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Editorial

While writing this editorial, the Covid-19 pandemic is still affecting people in all parts of the world, although to different degrees. Some of us are gradually returning to some kind of normality, while others are still in the midst of heavy level of infection and high death toll. As researchers, we express our solidarity to everyone that suffered from the decease, that lost family members, friends and colleagues. It is too early to evaluate how Action Research will come out of the pandemic. What we know, however, is that there are processes underway that will change our understanding of participation in knowledge production, and in the role and strategies of research and science in general, and the way they intervene in social reality. Probably in the next issues of the journal we will be able to identify some of these changes.

In this issue we share four articles covering different topics and coming from different social and cultural contexts. The first article, “Beyond the margins of neoliberalism: Biological and Neurological Foundations of Action Research”, by Igor Ahedo Gurrutxaga, reflects on how cognitive frames affect the way that we approach reality. The goal is to help understand the practical limits that Action Research faces. According to the author, a hegemonic approach to science and human nature has been instrumental to a “neoliberal governmentality” that seeks to subjectify individuals through isolation and competition. The dialogue with life sciences highlights both the potential for a deeper knowledge of how we live together, as well as confirming the transdisciplinary nature of Action Research.

The article by Miriam James-Scotter, Lixin Jiang, Cameron Walker and Stephen Jacobs presents an outline of how Action Research was used to develop a real-time job satisfaction measurement tool for the operating room (OR) setting. “Using action research to develop a real-time measure of job satisfaction in the operating room setting”, based on a study conducted within one New Zealand hospital OR department, describes and analyses how Action Research cycles, researchers and hospital personnel collaboratively created an innovative one-minute daily job satisfaction measure called the Morale-o-Meter. Complexities relating to its development and acceptability are explored and reflected upon, in order to draw insight for other researchers who are looking to use this methodology in a similar setting. As the authors point out in their conclusion, this study provides a sound starting point for the tool to continue to be developed, with potential for implementation in wider healthcare settings in the future.

Thomas G Ryan presents the article “Action Research as Pre-Service Teacher Inquiry and Professional Development in Ontario Elementary Health and Physical Education”. Inquiry, implemented as a pedagogical mode, helps new educators identify and reveal resolutions after identifying the need to want to improve. It is argued in the article that Action Research has the potential to open doors of perception, trigger new insights, and cultivate teacher development within teacher training and beyond while in-service. In terms of method, the research process is illustrated via narrative accounts that reflect experiences while teacher training in an Ontario Faculty of education program. As Action Research is today widely used in educational research, this article provides important theoretical and methodological insights.

The article “Co-construction of territorial and sociodemographic data in a poor informal neighbourhood with high socio-environmental vulnerability in the city of La Plata, Argentina”, by Tomás Canevari, presents and discusses the results of a census carried out in the largest of the 164 informal settlements currently in existence in the city of La Plata, capital of the province of Buenos Aires, Argentina. The aim of the study was to define territorial and

sociodemographic data of this poor informal neighbourhood through the generation of co-constructed scientific knowledge together with the community, which in turn recovers knowledge and demands from the territory with a concrete potential for transformation. This work is part of a Participatory Scientific Agenda based on the interaction of the community, political, economic and scientific-technical actors. Again, Action Research reveals its trans-disciplinary potential for addressing complex social realities.

This issue of the *International Journal of Action Research* also reprints the interview published in the blog of Barbara Budrich Verlag with Marianne Kristiansen and Jørgen Bloch-Poulsen about their new book *Action Research in Organizations: Participation in Change Processes*. With a long trajectory dedicated to Action Research, the authors examine organisational change processes based on collaboration between employers, employees and action researchers in Europe and the U.S. The book will certainly become part of Action Research bibliographies and references.

Finally, a farewell and a welcome. After important contribution to the *International Journal of Action Research*, Marianne Kristiansen is leaving the Editorial Committee. In the name of the fellow editors, the members of the Editorial Committee and the International Advisory Committee, I express our deepest gratitude to Marianne. We all wish her well, and welcome her further collaboration in any capacity she feels possible and adequate.

At the same time, we welcome Louise Phillips as a new member of the Editorial Committee. Louise Phillips is Professor of Communication and Coordinator of the Dialogic Communication Research Group at Roskilde University, Denmark. She has a Ph.D. (1993) in Social Psychology from the London School of Economics and Political Science. Her research, since 2005, has concentrated on action research-inspired, dialogic and participatory approaches to communication, including participatory health research. She has written many articles and books on the topic including *The Promise of Dialogue: The dialogic turn in the production and communication of knowledge* (John Benjamins Publishing, 2011, and *Knowledge and Power in Collaborative Research: A Reflexive Approach*, ed. (Routledge, 2013) and *Dialogue and Co-Production: Methods for A Reflexive Practice* ed. [*Dialog og Samskabelse: Metoder til en Refleksiv Praksis*]. (Academic Publishers, 2018). She is currently working on a participatory health research project about dance for people with Parkinson's disease and their spouses. Research dissemination includes a co-produced graphic novel.

We thank the authors and reviewers who contributed to this issue of the *International Journal of Action Research*, as well as the researchers who join us as readers.

Danilo R. Streck
Editor-in-chief

Beyond the margins of neoliberalism: Biological and Neurological Foundations of Action Research

Igor Ahedo Gurrutxaga

Abstract This text maintains that the presuppositions of individualistic empiricism have been instrumental for the neoliberal revolution, which turns supposed aggressiveness and natural selfishness into a foundation of society. The combination of science that denies the relational, emotional and subjective nature of humans with the naturalisation of individualism and competition as supposed bases of human behaviour combine to hinder Action Research's aim of "self-determination" (Fricke, 2018). However, true relational parameters, located in and empathic with the living, fit perfectly with the assumptions of AR. Therefore, we explain how discoveries in biology not only show that the bases of Action Research are not heretical from a scientific point of view, but that they fit in perfectly with the true parameters of behaviour identified by the life sciences.

Keywords: Neoliberalism; Biology; Neurology; emotions; science

Más allá de los márgenes del neoliberalismo: Fundamentos biológicos y neurológicos de la investigación-acción

Resumen Este texto defiende que los presupuestos del empirismo individualista han sido funcionales para una revolución neoliberal que convierte una supuesta agresividad y egoísmo natural en fundamento de lo social. La combinación de una ciencia que niega el carácter relacional, emocional y subjetivo con la naturalización del individualismo y la competencia como supuestas bases del comportamiento humano se conjuran para dificultar la apuesta de la Action Research por la "autodeterminación" de las personas (Fricke, 2018). Sin embargo, los verdaderos parámetros relacionales, situados y empáticos de lo vivo encajan a la perfección con los presupuestos de la AR. Para ello, explicamos cómo los descubrimientos en genética, biología y neurología muestran que las bases de la Action Research no solo no heréticas desde un punto de vista científico, sino que se ajustan a la perfección con los verdaderos parámetros del comportamiento que identifican las ciencias de la vida.

Palabras clave: Neoliberalismo; Biología; neurología; emociones; ciencia

I set out really to change the approach, and changing the economics is the means of changing that approach. If you change the approach you really are after the heart and soul of the nation. Economics are the method; the object is to change the heart and soul.

Margaret Thatcher, 3–5–1981, Sunday Times

I would like to acknowledge the suggestive and thoughtful comments made by David Greenwood to the original manuscript.

Our brain is a prodigious enigma made up of tens of billions of neurons, whose connections allow more interactions than the particles that probably exist in the universe (Capra, 1996). Despite not making up more than 8% of our bodyweight, it consumes 20% of our energy because of the permanent monitoring required by “self-awareness” (Ramachandran, 2003; Damasio, 2019). This is an effort compensated for by the emergence of the self and its surprising consequences: reflection on emotions in the form of feelings; the possibility of coordinating reflexive behaviour that language and society allow; even the paradox of being able to think about the origin of what it is to be alive and the meaning of our existence (Damasio, 2010). Researching and acting thanks to our brain, we have identified the principle of homeostasis as the foundation of life (Damasio, 1994). In a constant search for balance, we have found the art of looking for well-being (Diamond, 2013) and compassion in the face of pain (Lozada et al 2011). We have come to understand life as autopoiesis (Maturana & Varela, 1987) and we have even placed ourselves above the living (Leakey & Lewin, 1996). We have created gods and we have believed ourselves to be gods (Harari, 2014). Consciousness derived from the prodigious enigma of our brain has led us to think that we are prodigiously above any enigma (Fromm & Suzuki, 1960). However, despite everything, our brain is easily manipulated. Margaret Thatcher knew it very well, when she ended her interview with the phrase at the start of this text. She knew that whoever correctly defined the approach could control the mind, and from there, they could conquer the soul.

In this text, we want to reflect on how cognitive frames affect the way that we approach reality. The goal is to help understand the practical limits that Action Research (AR) faces. We propose that the hegemonic approach to science and human nature has been instrumental to a “neoliberal governmentality” (Foucault et al. 2008) that seeks to subjectify individuals through isolation and competition. Like Fricke (2018), we trust in human agency; however, we also believe that the unconscious assumption of the framework that naturalises competition and individualism creates practical difficulties in achieving the goals that inspire AR. We believe that despite the fact that human behaviour is based on “the capacity for and interest in democratic participation and self-determination” (Fricke, 2018. p. 90), the project of conquering the soul that this Thatcher quote exemplifies aims to strip society of its agency, laying waste to the ground where AR can germinate.

In fact, one of the key elements that neoliberal governmentality is based on is utter distrust for anyone who is not at the pinnacle of power. Thus the need to audit and discipline continuously. One way to confront this logic is to show resistance, to prevent neoliberal aspiration from becoming a self-fulfilling prophecy (Hürtgen & Voswinkel, 2017). In fact, experiences related on platforms such as ARNA, or articles in IJAR or ARJ are examples of the persistent, constant resistance of groups and communities against neoliberal subjectification. In line with this aspiration to strengthen human agency, we believe it is important to reveal the falsehood of the naturalising assumptions on which the art of neoliberal government is based, since identifying the false conception of human nature on which they stand can reinforce the position of Action Research. As we will demonstrate, the natural sciences, far from confirming the individualistic, distant ethos of the hegemonic framework, legitimise the epistemological and anthropological assumptions of AR.

Consequently, this text aspires to reveal the falsehoods on which the neoliberal framework is built. In parallel, supported by current discoveries in the natural sciences, it seeks to strengthen an alternative interpretation framework about science and human nature that reinforces the role of people as transforming agents. To do so, we propose a route along the

following lines: we begin with a visual exercise that shows how the framing of reality determines the way in which we understand it; next, we contrast the foundations of AR with those of hegemonic science based on positivism, individualistic monism, micro-analysis and the separation between theory and practice. Then we show how these premises about “true” science serve as a runway for a biased approach to biology and neurology that naturalises the neoliberal (self)government framework and the discourse of “no alternative”. We end by showing how these arguments do not hold up in light of recent advances in genetics, biology, and neurology, and conclude by stating that the situated, relational, co-operative and empathic logic of Action Research conform to evolutionary parameters.

