative potential of theatre and the need for intervention 'off-stage', but acknowledges at the same time that no matter how small the physical or mental participation in a TAR-process is, it always leaves traces which are mirrored in the embodiment of the participants:

"In undertaking an activity that uses physical, cognitive and emotional skills, ties will have been formed between the group that were not there in the first place. The simple action of smiling with somebody connects you in a shared ´real´ emotional experience. […] Being actively involved in a group process and especially one that requires you to physically play with incidents, stories and emotions, might be empowering in itself." (Thompson 2003: 169)

These words are filled with hope and encourage one to become involved in process-oriented Theatre Action Research. Particularly when working with youths (s. section 4), it is important to consider power asymmetries based on adultism[1], this being the structural privileges of adults compared to kids and youth in society. Even if my colleague and I tried to break power hierarchies in the research project, it was still us who initiated the project itself, who defined the general setting and framing of the project, and who took final decisions.

3. Theatre of the Oppressed as a Freirian method of transformative research

"Paulo Freire invented a method, his method, our method, the method which teaches the illiterate that they are perfectly literate in the languages of life, of work, of suffering, of struggle, (…)" (Boal 2005: 102).

Theatre of the Oppressed (TO) is a collection of methods of participatory theatre, which was developed by Augusto Boal in a context of repression and violence against people living in Latin America. During his exile, Boal brought his so-called 'arsenal' of methods to Europe, affirming that even in Europe oppression exists and that it needs to be abolished (Boal 2016: 68). TO is an involvement with concrete oppressive situations and a search for, and rehearsal of, new ways of action to tackle the perceived forms of oppression. The aim is to achieve concrete transformations in life, to dismantle oppression and to overcome the passivity of spectators. As stated in the introduction, in Theatre of the Oppressed, everybody has the right to take control over the creation of their own life reality (Boal 2016: 68f.). The central method is forum theatre, where scenes of conflict and oppression in daily life are shown. The audience then has the possibility to exchange for one of the protagonists on stage and try new ways of dealing with oppressive situations, to inspire and encourage each other in the fight for a more humane and just world (Boal 2016: 82f.).

When talking about TO as a method of transformative research, it is also necessary to talk about Paulo Freire´s ´Pedagogy of the Oppressed´, whose work significantly influenced Boal in his philosophy. Freire´s peda-

Linda Raule

gogy, as well as Boal′s theatre, highlight the importance of political activities for searching for the transformation and humanisation of the world. Neither gives up hope that change is possible, and both intersect in opening a discussion about oppression and liberation, action, reflection and transformation. As Fritz puts it: "From them one can learn, that nothing is carved in stone, that all books have yet to be written and that we must embark from where we are and go to where we could be, in the way we would like to be according to our actual capacity and abilities" (Fritz 2017: 41).

Fritz argues that, based on a deep friendship between Boal and Freire, the Pedagogy of the Oppressed can be seen as the ethical foundation of TO: it simplifies and humanises learning processes and it stands up for a radical democratisation of all kinds of processes – with the conviction that all people have knowledge (similar to Boal′s belief everyone is an artist) (Fritz 2013: 52ff.).

3.1 Freire′s critical pedagogy

The pedagogy of Freire is based on a differentiation of oppressed and oppressors, although neither often know that they are oppressed or that they act oppressively. Thus, the aim of Freire′s pedagogy is the liberation of both – the oppressed as well as the oppressors. Systematically, the oppressed are reduced to objects, who incorporate the opinion of the oppressors to such a degree that they degrade and humiliate themselves. Oppressed people follow the ideal of their oppressors in society and aim to become like them. To break this cycle of internalised oppression, Freire demands a resolution of the dichotomy of oppressed and oppressor. This is only possible if the oppressed realise their oppression, confront it critically, and act accordingly to change it (Freire′s concept of "conscientization"). Thereby, the aim is not the reversion of oppression, but the liberation of systemised oppression in general (Freire 1973: 39ff.). The right best method to reach this liberation is, according to Freire, true dialogue: through joint a mixture of reflection and action, the oppressed can experience themselves as self-efficient and creative agents that have the ability to fight for their own liberation (Freire 1973: 52ff.).

