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

Special Issue Guest Editors:
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"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

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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,

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

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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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