Although this approach is not exemplified in a specific experience, it meets a need felt by the author to stimulate participatory-research processes in the Basque Country in his work, and the relevance of adding another argument to the pragmatic, political, epistemological, dialogical and ecological arguments proposed by Streck (2013) when it comes to legitimising AR; the biological. We believe that approaching biology, far from being detrimental to the transforming action of AR, adds legitimising arguments to our action: the commitment to co-operation, empathy, and situated knowledge does not respond to a “should be”, but to the essence of “being”: life. If, according to Krimerman (2010), AR brings democracy to science, this text seeks to strengthen a view in which it also brings “life” to science.

Consequently, we consider that the eclectic and multidisciplinary viewpoint at the base of the pragmatic approach to AR (Greenwood, 2007) should also be open to contributions from the natural sciences, including neurology, as Streck suggests (2013. pp.197–198; 2018). Challenging neoliberalism over the naturalising framework of competition and selfishness by showing that the essence of evolution is co-operation, a relationship with the environment and empathy can help reinforce AR in daily practices. Ultimately, this text aims to provide another look at the aspiration of human self-determination, explaining that “there is an alternative” to the mental framework that causes “basic virtues of ordinary people” to be “today suppressed and aligned by neoliberal-capitalist strategies of subjectification in Foucault’s sense”. If these subjectification strategies are based on seeking control of the mind to “conquer the soul”, in this text we intend to escape the neoliberal trap according to which “there is no alternative”. We believe that there is, and that it is in nature.

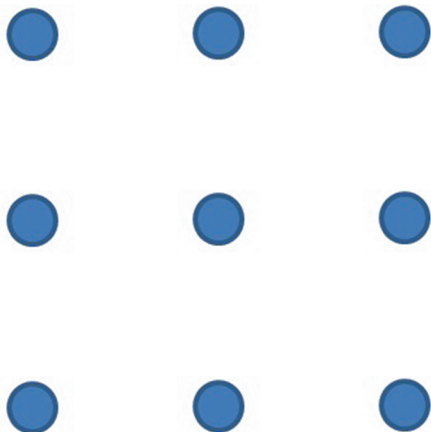
1. Framing the mind

Action Research aims to carry out research through action, through experience. For this reason, although it is frustrating and even too heterodox for many, I propose to illustrate the following lines with a simple visual exercise.

The statement that accompanies figure 1 confronts us with the limits of our omnipotence. If we did not already know the answer, something as simple as joining 9 dots with 4 straight lines could be a headache. For this reason, and because of its counter-intuitive nature, the simplicity of the explanation for our difficulties is insulting; we “see” something that does not exist. As Thatcher intended, the approach has been defined for us without our realising it.

What does this enigma (any reader who does not know it will have to wait to see the solution) have to do with Action Research (AR)? More to the point, what relationship does it

Figure 1: the 9-dot puzzle (join the dots with 4 straight lines without lifting the pencil)



have with its democratic aspirations, its commitment to justice and social change, its search for integration between theory and practice, and its pedagogical aim to turn objects into subjects? In the following pages, I intend to show how our cognition and capacity for action can be conditioned by illusions; in the image, the illusion is that of a square that only exists in our mind and guides the lines we draw, always leaving some dot unlinked while in the argument of this text and in Thatcher's confession, the illusion is of a false, self-serving construction of human nature, based on biased approaches to biology. The difficulty of finding a solution to the exercise shows how cognitive frameworks (Lakoff, 2014; Bateson, 1978) determine the way in which we observe (and act within) reality, as I will argue, from the naturalisation of behaviour patterns adjusted to neoliberal rationality. I believe that neoliberalism has made us see the interpretive framework ("a square") made up of an image of what is human based on competition, aggressiveness and natural selfishness as the foundation of life (and what it means to be human). I believe that acknowledging this reality can help explain the difficulties AR faces (Glenzer & Divecha, 2020; Fricke, 2018). Thus, I argue that the illusion on which the neoliberal framework is based, although false, has practical repercussions that make it difficult for those of us in AR who look to co-operation as a starting point in the search for knowledge, seen from the point of view of emancipation or liberation through action, participation and solidarity (Moretti & Streck, 2015. p. 369).

Realising that we "see" something that does not exist (whether it is a square or a skewed image of our nature) explains why we cannot find a solution to a problem (whether it is that of figure 1 or the difficulty of changing society). However, this is not enough. Consequently, in the second part of this text, I will broaden this view and start to find answers; the explanation of the exercise (see figure 2) will serve as a guide, to propose that the way out is to look "beyond" the apparent margins of the problem; in our case, to analyse AR using current knowledge in the natural sciences, considering this type of intervention as a strategy that, in addition to democracy, contributes 'nature' to science. Therefore, I will present the social traits that govern biology and the empathic principles that shape our brain. We will see how these new advances in science, in addition to invalidating the neoliberal approach, reinforce the epistemological logic on which AR is based: in biology, neurology and genetics as well as in AR, the key is co-operation, empathy and interaction with the environment (Tomasello,

2009; Iacobboni, 2009; Dupré, 2012; Barnes & Dupré, 2009). Ultimately, the solution to the puzzle in figure 1 is not very different from one of the keys to AR and living things: that which establishes that the whole can be more than the sum of the parts (Krimmerman, 2001). In short, our intention in these pages is to shed some light on the question recently posed by Glenzer & Divecha (2020, p. 407) “So why, if we understand such processes so well, has AR’s focus on equity and power rarely sustainably and at scale disrupted well-understood relations of inequity and oppression?”. Therefore, aware of the democratising, participatory impulses that underlie human action (Fricke, 2018), we intend to explain and refute the framework defined by neoliberalism, and the way it is supported by a concept of science and human nature that seeks to generate utilitarian, individualistic subjectification that can assume pathological dimensions (Beattie, 2019).

2. The battle for control of the mind

Just as recent discoveries are transforming approaches to nature and forcing a rethink of sociology and political science (Meloni, 2014; 2016), action research (AR) also represents a methodological revolution (Denzin & Lincoln, 2001; Reason & Bradbury, 2001/2008) that aspires to “epistemic justice” (de Castro et al., 2018). In contrast with the traditional method of approaching social issues, among its elements is a political commitment for change based on the combination of theory with practice, the link between action and learning, and a transformative pedagogical aspiration at collective and individual level. It is, consequently, a social, pedagogical, theoretical and applied political practice aimed at transforming reality (Greenwood, 2008), based on a concept in which the construction of knowledge is carried out in contexts of power disputes, open to transformation with human practices (Streck et al., 2011). It meant (and means) a turn (Burns, 2005) of the analysis of social reality towards participatory research indebted to humanistic psychology, education for liberation, social constructivism, critical theory, Foucauldian thought and cultural studies. These are theories shot through with the knowledge brought by neighbourhood movements (Villasante et al., 2018), feminism (Khandekar et al., 2020; Frisby et al., 2009), minority and oppressed groups (Fals Borda, 2001; Sobottka, 2018), educational communities (Noffke & Somekh, 2009; Greenwood, 2017), communities of workers (Hürtgen & Voswinkel, 2017) or networks of governance (Larrea, Estensoro & Sisti, 2018).

Seen as a methodological setting for a “world of heretics” (Brydon Miller et al, 2003: 20), or even as a “disobedient epistemology” (Moretti & Streck, 2015), AR moves away from the supposedly rational behaviorist paradigm, which promotes a supposedly objective and distant approach to reality (Burawoy, 2013) that separates theory and practice, reason and emotion, subject and object (Coghlan, 2016). On the contrary, AR stands at the opposite pole to the hegemonic perspective (de Castro et al., 2018), which has promoted an approach to science that has been instrumental for the neoliberal revolution (Jordan & Kapoor, 2015) and defined the interpretive frameworks of human behaviour thanks to the colonisation of various disciplines: from the biology that looks at life in terms of supposedly selfish genes (Dawkins, 2016) to political science that denies the social (Dowse & Hughes, 1972) or reduces behaviour to a mere calculation of interest (Buchanan & Tullock, 1962).

In comparison with this approach, AR aligns itself with an epistemology that assumes that “being” is “taking sides” (Billies et al., 2010; Fals Borda, 2001), in which reality cannot be understood without its context (Ozanne & Anderson, 2010; Ollila & Yström, 2020; Reason & Bradbury, 2008), without the subjective (Cahill, 2007; Swantz, 2008), without the emotional (Wijnendaele, 2014; Sanfuentes & Garreton, 2018; Bradbury, 2003; Bradbury et al., 2008; Streck, 2015) and without the relational (Bradbury & Divecha, 2020; Bradbury & Lichtenstein, 2000). Compared with the mainstream model, AR undertakes research practice that understands more about research subjects than objects (Reason & Bradbury, 2001/2008). As we will see in the last part, these elements allow their transformative activist tendency (Brinton & Mallona, 2008; de Castro et al., 2011) to adjust to the natural sciences, in which context, empathy and co-operation are the foundation of genetics, behaviour and evolution. (Meloni, 2013; 2014a; 2014b; 2016). Therefore, the epistemology of AR conforms to the scientific parameters that study the logic of life, although its promoters have been accused of confusing science with ideology (Krimerman, 2001).

On the contrary, this criticism of AR is made from hegemonic approaches which, taking the natural sciences as a reference (Ritzer & Stepnisky, 2017; Sztompka, 1999), have been amenable towards, if not complicit in, approaches to the social sciences using biased logic. Moreover, they have done so by giving legitimacy to a conception of the social which hides an ideological programme behind a “scientific” aura (Lewotin et al., 1984). We argue that this programme of promoted or accepted “sociobiological Calvinism” (De Waal, 1996) served the framework of the neoliberal revolution of the 70 s and 80 s (Harvey, 2007), and serves the current climate of authoritarian neoliberalism (Brown, 2019), to naturalise aggressiveness, competition, violence and chauvinism; in short, to see injustice as the basis of human behaviour. This is all based on a false conception of reason as “calculation of interests” and nature as “struggle for the survival of the fittest” that anchors its roots in the theories of the Austrian school of economics championed by Mises and Hayek. These approaches, widely available in the media, try to define the metaphors of everyday life (Lakoff & Johnson, 2008) by which citizens “read” reality thanks to processes of cognitive framing with clear effects on political behaviour (Lakoff, 2014). Therefore, according to Castells (2013), in these times of post-truth and the rise of the radical right and mutant neoliberalism (Callison & Mandrefi, 2019), “the fundamental battle” is taking place in people’s minds.

Consequently, the objective of this text is twofold; on the one hand, to turn around the discursive framework which has naturalised behaviour that serves to legitimise the hypotheses of the neoliberal revolution of the 80 s and the current authoritarian counter-revolution. In other words, to make the square that conditions our gaze and the way we approach the problem that concerns us visible; to establish bases for reinforcing the principles of AR supported by neurological and biological evidence. In other words, to show that, in AR as in living things, the whole is greater than the sum of the parts, and that if we move beyond the apparent margins of the problem in our analysis of society, we can find answers in nature that inspire public action, as well as the supports that legitimise the vital meaning of AR.

3. Science at the service of the conquest of the soul

In March 2020, the British Prime Minister Boris Johnson, after coming close to death, surprised everyone with statements in which he recognised that “society exists”. This statement has been interpreted as a challenge to the phrase with which Margaret Thatcher inaugurated her mandate. However, few remember another key to the Iron Lady’s speech that, although it went unnoticed, defined the true scope of her programme: “the economy is the means: our goal is to conquer souls and hearts.”