> "To exist, humanly, is to *name* the world, to change it. […] Human beings are not built in silence, but in word, in work, in action-reflection. But while to say

the true word – which is work, which is praxis – is to transform the world, saying that word is not the privilege of some few persons, but the right of everyone. […] If it is in speaking their word that people, by naming the world, transform it, dialogue imposes itself as the way by which they achieve significance as human beings. Dialogue is thus an existential necessity." (Freire 2005: 88)

In Freire's critical pedagogy, speaking "true words" is a praxis of transforming the world. Thus, the first step of liberation is to gain consciousness and to reflect about our own situatedness and the way in which we contribute to the maintenance of oppressive circumstances – as oppressed or oppressors – and then to engage in transformative dialogues. TO, with its activating methods, is in search of this true dialogue. The aim of the liberation process is a transformation from monologue to dialogue (Friedland 2011: 46).

The basic vocabulary of theatre is the body. To use the body as a language tool in theatre, it is crucial to know one's own body and its expressions. Through body movement, a process of liberation takes place, and a transformation from spectator to actor/actress, from witness to protagonist, is initiated. Boal describes, in four steps, how theatre transforms objects into subjects – and how we can engage as active agents in society, thus creating dialogue and transformative change. These steps require a) getting to know one's own body and understanding the power structures through which it is constructed (cf. Freire's "conscientization"); b) using its expression as an expression of the self; c) understanding theatre as a vivid language; and d) translating relevant topics into theatrical action and starting a true dialogue about it (Boal 2016: 47). TO claims to be a philosophy of liberation: the spectators do not give the power to the actors/actresses to think in their stead, but rather liberate themselves from their passive role and start to act: they transform from spectators into spect-actors (Boal 2008: 135). Thus, a TO process is about the "conscientization" of the oppressed, the appropriation of their own truth and the words describing this truth, the engagement in a dialogue, and thereby a transformation of reality. Additionally, this requires a search for humanity, connection, error friendliness and true solidarity: "TO is about moving in close, questioning deeply, trying possible solutions, failing and sometimes succeeding, then examining actions even more carefully, always trying to get closer to what will create transformation in our flawed world" (Emert/Friedland 2011: 1).

Linda Raule

TO therefore seems to be an adequate research method that connects Freire´s principles of "true words", dialogue, and transformative action with critical inquiry. Since in scenic research the main data is collected through body knowledge, I am raising the question of whether "true words" must be spoken words, or if they cannot be embodied as well. This leads to an engagement with the body knowledge and its meaning in TO as a research method.

3.2 The body in the Theatre of the Oppressed

To conduct valid feminist and decolonial research, it is crucial to include knowledge marked as ´other´ (Raule 2019). Since in TO the body is the main language tool, it is body knowledge, or embodied knowledge, on which we focus in our TAR. The body is formed by oppressive structures and disciplined by material and ideological classification systems in society. The body incorporates the social order, which means social conditions of power and oppression are inscribed on it. Since, according to Howe, there is no space outside of oppression, our bodies are formed by everything we do and each surrounding we are exposed to (Howe 2019: 76f.). Depending on the social class and position, some bodies are more, some are less, controlled than others (Oyéwùmi 1998). The body stores social knowledge, an implicit knowledge that is not captured rationally or linguistically, but is rather expressed in emotions and movements (Hirschauer 2008: 977). Thus, on the one hand, every movement embodies socially learned norms. On the other hand, movements recreate this social interpretation in a performative way each time anew (Villa 2008). The body is not only oppressed and colonised – either through the active reduction of 'other' bodies in the colonies or through the subjugation of the body to the mind – but is also a space of permanent recreation, a space of creativity and liberation, and thus of transformative change (COMPA 2019). This embodied knowledge of social situations can emerge and become visible in theatre processes. In this context, scenic research gains a new relevance and TO presents an appropriate activist research method.