The conquest of the soul is precisely the utopian ideal (Vergara, 2015; Ahedo and Telleria, 2020) that prompted Hayek to organise a meeting in Mont Pelerin in 1947. Compared with previous utopias (Saint-Simon, Fourier), Hayek assumed an economic logic to break with the social approaches in which liberal thought was articulated: the moral postulates of Adam Smith; the ethical approach of Clarence Ayres; Karl Bücher’s commitment to the barter economy; or Polanyi’s critical examination of the mercantilist mentality in the analysis of the human in *Trade and Markets in the Early Empires*. All these alternative, social and critical approaches were buried by the neoliberal project

In fact, among the inspirers of the Austrian school from whose sources Hayek draws, in addition to Mises we find the approaches of Lionel Robins, who in his *Essay on the Nature and Significance of Economic Science* makes a nuanced approach to methodological individualism and the postulates that establish rationality in selfishness. Fascinated by the seductive capacity of socialism (Guillen, 2018), Hayek aspired to establish a programme that placed the logic of the market at the center of human behaviour, breaking with the previous humanist tradition of liberal thinking. Since then, people whose careers have defined the frameworks (Mirowski, 2009) and approaches used to interpret science, economics, public policies, markets, and even literature and political outreach in accordance with Hayek’s aspiration (1976) have participated in the annual gathering: among the members of the Mont Pelerin Society, in addition to Michael Polanyi and Karl Popper are Nobel Prize winners Friedman, Allais, Stigler, Hayek, Becker, Buchanan, Coase, Smith and Vargas Llosa. Although dozens of analysts in the field of economics reject its postulates (from Mary Furner in *From Advocacy to Objectivity* to Miyazaki in *The Method of Hope*, as well as Sahlin in *Stone-age Economics*), the neoliberal programme would become hegemonic thanks to its ability to present its project as “natural” and “scientific”; i. e., as a project with no alternative.

If science is systematic doubt, investigation, analysis, conclusion and further investigation, neoliberalism makes use of the word science to cover up an essentialist, determinist ideology. As a result, the certification of the “scientificity” of certain approaches to social or economic issues is one of the aspects that the founders of the neoliberal project emphasise the most (Mises, 1956; Hayek, 2007; Friedman, 1986). The underlying principle of this project arises from the fact that after the collapse of the religious narrative, the social sciences would need a legitimising language in a context of the great changes deriving from industrialisation and urbanisation (Ritzer & Stepnisky, 2017). Thus, biology contributed to the interpretation of social questions, heuristic analogies or metaphorical models from an area recognised for its ability to satisfy the verification principle established by Popper. A social conception was born, based on nature and drawing on the metaphor of the organism and organic growth (Sztompka, 1999). Faced with the threat of events (the emergence of the working class, venereal diseases, urbanisation) social questions were observed in a gradual, functional, micro

way, legitimising a social order in which competition is naturalised as the teleological engine of the advancement of societies.

All of this, together with the positivist method, served as a starting point for the empirical-analytic approaches that have dominated political science from its beginnings until recently. The approaches described explain the social order as a kind of “invisible hand” that self-regulates conflicts (Lindblom, 1965) and they identify the bases of moderately active citizenship (Almon & Verba, 1963) in multiple membership of various groups (Dowse & Hughes, 1990). However, the social, political and cultural crisis of the end of the 1960 s exploded the functionalist and behaviourist assumptions on which the behaviourist approach was based, so that critical-dialectical thinking, supported by poststructuralism or the Frankfurt school, destroyed the bases of legitimation of the status quo. On the streets, and in people’s minds, the promise of a different world in the context of a falling capital gains rate took form (Harvey, 2007). This forced a double movement that put an end to the implementation of the neoliberal project: on the one hand, the restructuring of the relationship between the state and the economy, through violent means in Chile and democratic ones in Great Britain and the United States; on the other, the reformulation of the bases of the hegemonic analysis of science and behavior. The result of both movements was seen in the victory of neoliberalism, which generated bridled capitalism (Harvey, 2007) which not only ties up the state, but, above all, the mind.

Thus, in the 1980 s, in the midst of the neoliberal counteroffensive, nature and a biased, self-interested view of evolution came to the rescue of hegemonic thought. However, nature was no longer presented in terms of a comparative reference, but as a normative reference. Nature (or rather, a biased view of nature) ceased to be a metaphor, and became a requirement to determine social matters; something that framed and focused social issues. This restructuring did not only aim to legitimise the capitalist order on supposedly natural bases as in the past, but it also aimed to set in motion a far-reaching utopia: that living things should surrender to the principles of the economy, whose logic is naturalised. What is natural, therefore, defines the context. Consequently, the only “law of life” is that which is governed by “the law of the market”, because living is based on competition, selfishness, individualism and aggressiveness that is defined as “natural”. Focused on the picture from which to interpret the social sphere, there is no margin because “what there is” in society is “the only thing that exists and can be in nature”. Thus, although the social and the human is always open, neoliberal discourse convinced the population of one of its key ideas: that there is no alternative.

4. The neoliberal utopia in practice

The utopian meaning of the project outlined by Hayek and revealed by Thatcher forces us to consider neoliberalism beyond its ideological dimension or its programme of state limitation (Ahedo & Telleria, 2020). I argue that its success lies in its ability to impose a “new rationality” defined by the parameters of the economy that not only structure and organise governments, “but also the behaviour of the governed” (Laval & Dardot, 2014. p. 15) along the

lines of a new capitalist spirit (Boltanski & Chiapello, 2005) that defines a new ethic of (self) government.

The central element of this rationality of (self)governance (Foucault et al. 2008) is a notion of competition as a process of elimination of the weakest. In this way, the competitive, aggressive foundations that govern the actions of an individualised citizenry are structured, either through disciplinary strategies based on coercion and repression (Klein, 2006), or through the reproduction and satisfaction of individual desires previously oriented towards consumption (Illouz, 2019; Bauman, 2013). To this end, the vital principle of “stakeholder” or financial value of each person is activated, once community networks are broken. Once the individual is isolated, “everyone for themselves” becomes the neoliberal *telos*, so that business conduct is (especially in the global north) a *sine qua non* condition to survive in a logic of competition that feeds on each of our acts (this is competitive logic which not unknown in education or research, including publication in high-impact journals or academic visibility with indicators of research efficiency measured by citations. In this sense, as Greenwood points out, AR can be a useful tool for confronting a Taylorist, competitive model of education in academia (Greenwood, 2017). This disarticulation of what is commonplace (Bauman, 2013) leaves the subject adrift, or at least in a situation of vital uncertainty. In order to survive, one is forced to reproduce the order we are the product of with our actions. In the culture of accelerated speed (Friedrich, 2018), living in a state of permanent change in the short term, precariousness is normalised, and as the other side of the coin of competition, “responsibility” is deployed. Thus, public problems are now explained as individual failures, which has the perverse effect of framing vulnerabilities; what in modern times were interpreted as structural, now become “personal setbacks” (Ehrenreich, 2010). Within this framework, precariousness is not the exception, but the constitutive condition of the art of neoliberal government (Colmenero, 2019). Consequently, life is “an invitation to entrepreneurship” (2019, pp. 341–342) within the framework of a social reality that is seen as hostile. The “law of the jungle” of economics ends up colonising “the law of life” (Habermas, 1984) in a dystopian closure in which democratic deliberation ends up becoming a cacophony of individual monologues.

For this rationality to be accepted as inevitable, confusion and uncertainty are necessary, from which emerges a logic of suspicion regarding the positive and negative aspects of a myriad contradictory proposals (Mirowski, 2013). All this allows the slide towards a discourse that the best solution is for problems to be solved by a dispassionate technique: that is, the market (converted into the evolutionary essence of the social). Despite the alternative proposals (Gibson & Graham, 1996; Piketty, 2013), the logic of “there is no alternative” is reinforced (Mirowski, 2009), above all with no need to intervene, and if it happens, it is through techniques that are custodians of true, esoteric knowledge, beyond the reach of mortals. However, as in magic, the mysterious requires the mirror of normality. Humans need regularities that explain the inexplicable, that relax uncertainty. The opaque “there is no alternative” in economics and politics must be “understood” (“focused”, in Thatcher’s project) within a reality-directing framework so that it does not present itself to us in the terrifying form of chaos or meaninglessness. As in figure 1, in which our mind sees a square in order to make sense of the void left by the dots, in the interpretation of our behaviour, nature comes to the rescue to shine a light where it interests neoliberalism to have uncertainty: from the gene to the killer ape, society, like everything, is as it is because life is aggressive, selfish and individualistic; in society, as in nature, altruism only exists because it is self-serving; in life, as

in our world, everything is uncertainty and precariousness so that “we only have to survive”; and above all, in nature, as in real life, only the fittest survive (or the cleverest, and so on). However, despite presenting itself as natural, the neoliberal project is clearly political and will require an intense militant strategy on two levels: the legal level, weaving a normative legal mesh that uphold the principles of the deregulated market (Slobodian, 2018); the ideological level, framing the justification of its project based on “what is natural”.

5. Between the selfish gene and the killer ape

In short, the key to the success of the neoliberal project lies in the ability to seduce and convince through anti-scientific thinking disguised as “scientific” analysis which is complex in its form, but simple in its content (Mirowski, 2013). It is a sophisticated sleight of hand with a very old trick. What used to be explained by religion is now explained by the natural sciences, and it is done so thanks to the strength of their metaphors to develop simple explanatory narratives from complex premises (Mirowski, 1989). Thus, reality is explained through a narrative full of artifice: the importance of minimal unity and fragmentation as an element of analysis, rationality as a methodological foundation, or the visible as a principle of causal analysis (to which game theory, statistics and genetics will be added later). All this dazzles and hides something very simple which is hardly new in a long genealogical line of justifications of elite domination of society; to justify a historical order based on the naturalisation of the economy as the guiding principle of life.

Now, artifice is not causal, but serves to pre-define the result. Thus, the Austrian school of economics together with Ludwig von Mises inaugurated the central dogma of the neoliberal technique: methodological individualism and the primacy of the micro as the central point of analysis (Mises, 1956 and 2016). This perspective, recurrent in Hayek and Friedman, presents the approach to minimal, isolated units as a way of achieving “value-free” knowledge (praxeology). From there, reducing reality to its simplest expression, one aspires to capture the structure of things, including behaviour. As a result, human interactions are explained as mechanical exchanges. Thus, faced with the analytical assumption (which will be defined as ideological) which claims that human action generates a conflict of interest, Mises placed the harmony of society through the market at the center of the doctrine. From an evolutionary perspective, everything that was not harmonic mechanics was interference: that is, subjectivity in the analysis of behavior. From his perspective, “economics does not aim to make value judgments. Its objective is to know the consequences of certain ways of acting”. In this way, the foundations of the neoliberal motto par excellence were established: “there is no alternative” because it is a “technical” question (or, as we shall see, a genetic one), over which one cannot and should not intervene; This is the issue on which the rejection of action-oriented research pivots, as it is classified ideological by those who absolve or sponsor an ideological action disguised as “science”.

From these bases, in the definitive assault on the soul of the 80 s, political action easily deployed an interpretative framework of what is human, and this was achieved through a double movement. On the one hand, with the irruption of socio-biology (Wilson, 1999) that transfers (what he defines as) evolutionary principles to behaviour, to the point of considering

that politics must be understood as what is functional in terms of selection, and in a second parallel movement, with the definition of biological questions in unrepentant premises that were guided by evolution (and in line with the previous movement, the social and the political aspects of society): aggressiveness, competition, territoriality and sexual dominance as selective vectors. Thus, in biology we observe the same manipulative turn as in economics. We have already seen how Hayek and the neoliberal project hide other forms of approach to economics, among them those of Lionel Robbins, an economist who was a contemporary of Mises, who in *The Nature and Significance of Economic Science* shows a much less hostile, manipulative, and distrustful view, coupled with disqualifications of the short circuit in neoliberalism that gloms together economic rationality, efficiency, and adaptation as if they were the same thing. In the same way, in the neoliberal approach to biology, majority approaches are hidden or underestimated, such as those that give force to selection by kinship or group, compared to radical positions that conform to the neoliberal framework.

From these postulates, altruism, if it exists, was restricted to the minimum group, so that the selection was only by kinship, as proposed by Hamilton (1964), in line with Hayek's premises, for whom the space of the social is reduced to the only level of survival in evolutionary terms, the family. Everything that is outside this, as Thatcher would recall, must be understood in terms of the impersonal consideration of human relationships in which "society does not exist". Moreover, the only way to understand impersonality in relationships that go beyond kinship is through selfishness (Trivers, 1971). Therefore, in the social sphere, altruism only exists when advantage is expected, according to the postulates of Mises, Hayek or Friedman, for whom the basis of economic behaviour was the maximisation of private interest.

To deploy this programme, the evolutionary framework was reduced following the micro premises of praxeology: now it came down to a selfish gene, in Dawkins' (2016) approach in which bodies are nothing more than "programmed survival machines" at the service of the interests of genes to reproduce "at any cost". With this micro, individualistic methodological monism, the foundations were laid for an impersonal gaze that added a naturalised exoneration of individual asocial acts to "there is no alternative". Thus, success in pursuing an interest derives from the variability provided by genetics and the subject's ability to take advantage of the opportunities that chance offers. There is a clear parallel with the postulates of Hayek, for whom people are naturally unequal (in a clear conversion of diversity into inequality) and the particular consequences of this inequality (for example, poverty) do not respond to a structural or social dimension, but rather lie in chance and the ability of each individual to take advantage of opportunities in a context of competition. The neoliberal utopia in which there is no social responsibility (nor even social justice) since morality and commitment are only individual (Hayek, 1976: 253) is legitimised in a nature in which there is no group responsibility, only maximisation of individualistic chances based on chance.

Decontextualised from structure, the subject also loses moral footholds. In this maximisation, aggressiveness and selfishness, such as lying or rape, exist because they are rewarded in natural selection: they allow a greater reproductive and survival capacity of the genes of the most insightful (Trivers, 2013) or most aggressive subjects (Thornhill & Palmer, 2001; for a critical analysis, see Zeedyk, 2007). Everything, consequently, is measured by a calculation of cost and benefit, whose counterparts in political science are theories of rational choice and public choice. What is beyond calculation, for example an epistemology like that

of AR that focuses on solidarity, is nothing more than disguised egoism. Ghiselin's phrase (1974. p. 247) "Scratch an altruist and watch a hypocrite bleed" leaves no room for doubt.

Deep down, beneath instincts, what prevails is a "killer ape" theory (Dart, 1959; Lorenz, 1963) which defines human nature in terms of aggressiveness. For this reason, the political culture par excellence must be civic, which is a bit participative, but also sees people as subjects (Almond and Verba, 1963). In fact, the final point of Hayek's utopia, demarchy, is the government of those who have been shown to deserve it. In this way, the Leviathan (in a soft neoliberal version or in an authoritarian neoliberal hard version) emerges as the only way out, so that power must be "outside the community", although in the liberal version it emerges from it and in the authoritarian version it is above it. In the relationship with the demos, what prevails is distrust and an elitist conception that arises from the consideration that aggressive nature must be domesticated: It is precisely the distrust of the demos that is at the heart of the objection to AR for having protagonists, who are assumed to be interested (Krimerman, 2001), unlike external scientists. As Dennett (1996, p. 481) summarises, "much of the evidence about chimpanzees – some of it self-censored by researchers for years – is that they are true denizens of Hobbes' state of nature, much more nasty and brutish than any would like to believe". In this programme, following in the wake of innate animal aggressiveness (Lorenz, 1963), paleontologists such as Arsuaga & Martin-Loeches (2013), anthropologists such as Chagnon (1968 and 2013) and popularisers such as Pinker (2012) have tried to show that among the Cro-Magnons or the hunter gatherers aggressiveness was a central aspect of their daily life. Moreover, despite the fact that their studies have been strongly criticised (Ray, 2013; Tierney, 2001), they continue to define the interpretive frameworks of the social sphere, even if they use deliberately biased data, and above all, partial data, because they persistently hide discoveries such as the ones listed below, which seriously call these assumptions into question. In fact, one of the founders of sociobiology, Wilson, has clearly distanced himself from Dawkins' individualistic postulates to affirm the importance of kinship and group selection. In this way, based on the heart of sociobiological thought, he breaks the backbone of ideological reductionism on which neoliberal naturalisation is sustained. This is reinforced by the new discoveries we detail below, which simply relocate the logic identified by Darwin and cynically manipulated in the service of power, first by Spencer and then by certain caricatures of biological analysis, in a minority at scientific level, but used to manipulate public opinion.

6. Nature to the rescue of society

Advances in some disciplines such as the hypothesis of the somatic marker for decision-making (Damasio, 1994), that of altruist punishment to explain pro-social behaviours (de Quervain et al., 2004), or the theory of development systems (Oyama et al, 2003) within the evolution of ecosystems, confirm that epistemological assumptions of AR defined as heretical, rejected for being at the service of ideology and not science, find parallels in genetics, biology and neurology. These discoveries show not only that the approach to reality is far from being based on the monistic, distant and supposedly omnipotent logics that the hegemonic approach to scientific objectivity postulates, but also that the assumptions on which the neoliberal framework is based are completely false. The cognitive framework that legit-

imises an immutable status quo based on a selfish, aggressive, competitive nature is not supported by the natural sciences (Nowak, 2006). Furthermore, this should be understood in the social sciences, whose study of behaviour has been obstructed so often by false approaches to nature.

The scientific gaze has settled a) on a supposed distant subject, b) a rationality separate from emotions and c) an infallibility of thought on the two previous premises. a) The distant subject has been built on the basis of an architecture in which the basic element of life, the gene, could be separated from its context to the extent that it was configured as an impregnable, unalterable reality. This approach has been proved wrong with the discovery of epigenetics (Moore, 2017), which explains how the environment can modify the memory of genes, and that these changes are transmissible. Therefore, there is nothing in nature that takes on an inviolable distance. Everything is relative. There is no separation between life and context (Griffiths & Stotz, 2013; Moretti & Streck, 2015), just as there is none between the subject and object of research in AR (Fricke, 2018).

b) The protected rationality of emotions has marked the paradigm of a science that was said to be shielded from ideology, but rationality without emotion has been an aporia from the moment that neuroscience showed that thinking had an emotional and bodily basis (Damasio, 2019). Moreover, these emotions are defined by somatic markers (Damasio, 1994) that help us understand our world and make decisions. There is no separation between mind and body, between reason and emotion, and if the actions are bodily and emotional, they transform consciousness, as AR predicts. As Moretti & Streck (2015: 370) recall, all knowledge is embodied in the logic of “sentipensar” (Fals Borda & Moncayo, 2009). The transformative power of AR lies in generating emotions based on well-being that provoke empowerment and politicisation (Bradbury et al, 2008; Streck, 2015): AR “helps focus and articulate the latent existential concerns and meanings to the people and groups it engages to help make changes” (Lambert, 2005, p. 304).

c) The objective, omnipotent subject has created a fiction of a neutral observer, but the human being is endowed with a deceptive mind (Ramachandran, 2003), based on two systems of thought: on the one hand, a fast one, capable of giving immediate answers, but filled with biases that distort reality (which prevent one from solving the problem of figure 1); and on the other hand, a slow, lazy system that validates or rejects only if it is activated, which the previous system assumes to be correct. Kahneman (2011) has shown that economic decisions, the bastion from which neoliberalism articulates its rationality, are based on delusions of the mind. Therefore, the collective knowledge that AR proposes will always be broader and more effective than a possible single, potentially biased expert approach. In the same way, its multidisciplinary viewpoint fits in with a complex world that looks beyond appearances (Greenwood, 2007). Beyond the standard practices of traditional science, AR can and should be open to a multidisciplinary logic that allows it to address existential complexity (Lambert, 2005).

In addition to a method, the conquest of the soul has been marked by a biased definition of human nature d) based on a selfish, calculating subject, e) governed by the logic of competition, f) supported by natural aggressiveness. d) The model of the subject whose action is based on cold calculation is shown to be a fantasy -or a danger, as Arendt (2013) showed in the case of Eichmann- from the moment of the discovery of mirror neurons, which explain the bases of empathy. These neurons connect us mentally, causing us to feel the emotions of others within us (Iacoboni, 2009; Rizzolatti & Craighero, 2004; Ramachandran, 2003). What

the skin separates is united by our mind. There is no individual and social dualism: we do not walk alone (Streck, 2013, p. 198). We are socially positioned beings, deeply subjective because the other or what is Other is not indifferent to us. In fact, as proposed by Maturana & Verden-Zöller (2012), love understood as the acceptance of the other or Other as legitimate could be the foundational emotion of humans.

e) The competitive subject supposedly established in a natural theory based on the survival of the fittest defines the naturalising framework of neoliberalism. Now, this is refuted by co-operative biology, with the origin of the eukaryotic cell based on symbiogenesis, (Margulis, 1981) and whose action logic is founded on an altruism that is not based on interest (Tomasello, 2009; De Waal, 2007 & 2008) but the defence of the group or the common goal (Sober & Wilson, 1998; Ferh & Gächter, 2002; Fehr & Fischbacher, 2003). As mammals, we are defined by curiosity, play and empathy (Lewis, Amini & Lannon, 2001). Curiosity is the essence of research, play is the basis of action, and both, in the child and in AR, are built on contact and interaction to achieve well-being. From these mammalian bases came the foundations on which the capacities of hominids that augured morality were built (de Waal, 2008); the pleasure of caring (Lozada et al 2011) and compassion (Rose & Abi-Rached, 2013) in our ancestors. Faced with the neoliberal chimera, the logic is not that of selfishness, but that of strong reciprocity (Fehr and Fischbacher, 2003). At the base of AR, ultimately, lies the intuition of activating the logic of super-co-operative organisms (Nowak & Highfield, 2011). For this reason, it is not surprising that, as Hürtgen and Voswinkel (2017) show, after appearances and analysis that reinforce supposedly selfish and competitive nature, expressions that show agency and capacity to react to neoliberalism emerge, if carefully observed.

f) Now, despite this capacity for response, the neoliberal framework has tried to bury these daily repeated practices of resistance in the “no alternative”, in the “culture of silence” (Streck, 2013), just as it has tried to bury the empathy that underlies humanising logic, overstating the naturalness of aggression and violence. However, ethology shows that this, as with everything in nature from our genes to our behaviour, is marked by the weight of the environment, especially in terms of abundance and scarcity of resources. Among our hominid ancestors, in addition to compassion and empathy, we also see aggressive patriarchal patterns in the common chimpanzee, whose evolution has been conditioned by the scarcity of resources. On the contrary, in the case of the pygmy chimpanzee, co-operative relationships exist, with strong alliances formed by sexual relations and female dominance, since after separation from the common chimpanzee, bonobo speciation occurred in an abundant medium (De Waal, 2006). The plasticity of the behaviour of our closest relatives shows that aggressiveness and competition is neither an origin nor a destination, and even less so in our species, whose level of technological development could guarantee a good life for all humanity. Ultimately, the transformation of reality “in the direction of social justice” (Moretti & Streck, 2018, p. 370) can be achieved. If in our hominid ancestors “there was an alternative”, there is more in the modern human.