In Theatre of the Oppressed, the body plays an important role in enabling dialogue. Or as Freitag et al. put it: "Dialogue cannot occur without the foundation of an engaged body. We view dialogue as an extension of individual bodies communicating with one another in critical, reflexive conversation" (Freitag et al. 2011: 76).

Boal assumes that the body is mechanised through the constant repetition of body movements and reactions. The senses register, select and hierarchise sensations, and automated reactions are inscribed in muscle structures. Each movement, such as 'walking', is a complex sequence of body reactions. The senses recognise all sensations but pass them after hierarchically selecting the most important ones for the consciousness. This process of filtering is socially learned, and, as Boal puts it, results in a "mechanisation" of the body; in similar circumstances the body automatically always reacts in the same way. Therefore, Boal starts every theatre process with a so-called "de-mechanisation" – the liberation of the body from its learned automised patterns of reaction. This goes along with Freire`s "conscientication" of oppressive conditions. Through different excercises, participants learn to recognise, and later to control, their bodily reactions (Boal 2002: 29f.). Thus, the body in TO is regained, de-mechanised and becomes finally an expressive language: the revolutionary power of embodied knowledge and its language is that it cannot be silenced (Boal 2002: 272).

3.3 Image theatre for data collection in Theatre Action Research

One possible expression of this body language is Boal´s image theatre:

"In order to really *understand* a message, it is important to receive and to send it in different languages. An image is one of those many possible languages, and not the least of them" (Boal 2002: 176).

In image theatre, participants build a still image out of their bodies and those of the other participants, one that reflects the perspective on a certain topic (Boal 2008: 112). There are several different methods of dynamising (or setting in motion) those images in order to finally develop a whole theatre piece. One possible method to discover more about an image is the so-called ´inner monologue´: all the thoughts that come up in a specific position of the body should be voiced. "The body thinks", says Augusto Boal (Boal 2002: 207). Therefore, it is important to voice all the thoughts that are produced through this specific and intuitive position of the body in the image, and not the opinion of the individual in the situation. The body becomes "no more than a body thinking out loud" (Boal 2002: 207).

Linda Raule

Since Boal´s image theatre acknowledges the body as a source of knowledge, it offers as a research method the possibility of collecting data of embodied knowledge. Verbalised inner monologue marks a first translation, which allows for the collection of written data material.

4. The research project "Act Out Loud!"

With a group of girls* from the age of 12 to 16 that come from different social backgrounds in Vienna, my colleague from our TO association in Vienna (Theater der Unterdrückten Wien, www.tdu-wien.at) and I conducted a Theatre Action Research. Since the deep-seated structure of female inferiority has a big influence on girls* that are raised in a patriarchal society, my research interest was to create more knowledge of the circumstances in which girls* in Vienna are living, which daily challenges they must overcome, and how they deal with them. The aim was to open a space where they could ask their own questions and raise their voices to speak about their own topics. Since research is never free of social interests, values and the standpoint of the researcher, it is important to mention that my position as a *white*, young, heterosexual woman gives me a particular perspective on society. On the one hand, oppressive experiences as well as theoretical studies on sexism and gender discrimination motivated me to conduct this research. On the other hand, they mark a connecting link to the research partners and to my conviction to find solutions together (Raule 2019: 9ff.).

In three months of weekly rehearsals the research partners developed a forum theatre play filled with situations of oppression that they are facing in daily life. Being embedded in a broad context of power-knowledge-relations, it is challenging to find a mode of research at equal level. Nevertheless, it is also about valuing the different resources and skills each participant contributes to the research project. Thus, my colleague and I were responsible for rehearsal rooms, fixing rehearsal times, and we contributed our knowledge of TO methods and other theatre techniques, while the research partners defined the topics they wanted to work with and shared their knowledge and experiences (Raule 2019: 41). In this way, a joint learning and research process was possible.