Finally, the neoliberal framework is based on g) the fiction that the solution it proposes is the only possible one. The impossibility of modifying reality was based on natural determinism, whose cornerstone was genetics. This was an immutable, unalterable perspective (if not for chance and mutations) that no longer holds, from the moment epigenetics was discovered (Moore, 2017; Hyman, 2009). For a long time, part of the genome was considered “junk DNA”, but when science left the frame of the obvious, it entered a new dimension that interrupted the debate between nature and culture by discovering how this despised part of the

genome was linked to the environment, and modifies genetics. Therefore, there is no dualism between nature and nurture, nor between biological and social causes in development (Meloni, 2016). Action in the environment can not only change reality but also change us individually and genetically: in the same way as AR does not just aspire to change the environment, this change is inextricably linked to the change that every process causes in those who are part of it (Coghlan, 2016).

7. Beyond conventional frameworks: bringing nature to science

The biased, partial, fragmented vision of the natural sciences has tried to colonise the social sciences in an attempt to maintain the status quo. It has created a framework that tries to define not only that our nature is as neoliberalism dictates, but that life is too. The problem is that, as in the riddle, false frames prevent us from finding solutions, prevent people from believing in its transformative power, which is necessary in the context of an ecological, healthcare, economic and political crisis.

Faced with these challenges, it is more necessary than ever to find answers outside traditional frameworks. The first step is to identify the narrow margin that has defined the assault on the mind of neoliberalism. However, as Figure 2 shows, to solve the 9-point enigma you have to leave the apparent margins of the problem. In fact, as Hürtgen & Voswinkel point out, (2017) one of the victories of neoliberal thought is that we assume that its conquest of the soul is definitive. Precisely, to affirm uncritically that neoliberal rationality works in all social spaces means reinforcing the framework of neoliberalism and the echoes of “there is no alternative”. Therefore, one way to move beyond the margins is to show the experiences that are being implemented on a planetary scale under the AR umbrella. All of them are an example of the kaleidoscope of resistance to the individualistic, competitive, anomic logic promoted by neoliberalism. The relevance of AR is precisely in its political, social and pedagogical aims to find new answers to challenges, based on a position of commitment that anchors its roots in arguments based on pragmatic, political, epistemological and ecological logic. In this text, we have proposed a look at what is natural, which goes beyond the relationship between human beings and nature, to sharpen our gaze on the fundamentals of living things.

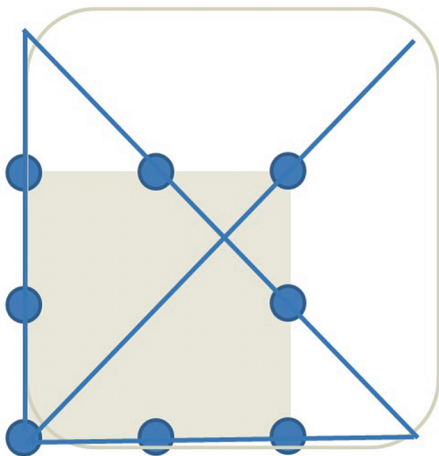
We propose that an answer to the questions of our society is to leave the margins of the instituted social order, to try to find clues in our instituting nature. Certainly, the colonising attack by a biased, partial, opportunist view of nature has caused understandable rejection by the social sciences to any type of relationship with the natural sciences (Meloni, 2014a). However, we believe that a realistic look at recent discoveries in the natural sciences will not only be able to help dismantle the false framework on which hegemonic thinking has been articulated, but can also strengthen AR as a way of approaching the social sphere that is not only rigorous in its scientific method, but also fits better than hegemonic science into the parameters of human thought, sociability and the very logic of the nature of which we are part.

Therefore, the defining elements of AR find support in logic based on human thought, on neurological discoveries that point to the need to consider 1) subjectivities and emotions; 2) the importance of context; 3) distrust of a distant approach to reality; 4) the importance of

learning from action. Furthermore, objectives that articulate the origin and development of AR anchor its roots in a social nature that is based on 5) the importance of cooperation, empathy, solidarity and compassion. Finally, the transformative aspiration of AR fits in 6) with a view of nature as something that is not given, but as something open to a logic in which what is alive (and consequently what is human) is agency.

A few decades ago, knowing that the whole can be more than its parts, and that to analyse reality it is necessary to move beyond the apparent margins of the problem, AR revolutionised the sciences against a monistic, micro method, based on observable regularities, individualised behaviours and rational explanations. This option has been discredited on many occasions by hegemonic thinking, and the intervention parameters which many of us have worked along in communities and universities have been treated as “heretical” or “disobedient”. Now, as history shows, being on inquisitorial trial is not synonymous with a lack of scientific insight, and time ends up showing that science does not know a lot about witch trials. Stepping outside the apparent margins of the problem allowed Galileo to discover the solar system.

Figure 2: The answer is to move outside the apparent margins



AR has always transcended apparent margins, and it has done so knowing that the whole can always be more than the parts. This transcendence is in its DNA and it is still present. Moving beyond the apparent margins of the problem of scientific work, AR allowed progress by adding “democracy to science” (Krimerman, 2001). Here, we have tried to show that if we break the false neoliberal framework and look at the way in which nature has evolved, we will see how AR assumptions conform to the evolutionary principle. Thus, the intuitions of AR not only bring democracy, but also bring “nature to science”, which is necessary in these times when what is at stake is our own continuity as a species.

Finally, it remains to be seen what can be done by AR in this framework. This key issue will need to be addressed in other papers, but we can advance a brief answer. The key here is to contextualise neoliberal thought within the framework of the process of post-modernisation, but make it clear that they are two different things. My opinion is that the structural changes brought about by globalisation and the transition from a Fordist economy to new post-Fordist

and individualised forms of work have changed the relationship between ourselves and the self. If, in modernity, “we” preceded and endowed the self with content, now in many contexts, especially Western ones, ‘I’ precedes ‘us’. This change in the position of the subject in individual and collective consciousness is independent of neoliberalism; it is the result of a historical process of development. Yet neoliberalism took advantage of this individuation for its project to achieve hegemony. When asked what to do in this neoliberal context, my tentative answer would be that those of us who work in AR attribute the “bad guys” having won to the fact that they have been smart in taking advantage of structural changes, and they have also been powerful. In this sense, my proposal to recover the spirit of teachers like Freire is for AR to work with the recognition of the vulnerability of ‘us’ and of the strength of ‘I’ in our times. That means that AR must be based on particular pain, but in order to politicise it. The MeToo movement is an example, like the Zapatista maxim of “covering the face to show all faces” (or “behind us, we are you”). My proposal could be summarised in three maxims that I apply to my intervention in the participatory processes I work with: firstly, starting diagnoses of pain, from “what’s in it for me?” to find a “what’s in it for us?”. The objective would be to ensure that the problems stop being seen as private and start being considered public and political; to create structures with “many people doing a little rather than a few people doing a lot”. Secondly, to organise individuals into horizontal groups. Thirdly, and above all, to carry out participatory processes to mobilise “absent” people (that is, not aware, not empowered) in order to attract them. I think we waste a lot of time in always mobilising the people who are convinced, when the change will only come from making the absent people “one of us”. In this task, the key is showing the falsity of the neoliberal framework that naturalises competition and selfishness. Finally, as Weick & Roberts (1993) masterfully point out, the formation of a collective project can allow the emergence of a collective mind that is based on a heedful performance that connects people, experiences and activities in a system logic in which the sum of the parts is more than the whole, compared to a neoliberal model in which the whole is based on the destruction of the parts.

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Using action research to develop a real-time measure of job satisfaction in the operating room setting

Miriam James-Scotter, Lixin Jiang, Cameron Walker and Stephen Jacobs

Abstract This paper outlines how action research was used to develop a real-time job satisfaction measurement tool for the operating room (OR) setting. It offers insight into how collaborative action research can be used in a complex interprofessional setting to create a practical, valid and relevant tool. The study was conducted within one New Zealand hospital OR department during the period of March 2018 – June 2019. Using action research cycles, researchers and hospital personnel collaboratively created an innovative one-minute daily job satisfaction measure called the Morale-o-Meter. Complexities relating to its development and acceptability are explored and reflected upon, in order to draw insight for other researchers who are looking to use this methodology in a similar setting.

Keywords: Action research; instrument development; job satisfaction; operating theatre; collaborative research

Usando la investigación-acción para desarrollar una medida en tiempo real de la satisfacción laboral en el ambiente de la sala de operaciones

Resumen Este artículo describe cómo se utilizó la investigación-acción para desarrollar una herramienta de medición de la satisfacción laboral en tiempo real para el ambiente de la sala de operaciones. Ofrece información sobre cómo se puede utilizar la investigación-acción colaborativa en un ambiente interprofesional complejo para crear una herramienta práctica, válida y relevante. El estudio se realizó en el departamento de la sala de operaciones de un hospital de Nueva Zelanda durante el período de marzo de 2018 a junio de 2019. Utilizando ciclos de investigación-acción, los investigadores y el personal del hospital crearon en colaboración una medida innovadora de satisfacción en el día a día laboral, llamada Medidor de Moral. Las complejidades relacionadas con su desarrollo y aceptabilidad son exploradas y reflejadas con el fin de obtener información para otros investigadores que buscan utilizar esta metodología en un ambiente similar.

Palabras clave: Investigación-acción; desarrollo de instrumentos; satisfacción laboral; quirófano; investigación colaborativa

Introduction

The hospital setting is a complex organisational system, influenced by multiple stakeholders, numerous job roles and the large populations that it serves (Braithwaite, Clay-Williams,

Nugus, 2013; Montgomery, Doulougeri, & Panagopoulou, 2015). The operating room (OR) team is commonly made up of a combination of surgeons, anaesthetists, nurses and technicians (Gillespie, Chaboyer, Longbottom, & Wallis, 2010). Team members work closely, in intense conditions, often for long periods of time. Under tight schedules, each role is heavily dependent on the other roles, to achieve the overall outcome (Gillespie et al., 2010). The foundations of the organisational system are embedded within strong hierarchical structures, robust policies and strict procedural guidelines designed to reduce the risk for errors and meet performance targets (Arakelian, Gunningberg, & Larsson, 2008; Tsai, Sanford, Black, Boggs, & Urman, 2017). While the organisational structure of the OR may appear linear on paper, closer analyses reveal that the actual environment is somewhat non-linear and often unpredictable; its multiple stakeholders, complex communication pathways, and dynamic team and social relationships are key contributors to this unpredictability (Braithwaite, Clay-Williams, & Nugus, 2013; Tsai et al., 2017). Consequently, any research methodology underpinning an intervention in the OR needs to be clearly assessed for its utility in this complex system.

The flexible and participatory nature of action research provides a sound platform for the complexity of the hospital setting, as it allows researchers to work with and become a part of the dynamic system (Montgomery et al., 2015; Phelps & Hase, 2002). Action research is an increasingly popular alternative to traditional research inquiry methods across the healthcare sector (Costello, 2003; Kjellström & Mitchell, 2019). Specifically, action research can be defined as “an orientation to knowledge creation that arises in a context of practice and requires researchers to work *with* practitioners” (Huang, 2010, p. 93). Consequently, it embraces a pragmatic and collaborative approach to problem solving, aiming to increase understanding and generate and evaluate change in a ‘real world’ setting (Costello, 2003; Williamson, Bellman, & Webster, 2012). The core principles of action research are centred around a respect for diversity, drawing on the strengths of communities, and reflecting on cultural identities, with a focus on power-sharing and co-learning (Minkler, 2000). Promoting these values, however, is not always easy, and can be particularly challenging in institutions (such as the OR department in a hospital) that are highly complex and heavily hierarchical (Brydon-Miller, Greenwood, & Maguire, 2003).

Action research is primarily focused on generating knowledge and empowering stakeholders (Huang, 2010). This involves researchers working together with healthcare practitioners as partners in the design and/or application of the research (Huang, 2010; Williamson et al., 2012). This act alone can begin a process of transformation within the workplace environment (Huang, 2010). The practical focus of action research, and the need to design studies that are effective in a particular environment, often calls for a “what works” approach (Ivankova & Wingo, 2018). This involves utilising action research cycles most commonly consisting of one or many repetitions of *problem identification, planning, implementing* and *reflecting* to reach the desired outcomes (Montgomery et al., 2015).

Employers of staff working in OR are becoming increasingly aware of the associations of job satisfaction with burnout, organisational commitment, staff turnover, absenteeism, and intention to leave (Coomber & Louise Barriball, 2007; Lee, MacPhee, & Dahinten, 2020; Lu, While, & Louise Barriball, 2005; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Rama-Maceiras, Parente, & Kranke, 2012; Shanafelt et al., 2009; Tsigilis, Koustelios, & Togia, 2004; Yin & Yang, 2002). Innovative research that aims to enhance the way that job satisfaction is measured and managed in the OR setting is therefore of high importance.

Job satisfaction is one of the most well researched concepts in organisational psychology (Judge, Weiss, Kammeyer-Mueller, & Hulin, 2017). While there are many definitions, it is most commonly defined as the extent to which an employee likes or dislikes their job (Spector, 1997). It is widely accepted that job satisfaction is influenced by both intrinsic (internal) and extrinsic (external) factors and includes both cognitive (someone’s thoughts or beliefs about aspects of their job) and affective (how they feel about their job) components (Dalal & Credé, 2013; Judge et al., 2017; Kaplan, Warren, Barsky, & Thoresen, 2009). In this study, researchers collaborated with senior managers working within ORs to create a relevant, valid, and practical real-time tool for measuring job satisfaction in the OR setting. This paper describes and reflects on how action research was used to develop a daily job satisfaction tool within a New Zealand OR setting to meet a specific need identified by the hospital.

1. Method

A mixed method action research design was adopted, guided by traditional tool development theory (Kyriazos & Stalikas, 2018). The study was conducted over a 15-month period from March 2018 to June 2019 within the operating department of one New Zealand hospital. It comprised four overarching action research cycles, each embedded with numerous sub-cycles. These included: 1) Problem identification (defining the construct); 2) Planning (choosing and creating the measure); 3) Implementation (field testing – pre-test and trial); and 4) Reflection / evaluation (validation / improvements). The study included over 35 meetings between researchers and hospital personnel. An outline of the stages and methods utilised can be seen in Table 1. Data collection was via meeting minutes, journal entries, trialling the Morale-o-Meter tool, and a feedback and validation survey. Qualitative and quantitative data were combined to draw the overall conclusions (Ivankova & Wingo, 2018). Data analyses were done through thematic analysis, descriptive statistics and pairwise correlations utilising SPSS and R statistical software, while multi-level modelling was conducted with *Mplus* 7.0 (Muthén & Muthén, 2015).

Table 1. Summary of methods for action research and tool development stages with rationale

Stage	Action research (Montgomery et al., 2015)	Tool develop- ment (Kyriazos & Stalikas, 2018)	Methods	Rationale (Kyriazos & Stalikas, 2018; Montgomery et al., 2015)
1	Problem identi- fication	<ul style="list-style-type: none">• Define purpose• Define con- struct• Set theoret- ical founda- tions	<ul style="list-style-type: none">• Consult the literature• Consult experts• Meetings with key stakeholders• Utilise continuous action research cycles until an agree-	Collaborating to define and clarify the purpose of the tool and the con- struct to be measured is a crucial first step in the tool development process. It provides a

Stage	Action research (Montgomery et al., 2015)	Tool development (Kyriazos & Stalikas, 2018)	Methods	Rationale (Kyriazos & Stalikas, 2018; Montgomery et al., 2015)
			ment has been reached.	sound theoretical foundation and builds trust.
2	Planning	<ul style="list-style-type: none"> Choose measurement Choose wording, format, and platform Plan what testing and feedback are required Plan management of results 	<ul style="list-style-type: none"> Collaboratively identify priorities Gain input from a range of relevant workplace personnel, e.g., managers, cultural advisors, experts in the field. Utilise continuous action research cycles until agreement is reached between researcher and practitioners 	Combining the views and priorities from a range of workplace and academic sources will ensure the tool is both appropriate for the context and valid in relation to the construct that is being measured. This stage is highly important for the sustainability of any intervention.
3	Implementation	<ul style="list-style-type: none"> Pre-test Field test 	<ul style="list-style-type: none"> Run a pre-test within two operating theatres Utilise action research cycles until a final version is agreed upon Conduct a three-week trial with a larger cohort of staff 	Field testing is an essential component of tool development in order to test the comprehensibility, relevance, acceptability, and feasibility of implementation with a sample of the population that the tool is designed for
4	Reflection	<ul style="list-style-type: none"> Analyse validity Evaluate usability Identify improvements needed 	<ul style="list-style-type: none"> Gain feedback from staff via survey following the trial Analyse validity from validity survey following the trial Gain feedback from managers Discuss and reflect on outcomes to further improve the tool. 	Reflection and evaluation ensure the appropriate time and consideration are given to improvements and modifications that are necessary prior to the start of the next iterative cycle

2. The results of the action research stages

2.1 Problem identification / defining the construct

Defining and clarifying the construct to be measured is a crucial first step in the tool development process, and involves first identifying the problem and clarifying the purpose of a measurement tool. It ultimately connects ideas to theory (Kyriazos & Stalikas, 2018). A series of initial meetings between the senior management who work within the OR department and researchers identified that the department did not have a formal mechanism for frequent monitoring of staff ‘morale’ in real-time. The managers reported that staff had ‘survey fatigue’ and were resistant to filling in long surveys. They were aware that evaluating the success of any interventions seeking to improve staff wellbeing would be impossible without an ability to establish a baseline and monitor for improvement or decline in close to real-time. Ideally, they wanted to be able to report to their managers about staff ‘morale’ along with other key performance indicators.

From an academic perspective, researchers needed to clearly conceptualise the meaning of ‘morale’ in theoretical terms in order to consider the validity of its measurement. For example, was improving ‘morale’ for them actually about enhancing staff engagement or increasing organisational commitment? The term ‘morale’ is generally not a well-defined or precisely measured concept in healthcare (Sabitova, Hickling, & Priebe, 2020). In this setting, the concept of ‘morale’ was a common layman’s term used informally to discuss how ‘employees’ were feeling about their jobs. After in-depth discussions about the purpose of the tool, exploration of the relevant literature and consultation with an organisational psychologist (of 10 years’ experience), it was agreed that ‘job satisfaction’ was in fact the appropriate theoretical and operational construct to be measured. Managers wanted to know how staff were feeling about their job from a range of perspectives, such as experience of work conditions, the impact of communication between staff or their fulfilment from the clinical work itself. A global measure of job satisfaction (i.e. one that asks employees how they are feeling about their jobs in general) was deemed appropriate to capture this broad perspective of job satisfaction. Global measures allow employees to compare and contrast qualities from their present and past cognitive and affective experiences in their jobs, as opposed to facet-based measures which may not capture the affective variability and mood elements as effectively as a global question might (Highhouse & Becker, 1993; Judge et al., 2017). Job satisfaction’s strong relationship with many other job attitudes and outcomes makes it a valuable construct. For example, job satisfaction is a known antecedent for work engagement and closely related to intention to leave one’s job, particularly for nurses (Abraham, 2012; Coomber & Louise Barriball, 2007; Yin & Yang, 2002).

In order to provide a sound foundation for the steps to follow, a clear and concise definition and model of the construct was then chosen (Kyriazos & Stalikas, 2018).

2.2 Planning / choosing and creating the measure

The planning stage began with research into existing studies and tools (Kyriazos & Stalikas, 2018). A literature review was conducted of studies relating to job satisfaction in the OR; this included a summary of existing measures used in each study as a starting point. The findings

identified 27 different pre-existing surveys and 15 study-specific surveys used in the OR setting (James-Scotter, Walker, & Jacobs, 2019). There was no tool identified through this process that was deemed appropriate for the purpose of a daily measure due to length, validity, or context. A range of further approaches to measuring job satisfaction from an academic, clinical and business sector perspective was discussed in further meetings between researchers and senior management. At each meeting, the researchers presented possible ideas or modifications to existing measures, which were then discussed further. From this process, a number of agreed priorities that were considered important, for either the clinical relevance and/or the academic rigour of the tool emerged (see Table 2).

Table 2. Priorities agreed on by researchers and practitioners

- Employees were anonymous when responding to the survey
- The tool was easy and fast to use
- The tool was easily accessible
- Matching survey responses from the same participant
- Data gathered by the tool were reliable and valid
- The tool provided information on factors influencing staff satisfaction responses
- The tool provided information on individual specialties and job roles
- The tool was appropriate and acceptable for Māori employees
- The tool was appropriate and acceptable for a diverse range of cultures and a range of literacy levels (including computer literacy).

In order to meet the identified priorities, it was agreed to develop a digital tool based on a pre-validated single item measure of global job satisfaction. This strategy is recommended by Kyriazos and Stalikas (2018) who encourage researchers to adapt existing instruments, the psychometric testing of which has been previously examined, to fit the purpose of the specific research setting. Further meetings were held, focusing on the wording, response scale, format, and platform. It was agreed to use iPads for administering the survey. In order to gain ‘buy in’ from staff, the traditional Likert response scale (e. g., strongly agree to strongly disagree) was adapted to include more casual language (e. g., great, I love my job today to awful, get me out of here!), whilst maintaining an anchored 1–5-point Likert scale (Kyriazos & Stalikas, 2018). To provide meaningful information for managers, it was agreed to ask employees to identify the factors influencing their job satisfaction response that day. The options for this were derived from the existing literature (James-Scotter et al., 2019). The survey asked participants to create a username which they would input before every use (they were provided with a guide to ensure anonymity and to prevent people from forgetting their usernames (Yurek, Vasey, & Sullivan Havens, 2008). The Morale-o-Meter took approximately one minute to complete. A number of action research cycles were required, in order to agree on a final product ready for wider consultation.