The play results from a process-oriented mix of action (the embodied scenic research of content) and reflection (the alignment of this content with the reality of the girls*. 'Generative themes', which were elaborated through different techniques and exercises of TO, were (Cyber-)Mobbing, the fear of being marked as 'other', invisibility as a female, homophobia and family conflicts or rather adultism. The forum theatre play "Lasst mICH SEIN!" (engl.: Let me BE ME!) was performed twice in different youth centres, where a large number of youths went on stage, tried to modify the scenes, and participated in the discussion of the topics. After finishing the performances, we met again in a group to intensively reflect on the process, celebrating and preparing a radio talk, where the girls* shared their experiences of TAR with more young people in Vienna (Raule 2019: 48ff.).

The main data material was collected in the first 10 rehearsals, where we worked in particular with image theatre and inner monologue; we also collected photographs and field notes. In a process-oriented data evaluation, I first analysed inherent conflicts and forms of oppression and their reference to society using Grounded Theory (Strauss/Corbin 1996). Second, I used photo-interpretation (Marotzky/Niesyto 2006) and thick description (Geertz 1973) to analyse pivotal moments of the rehearsal process (Raule 2019: 55ff.). Finally, I concluded that the forms of oppression the research partners are experiencing are similar to the power structures in scientific knowledge production. For example, is the fear of being marked as ´other´ (in the case of the girls* being lesbian/not heteronormative) and thus being oppressed, similar to the oppression of ´other´, not purely rational, heteronormative, *white* knowledge. However, through a positive connotation of the body as active and as a change making agent, the participative research with youth from marginalised groups and the public sharing of the learning process of the research partners, TAR can enlarge the canon of participative, transdisciplinary and feminist perspectives in science (Raule 2019: 91ff.).

5. How to conduct TAR with TO? Implementation of the method and useful excercises

First, it is important to note that the work with TO is a very context-specific one and the content in particular is always connected to the lived experiences of the research group. Scenic research can be used to work on a

Linda Raule

specific topic or research interest, but in combination with TAR it is important to let the research partners define their questions and the topics they want to work on. In my opinion, participation should always be voluntary and driven by participants' own questions and the motivation to search for possible change. In an enforced context (such as e.g. whole school classes), oppression is reproduced, and it is difficult (and perhaps even impossible) to find access to an honest dialogue. Especially in puberty, the body is often a place of shame and discomfort. Therefore, it is crucial to build a space of trust, where participants feel free to use their bodies in unfamiliar ways, to experiment, create and voice their own truth. This takes time and it is advisable to work continuously on the building of the group. The following exercises are chosen based on my experience in working with youth and were used in "Act Out Loud!" as well. They represent only a small introduction to many possible variations and exercises. Of course, they can be used in different contexts as well. Most of the described exercises are adaptations of Boal (2002) or Fritz (2012), and include my experiences and personal style as a facilitator.

5.1 Building the group

The first step in TAR is to find participants and a space to rehearse and work with the body. In our experience of working with groups of young people, it is beneficial to choose a low-threshold access, meaning a place the youth already know, such as e.g. youth centres or a place close to their school. The first meetings of the group should be about getting to know each other, and the methods used in TO, as well as establishing a space of error-friendliness, trust, and joy in working with the body. Also, research interests, the aim and duration of the project should be addressed, and the expectations of all participants should be clarified (Raule 2019: 48f.).

Fruit salad – a first game to get to know each other: Particularly for youths, it is often difficult for them to overcome their inhibitions in new groups and "show themselves". This game is a good first start to get to know each other and start moving: everyone sits in a circle on a chair (one chair fewer than participants), while one person stands in the middle of the circle and makes a (true!) statement about him/herself: "Who like me likes apples?". Everyone, who likes apples, must find a new chair, and the person in the middle tries to find one chair as well. A new person is now in

the middle and asks a new question. In the course of the game, more and more personal questions can be asked (Köck/Raule 2018: 36).