Once an initial concept had been agreed upon, the researchers took the idea to a range of other senior and middle managers within the wider OR team to get their feedback and input. This included at least one manager from each job role (anaesthetists, anaesthetic technicians, nurses/healthcare assistants, orderlies, and surgeons). A Māori advisor from the hospital (appropriate for the New Zealand setting) was also consulted. Feedback from this process was gathered and discussed at further meetings.

Not surprisingly, each manager had his/her own unique perspective and needs, relating to how his/her staff would/should utilise the tool. For example, orderly managers were concerned that computer literacy could be a barrier for some of their team and therefore it is important to providing them training to use the tool. They also needed access to the tool in locations other than within the theatres, such as the tea room. Anaesthetist managers felt that using the tool for 2–3 shifts per week would be more than enough. Anaesthetists needed to be able to use the tool at any time during the day to suit their workloads and a phone option was important for them as they did not use the theatre bench as frequently as other team members. Some nurse managers were concerned that charge nurses had been grouped together under ‘nurses’ on the tool and that their specific job role needs would go unseen. Nurse and anaesthetic technician managers felt they needed more detailed and frequent data, ideally receiving immediate alerts if there was a significant decline. Nurse managers wanted staff to be able to complete the tool multiple times a shift if needed due to the variability of a work day. Overall, there was a common concern among managers about the potential for poor tool results to impact or reflect negatively on them. They were concerned about the level of support they would receive and the transparency of the results. It became clear that transparency around the data that was gathered, and how they were going to be used were very important. The findings from this process resulted in a number of changes, such as an agreement and plan for the sharing of findings following the initial trial and the addition of a ‘senior nurse’ job role option to the tool. Consultation with the Māori advisor and the relevant literature also resulted in changes to the tool that would allow for the influence of ‘cultural wellbeing’ at work to be incorporated into the tool (Haar & Brougham, 2013) (the Morale-o-Meter tool is outlined in Figure 1)

Figure 1. The morale-o-meter tool (final version used for the trial)

Morale-o-Meter

Username (*the day of the month of your birthday*) combined with ‘*the first 3 letters of your mother’s name (e.g. 03Jen)*’

Time of shift (*beginning, middle, end*)

Job site (*not identified to preserve the anonymity*)

Overall, how are you feeling about your job today? (1) *Great, I love my job today!*, (2) *‘Pretty good really’*, (3) *‘Neutral ho hum’*, (4) *‘Not great actually’* and (5) *‘Awful, get me out of here!’*

What does this mostly relate to? 1) *the nature of the clinical work*, 2) *communication and relationships with colleagues*, 3) *organisational factors (e.g., staffing, workload, resources)*, 4) *patient interactions*, 5) *ethnic cultural wellbeing*, 6) *other (with an open text option)* and 7) *I’d rather not say*. (Multiple choices were allowed).

Job role (*Anaesthetist, Anaesthetist registrar / fellow, Anaesthetic technician, Anaesthetic technician trainee, Healthcare assistant, Nurse, Orderly, Senior nurse, Surgeon, Surgical registrar / fellow, other, I’d rather not say*)

Speciality (*General surgery, Gynaecology, Obstetrics, ORL, Orthopaedics, Urology, Other, I’d rather not say*)

A key contribution of researchers during this stage was to provide help relating to the technical and ethical aspects of the tool development process, such as validity and anonymity. It was agreed to do a small amount of initial testing of the predictive validity of the tool relating to burnout and organisational commitment, and to test construct validity to ensure that the

adapted version of the single item measure used at a daily level was still measuring the intended construct (i.e., job satisfaction). This would involve administering a survey at the end of the trial. The survey was developed by researchers in consultation with an organisational psychologist, and was intentionally limited to ten questions, given that this cohort were resistant to surveys. The validity questions were combined with the feedback survey administered to staff after the implementation phase. In the validity and feedback survey, we measured overall job satisfaction, affective commitment, and emotional exhaustion. Specifically, *overall job satisfaction* was measured using a well-known single-item global job satisfaction question originating from Scarpello and Campbell (1983); *affective commitment* (a key component of organisational commitment) was measured using a single item selected from the subscale of the organisational commitment scale (Allen & Meyer, 1990), and *emotional exhaustion* (a key component of burnout) was measured using three items derived from the Maslach Burnout Inventory (Spurgoen, 1998). Internal consistency reliability of emotional exhaustion was 0.80 (see Figure 2 for an outline of the Feedback and Validity survey).

Figure 2. Outline of the Feedback and Validity survey

Morale-o-Meter username (the day of the month of your birthday' combined with 'the first 3 letters of your mother's name (e.g. 03Jen')
Gender, Age, Ethnicity (drop down options provided)
Feedback questions
What do you think about having a tool like this in place permanently?
 (1) Extremely good idea, (2) Good idea (3) Not sure (4) Bad idea (5) Extremely bad idea.
What device did you prefer to use during the trial?
 1) iPad in theatre 2) iPad in tearoom 3) iPad in anaesthetic tearoom 4) cell phone
What were the barriers to using the tool every shift?
 1) I would forget 2) I was too tired 3) iPads not accessible or working properly 4) didn't feel comfortable answering the question 5) there were no barriers for me 6) other
Feedback, comments or suggestions – open text box
Validity questions
All things considered, how satisfied are you in your job?
 (1) Extremely satisfied (2) satisfied (3) Neither satisfied or dissatisfied (4) dissatisfied (5) Extremely dissatisfied
"I would be happy to spend the rest of my career with this organisation"
 (1) strongly agree – (5) strongly disagree
"I feel used up at the end of the workday",
 (1) strongly agree – (5) strongly disagree
"I feel emotionally drained from my work"
 (1) strongly agree – (5) strongly disagree
"I feel burned out from my work."
 (1) strongly agree – (5) strongly disagree

2.3 Implementation / field tests

Field testing is an essential component of tool development. It can be repeated as many times as required to test the comprehensibility, relevance, acceptability, and feasibility of im-

plementation with a sample of the population that the tool is designed for (Kyriazos & Stalikas, 2018). Following the planning stage, the Morale-o-Meter underwent a pre-test phase conducted within two theatres over one day. Participants were invited to test the tool. The first author was present to observe their entries and gather written or verbal feedback relating to their experience using the tool. Sixteen entries were received. The results were then shared at meetings for discussion and reflection. This led to further modifications (see Box 1 for the final version of the Morale-o-Meter following this phase). A three-week trial of the Morale-o-Meter tool was then conducted from the 27th of May 2019 to the 14th of June 2019 with the whole OR department.

For the three-week trial, 17 iPads were placed in desk stands across 14 operating theatres, two tearooms and an anaesthetic technician room. A cell phone option was also available. Each iPad stand displayed instructions asking staff to use the tool once each shift. Recruitment was done via a bulk email invitation to all staff and through posters; the first author also presented at a range of staff meetings to provide more details about the project and to answer any questions. All employees working in the OR were invited to participate. Senior personnel from different job roles were asked to encourage staff to use the tool.

A total of 269 staff members utilised the tool at least once over the trial period (78% response rate) and 569 submissions were received. Participants consisted of 123 nurses (20 senior nurses) (45.7%), 41 anaesthetic technicians (15.2%), 31 anaesthetists (incl. registrars/fellows) (11.6%), 36 surgeons (incl. registrars/fellows) (26%), seven orderlies (2.6%), four healthcare assistants (1.5%), two anaesthetic technician trainees (0.7%), seven respondents who identified as ‘other’ (2.6%), and 18 respondents who chose the option that ‘I’d rather not say.’ Daily utilisation was estimated at 21% response rate (exact figures of total number of staff within the department on any given day is almost impossible to ascertain). Individual tool utilisation per participant ranged from one to 14 entries (1 = 62%, 2–3 = 23%, 4+ = 15%). The first author went to the hospital each day of the trial to ensure that the iPads were working and answer any questions staff may have had. This allowed for further relationship building and discussion with staff.

The daily job satisfaction response scale was converted to a numerical 5-point scale for analysis (i.e., 1 = “great, I love my job today” to 5 = “awful, get me out of here”.) On average 71% (ranging from 52% – 79%) of participants reported a 1 or 2 each day. No significant differences in job satisfaction were found among staff with different job roles or department specialties when comparing job-satisfaction mean scores. However, participants who chose ‘I’d rather not say’ for job role and speciality were more likely to have a lower mean score than other participants. On analysis of factors that influenced job satisfaction responses, positive responses (i.e., 1 or 2) were most commonly influenced by ‘relationships and communication with colleagues’ (34% and 39%, respectively) and ‘the nature of the clinical work’ (29% and 28%, respectively). Negative responses (i.e., 4 or 5) were most frequently influenced by ‘organisational factors (e.g., workload, staffing, equipment)’ (33% and 33%, respectively) and also ‘relationships and communication with colleagues’ (29% and 33%, respectively).

2.4 Reflection / evaluation (validation / improvements)

The feedback and validation survey was administered one week following the completion of the trial. It resulted in 38 responses (a 14% response rate). Sixty-one percent of respondents

reported that they thought it was either a 'good' or 'extremely good idea' to implement a tool such as this permanently. The most commonly reported barriers to using the tool were 'forgetting to use the tool' (36%) and 'being too busy' (31%). Four themes were identified from the qualitative comments on the survey: 1) feeling positive about the tool. For example, respondents indicated that *"It was good. very easy and quick to fill in"*, *"The morale-o-meter got the conversation started within the theatre"*, *"Doing this every day, made me appreciate my job more"*; 2) questioning its accuracy. For example, participants stated that *"I saw people fill it in when they were cheesed off about something but not when they were happy"* *"I'm not sure how accurate people were answering the survey, which would be interested to find out in the result"*; 3) concern about how it will lead to change. For example, some employees stated that *"Not sure if it's actually going to improve morale. or make anything happen. but if it gives it a chance to improve, I will do it"* *"Providing the solution is the battle"*; 4) would prefer the tool for short periods. For example, staff indicated that *"I'd be more inclined to make an effort for a short period of time,"* *"It would be forgotten about and usage would die off if it was a permanent thing."* These themes were consistent with the researchers' journal notes regarding the conversations with staff during the trial period.

Matching the daily survey and the validation survey via the Morale-o-Meter username led to a final sample of 31 participants, who were included in the validity analyses. The mean number of entries per participant in the validation survey was 4.3 (median 3, range 1–14). Significant relationships of daily-level job satisfaction with overall job satisfaction (coefficient=0.78, SE=0.16, $p<0.01$), emotional exhaustion (coefficient=-0.51, SE=0.2, $p<0.01$) and affective commitment (coefficient=0.77, SE=0.11, $p<0.01$) were found, supporting the construct and predictive validity of the daily measure of job satisfaction.