Stop and Go – Explore the space and establish error-friendliness: A nice way of creating a safe space is laughing together about our own errors. In "Stop and Go", we walk through the space, trying to fill it with our bodies while exploring it. Do not walk only in circles; try to change direction; be attentive; walk where there is space. When I say 'stop', everyone stops; when I say 'go' everyone resumes walking. Then we switch: when I say 'go', everyone stops, when I say 'stop', everyone starts walking. Play with it. Add more instructions like 'jump', 'say your name', and interchange them as well (Fritz 2013: 52). The aim is to make mistakes, to laugh, and to have fun. (Variation: whenever someone makes a huge mistake, this person is really 'upset' and shouts out loud, 'No!'. Enjoy playing with the frustration of your mistake.)

Blindfolded – working with different senses and trust: For many seeing people, it is a big step to go blindfolded through the space. In this exercise, one person leads the blindfolded partner through the space only by whispering his/her name. In the beginning, the leader should stay close to the partner; later, the leader can challenge the follower by changing directions and the distance between leader and follower. It is necessary to be careful of the other pairs moving through the space. To end the exercise, the leader finds the farthest place possible in the space and slowly leads the partner through the space only by whispering his/her name. As soon as the partner reaches the place, roles can be reversed. Afterwards, the pairs can interchange and discuss their experiences. (Variation of Boal´s "Noises" (Boal 2002: 116)).

In 'Act Out Loud!' those exercises helped the participants that didn´t know each other in the beginning to create trust and comfort in the group. One participant said, "Our group is just amazing. It was like fleeing my daily routine and my problems once a week. I love that we are laughing so much together" (Raule 2019, 91).

5.2 De-mechanisation and conscientisation

These exercises get the body moving and constitute a commencement of de-mechanising the body. Body work should be part of every rehearsal: it is important to relearn playing with the body, using it in the way we

want to and not in the way we learned to. Part of this process of de-mechanisation is also to understand that our bodies are formed by power structures – and that we are all part of an oppressive system, either as oppressor, oppressed or something in between.

To open and discuss the topic of oppression, two quite famous exercises are very useful: the "Colombian hypnosis" and the "Status game".

Colombian hypnosis – put the body in new positions and open the topic of oppression: Boal developed a series of exercises to discover new ways of structuring the muscles and expressing emotions and movements in order to find new ways of acting on stage as well as in life (Boal 2002: 50). One is the Colombian hypnosis, where one actor hypnotises another by holding their palm around 20 to 40 centimetres in front of the partner's face. The partner must follow the movements of the hand, always keeping the same distance. Thus, the hypnotiser can force his/her partner into uncomfortable body positions. The pace can vary, and movements through the whole space and levels are possible. The follower will use muscles which are rarely used. A de-mechanisation takes place. After a while, leader and follower change roles (Boal 2002: 51). (Variations: both are leading and following at the same time; one person leads two followers; one person leads a crowd etc.). After finishing the hypnosis, the participants create an intuitive image of how they felt in their role and place themselves in relation to their partner. To reflect upon this image, questions can be asked, such as: How did you feel in being follower/leader? Which was easier/more fun? Why? What does this situation remind you of? Where and whom do we usually follow? Do we lead? With these questions, the topic of oppression can be easily discussed in all type of groups.

Status game – embody power relations in society: Each participant draws a number between 1 and 5, that symbolises a status in society; therefore, 5 is the most powerful person in a society, 4 is upper middle class, 3 middle class, 2 lower class and 1 is the person who must fight for their own survival. Without knowing the status of the other participants, they start to improvise. It is recommended to start on a basic level, meaning to start with embodying the character while walking through the space and imagining a story (Who am I? What do I do? ...). A next step could be interacting with invisible characters (variation: without talking or only with the word "ulala"). The last step is to interact with the other characters in the space

as well. Depending on the participants' interpretation of the meaning of the specific status, diverse scenes can emerge and a discussion about hierarchies in society can take place. After improvising, the participants can form groups to build an image of power relations in society; another task could be to make an image of their daily life, where all statuses are part of the image. Particularly with youth, this exercise is a low-threshold way of discussing power relations in society (Ganguly 2017:13f.; Köck/Raule 2018: 36; Fritz 2013: 122-123).

5.3 Image theatre: a useful method to for collecting data with youth

Boal´s image theatre (Boal 2002: 174ff.) is a very useful tool with which to collect data on the topic the research group is working on, and to highlight the knowledge of the body. The body intuitively gets into a position, and thoughts of the ´thinking body´ (see above) are translated into an inner monologue. These sentences can be collected and analysed (e.g. with Grounded Theory) in a next step. There are many ways of finding images which are connected to the reality of the research group. Colombian hypnosis or the status game can inspire powerful images. For the work with a group of youths, the so-called statue dialogue proved to be successful in finding images that touch the reality of the research group (Köck/Raule 2018). In the TAR I conducted, I especially focused on intuitive body knowledge. The following example is one possible way of generating data based on intuitive body knowledge.

The participants walk through the space, I clap, the participants freeze in a body position, I clap again, and they continue walking. Now, while walking, I ask them to think about stressful or oppressive situations in their daily life. What makes you angry in this society? What do you want to change? What do these thoughts trigger in your body? (Depending on the research topic, the questions should be adapted) I clap again, they intuitively freeze, clap – they continue walking. I directly clap again – freeze – clap – walking – and clap again – freeze. Now I ask the participants to stay in this position and to feel into the position. Where do you feel tension? How are arms, legs, torso positioned? We continue working with this statue. We use the third reaction, because we know that the body has more than one possible way of reaction. The first one is the most

common or obvious one. If we challenge our body and search for new ways of reacting, the body provides them, and we can learn new things about ourselves (Raule 2019: 77f.).

Now I ask half of the group to unfreeze and to look at the statues in the space. I invite them to intuitively choose one statue and 'answer', meaning to react with another statue. Thus, images of two or three people emerge. The group can choose one image to start working with so that the other participants can observe what happens next. Again, I ask them to feel into the body position and the relation to the other statue and invite them to give an inner monologue. These monologues give a first hint of the embodied knowledge of the situation and constitutes data that can be collected and analysed in a next step (Raule 2019: 77f.). Proceeding possible steps are to ask questions, such as: What do you want in this situation? What´s your aim? What are you afraid of? What is your biggest wish or your biggest secret? Or, to ask the other participants what they observed in this scene: Whom do they see? What kind of relation exists between the characters? Are important characters missing? If yes, add them. Another possibility is to ask the actors/actresses to make a following step or embody a movement they would like to express next in this specific situation. In any case, it is important to understand the situation and the conflict as a group, in order to enable reflection (Raule 2019: 78f.).

5.4 Reflection as an integral part of the rehearsal and the research process

After ending the rehearsal and/or the exercise, it is important to come together and reflect on what happened. What did we learn in this exercise or this image that we created? Where is the connection to our struggles in daily life? Is it oppression? What is my role in situations like this? In the process of TAR and the production of a forum theatre play, we usually work by means of loops of experimenting and reflecting. New scenes and images are created and afterwards compared with daily life experiences. Are the scenes and their conflicts realistic? Do they touch struggles the research partners are facing? In the beginning, a research group usually creates a lot of scenic content, but during the process the research topic and its connections to the important scenes emerge, which then lead to the forum theatre performance (Raule 2019: 51f.). The questions we discussed

in "Act Out Loud!" during and at the end of the rehearsals helped us to share our learning within the group and to focus on the topics the research partners really felt the need to continue working on.

6. Conclusion

The aim of Freire's pedagogy is an emancipatory transformation and an invitation to an honest dialogue based on "true words". Theatre Action Research as a research method, and the inclusion of embodied knowledge, not only allows us to challenge the dichotomous oppositional difference of Cartesian dualism in scientific knowledge production; it also opens the possibility of regaining full consciousness of the body through movement, to understand oppressive structures of society, and to reflect upon one's own situatedness in this system (Where am I oppressed? Where do I participate in maintaining oppression?) and to relearn that by dialogue, a joint solution to conflicts can be found. Thus, TAR with TO searches for active social transformation and starts by transforming the consciousness of the participants. To experience (on stage and later in real life) that everyone has the power to create, discuss and influence their own reality, is a huge step in believing in self-efficacy and in collective interventions.

Against this backdrop, Theatre Action Research can also be seen as a transdisciplinary research method, since it includes – indeed it is based on – the viewpoint of the research partners and thus avoids a purely academic stance. Transdisciplinary research aims to enable a true dialogue between academics and common knowledge, and thus fosters a holistic apprehension of a specific topic (Novy et al. 2008: 31f.). This is only possible (and reasonable) if all perspectives, and especially the perspectives of marginalised standpoints (cf. standpoint epistemology), are included. Thus, the groundings of TAR are transdisciplinary. In the conducted research the mix of Theatre Action Research with different disciplines (decolonial and feminist criticism of science, critical development studies, social sciences etc.) seemed to be crucial in order to come closer to a holistic understanding of the complexity of oppressions the research partners face and how they think about them.

However, in the canon of critical feminist and decolonial research praxis, it seems paradoxical to produce a written text in a research project that uses embodied knowledge as a main source. Written scientific notation reduces the expressiveness of embodied knowledge and a new hierarchy of knowledge is produced. To what extent do we reproduce a specific coloniality of knowledge if we feel obliged to stick to written standards of academia? In the end, written results in a TAR using embodied knowledge are nothing more than a reduction, a fraction of the knowledge the body can express and communicate. In future discussions about scientific knowledge generation, it could be negotiated as to in what way theatre plays and productions could stand as scientific results in themselves – without being translated into written texts (Raule 2019: 47f.).

Nevertheless, TAR as a research method supports a transdisciplinary and transformative production of knowledge that generates access to participation and articulation. The research is undertaken by the people themselves and in their own interest, since they are tackling the questions they are concerned with. In the "conscientization" of one's own situatedness in social power structures, in developing the wish to change those structures and in becoming active through creating one's own social reality, transformation becomes possible. Critical science must vouch for naming and dismantling oppressive structures. Scenic research based on body knowledge and Freire`s principles is one step in that direction. To end with the words of Denzin: "Performance is an act of intervention, a method of resistance, a form of criticism and a way of revealing agency and presence in the world" (Denzin 2010: 301).

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1   Adultism is a form of structural discrimination that dictates that "only adults are viewed as credible authorities and able to act, while youth serve as recipients of knowledge and action" (Bettencourt 2018: 2). However, critical academic discourse highlights these days the need of research with kids and youths: they are experts on their lived realities and participatory research conducted from a youth's perspective is crucial for a holistic research approach (cf. Wöhrer 2017: 49; Kellet 2010: 185-197).

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Linda Raule

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ABSTRACT *Basierend auf Freires Auseinandersetzungen zu Transformation führte die Autorin eine Theater-Aktions-Forschung mit Mädchen* durch, in der das Theater der Unterdrückten als Methode der Datensammlung verwendet wurde. In diesem Artikel verbindet die Autorin die Notwendigkeit, Machtstrukturen in der Wissenschaft zu hinterfragen mit der Wichtigkeit Körperwissen in feministischen und transformativen Forschungspraxen zu verankern. Konkrete Methoden und Erfahrungswissen werden für die Durchführung einer solchen Forschung vorgestellt und abschließend diskutiert.*

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