The results of both the trial and feedback / validation survey were reported back to staff and managers as planned and an in-depth written report highlighting the strengths, weakness and areas for improvement for future trials was generated. The hospital then took over the tool for further trialling.

3. Discussion

This study aimed to meet a specific need within a New Zealand OR department by using a collaborative action research approach to develop a daily job satisfaction tool. The results describe the benefits, challenges and complexity of using an action research approach, and offer a unique perspective into how action research can support traditional tool development principles in the OR setting. In addition, the inter-professional aspect of our study is an important point of difference, often overlooked in action research conducted in the hospital setting (Montgomery et al., 2015).

The combination of the four overarching action research stages (problem identification, planning, intervention and reflection) provides the complete picture of the Morale-o-Meter study. The ultimate goal was to create a tool which was operationally meaningful and practical, without compromising quality or validity. As the project progressed, each stage opened the door for more consultation and collaboration as hospital personnel became increasingly involved. The *Problem Identification* stage provided sound theoretical foundations for the

study and developed the trust and respect between researchers and practitioners required for the stages to follow. The *Planning* stage was by far the most complex and challenging, often highlighting the tension between meeting the academic rigor versus the operational outcomes of the project, a common issue for action research (Huang, 2010). An additional contribution for researchers during this stage was facilitating communication between middle and senior management regarding the purpose of the tool. The *Intervention* and *Reflection* stages essentially provided the platform for consulting with the wider staff ‘on the floor’ as well as testing usability and validity. Providing an initial trialling period of the tool also allowed employees to become familiar with the concept of the tool, and enabled informed feedback via the survey on completion.

The outcomes of the study found that the Morale-o-Meter tool has potential to provide meaningful information for managers in real-time. It not only captures how staff are feeling about their jobs, but identifies valuable information regarding influential factors on organisational practices, thus allowing for the development of timely and targeted interventions. In addition, the validity analysis provides initial support for the construct validity of daily job satisfaction with overall satisfaction. Consistent with similar studies in other settings using ecological momentary assessment methods, the significant and positive relationship between daily job satisfaction and overall job satisfaction provides some reassurance that the tool is measuring the intended construct (Ilies & Judge, 2004). Consistent with the existing literature (Samadi Miarkolaei & Samadi Miarkolaei, 2014; Tsigilis et al., 2004), we also found significant relationships of daily satisfaction with affective commitment and emotional exhaustion, which suggest the tool could also be of use in predicting the risk of burnout and the level of organisational commitment. While we acknowledge that burnout and organisational commitment are influenced by numerous personal and professional factors, job satisfaction has been repeatedly proven to be one of the most significant influencing factors of these constructs and therefore is of significant value (Meyer et al., 2002; Tsigilis et al., 2004).

The study also provided insight into areas of the tool development that require further attention. While the majority of those who completed the survey were positive and the overall response rate and interest in the project was high, 62 % of staff used the tool only once during the trial. Key themes from the survey suggest that many forgot or were too busy, and some staff members were sceptical about whether the tool would result in positive change. This is valuable feedback for managers suggesting that attention to building trust with staff, establishing robust response plans, and ensuring transparency, need to be a priority. In addition, it suggests that as the hospital conducts further trials, consideration is needed as to how the tool can become an embedded part of daily routines along-side other existing requirements. Frameworks such as the Consolidated Framework for Implementation Research will support such a process as strategies to support long term implementation are developed looking forward (Damschroder et al., 2009).

One of the important characteristics of action research is the collaboration between researchers and stakeholders (Costello, 2003). This was a key component of our study – working together, predominantly with managers (who also work within the OR), to achieve an outcome that benefited the wider workforce. Meeting the technical, practical, and emancipatory aims of action research in the hospital setting, however, is not straight forward, nor (being action research) should we expect it to be (Huang, 2010; Montgomery et al., 2015). Working across the different job roles and levels of seniority creates an interesting challenge for researchers, and requires effective communication strategies, which involve listening to

and sharing information respectfully and positively until agreement/compromise is found (Kjellström & Mitchell, 2019). In our study, facing conflicting feedback from employees from different job roles and at different levels of the hierarchical structure was challenging at times. Each role brought its own unique perspective, highlighting the wider political frame in which we were working. This process raised the question of who holds the power to make the decisions, regarding whether some feedback is taken into consideration but other feedback is disregarded. For example, would feedback relating to orderlies be considered with the same value as feedback relating to the surgeons? In keeping with the emancipatory aims of action research, we did our best to advocate for those with less of a voice, presenting and discussing all feedback gathered equally (Brydon-Miller et al., 2003; Huang, 2010).

The research process will also have created change within the workplace environment. Reflexivity by researchers is essential in action research and is often forgotten in the evaluation of action research studies in the hospital setting (Montgomery, 2014). It includes acknowledgement of how each interaction or discussion by the researchers will have likely influenced practitioners, changing perspectives and influencing further discussions and actions (Kjellström & Mitchell, 2019). This was captured in qualitative comments in our study such as: *“The morale-o-meter got the conversation started within the theatre”* and *“doing this every day, made me appreciate my job more”*. Further, it is likely that the process of the researchers working alongside senior management would have played both a positive and negative role in how the study was received by staff members. Ultimately, our presence would have impacted the environment long before the trial began, and these dynamics are an inevitable reality in action research.

The experience of this project from the researchers' perspective was stimulating, rewarding, and challenging; as we worked along-side hospital personnel with the common goal of creating meaningful change in a real-world setting (Byron-Miller et al., 2003). Four key central themes from the study capture the learning from a researcher's perspective: 1) the importance of building sustainable relationships with key stakeholders; 2) maintaining positive, respectful, and regular communication; 3) building trust between researchers and staff at all levels; and 4) having patience. These themes are consistent with insights commonly identified in action research (Huang, 2010; Kjellström & Mitchell, 2019; Montgomery et al., 2015).

Limitations

Due to the limitations of conducting research in this hospital setting, focus groups and interviews were not possible. While the small sample size from one single hospital limits the generalisability of this study, the outcomes provide a good starting point for longer trials across multiple hospitals. The low response rate at the daily level, as well as the feedback and validation survey, may result in a biased sample. Lastly, any study that uses self-reporting comes with the risk of common method biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Conclusion

This study offers insight and guidance into the practical application of action research within an interprofessional healthcare setting. While using collaborative action research in the OR setting is not without its challenges, it is essential that research and instrument development are meaningful, practical, valid and relevant to the real-world setting. This study achieved the overall aim, which was to collaborate in the initial development and trialling stage of a tool for measuring job satisfaction in the OR setting. With further trialling, the Morale-o-Meter has the potential to be a powerful and valid tool in the OR setting, allowing one to view and value job satisfaction in real-time along-side other key performance indicators. This study provides a sound starting point for the tool to continue to be developed, with potential for implementation in wider healthcare settings in the future.

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Action Research as Pre-Service Teacher Inquiry Physical Education

Thomas G. Ryan

Abstract The newest Canadian Elementary Health and Physical Education (2019) provincial curricula promotes inquiry as a pedagogical mode. AR complements this inquiry mode of instruction with its grounding in experience and practice which infuses educational roles. AR as practice-based inquiry helps new educators identify and reveal resolutions; however, first a need to want to improve needs to be identified, before next steps are taken. AR has the potential to open doors of perception, trigger new insights, and cultivate teacher development within teacher training and beyond while in-service. Admittedly, teachers change, no matter how incrementally, which permeates professional development, as witnessed in over 100 years of action research drawn upon herein. Extant AR literature is grounded in the educational development of participants as they teach. Development in AR is not actually a problem needing investigation; instead it remains a possibility that needs recursive attention to ensure it exists within the training of educators globally. Herein AR is illustrated via narrative accounts that reflect experiences while teacher training in an Ontario Faculty of Education programme.

Keywords: Action research; elementary curriculum; teacher training

Investigación-Acción como indagación de la formación inicial de profesores y desarrollo profesional en la Salud Primaria y Educación Física de Ontario

Resumen Los planes de estudio provinciales de Salud Primaria y Educación Física más recientes de Canadá (2019) promueven la investigación como un modo pedagógico. La Investigación-Acción (IA) complementa este modo de instrucción de investigación con su base en la experiencia y la práctica que infunde roles educativos. La IA como investigación basada en la práctica ayuda a los nuevos educadores a identificar y revelar resoluciones; sin embargo, primero se debe identificar la necesidad de querer mejorar antes de continuar con los siguientes pasos. La IA tiene el potencial de abrir puertas a la percepción, desencadenar nuevos conocimientos y cultivar el desarrollo docente dentro de la formación docente y más allá mientras se está en servicio. Lo cierto es que el cambio de los maestros, sin importar cuán incremental sea, impregna el desarrollo profesional, como se atestigua en los más de 100 años de investigación-acción que se esbozan aquí. La literatura de IA existente se basa en el desarrollo educativo de los participantes mientras enseñan. El desarrollo en IA no es actualmente un problema que necesite investigación, sino que sigue siendo una posibilidad que necesita atención recursiva para garantizar que exista dentro de la formación de educadores a nivel global. Aquí la IA se ilustra a través de relatos narrativos que reflejan experiencias durante la formación de profesores en un programa de educación de una Facultad de Ontario.

Palabras clave: Investigación-acción; currículo de nivel primario; formación de profesores.

Introduction

In our current year of 2021, Action Research (AR) infuses many disciplines and reaches a global audience (Rutten, 2021). For example, Action Research can be found in most school districts as a means of professional development (Ryan, 2020). AR is often enacted by educational practitioners as a practice embedded in daily work (Kennedy, 2016). AR is an authentic research tool rooted in educational landscapes that are both practical and progressive (Ryan, 2018). AR causes educational practitioners to look repeatedly at practices. AR uncovers elements of practice that may be problematic, while leading participants towards plausible responsive action while instigating reflection on past, present and future pedagogy (Rutten, 2021; Ryan, 2020). AR incorporates a 360-degree reflective pivoting, allowing educational practitioners to examine one's place within a particular setting to find out what works, what doesn't, and possibly what can be improved. AR is experienced, and in many ways is unending as the AR mode can become habitual within educational roles (Ryan, 2018). Habitual practices are imbued with teacher intuition which provides an inner compass for the teacher. AR provides perspective, scope and admittedly, informs educational policy, curricular guides and peers. AR can be a means to reinforce teacher intuition which is comforting to many new and experienced educators.

Within Education, the discipline of Health and Physical Education can benefit from AR efforts, whether in training or in-service once teacher training has been completed (Ryan, 2006). Teacher training in the province of Ontario (Canada) unfolds over two years and includes class instruction and in the field teaching practice. It is during this training that many questions surface, and it is this questioning that serves as both an instructional tool and a professional development mode. Questioning one's teacher role from within "leads to knowledge from and about educational practice" (McNiff et al., 1996, p. 8). Questioning supports and nurtures further inquiry, and is valuable as teachers develop their professional identity, self-knowledge and critical literacy understanding. Critical thinking in the role of educator most certainly includes "skills such as questioning, predicting, analysing, synthesising, examining opinions, identifying values and issues, detecting bias, and distinguishing between alternatives" (The Ontario Health and Physical Education, 2019, p.80). In addition, "students who are taught these skills become critical thinkers who can move beyond superficial conclusions to a deeper understanding of the issues they are examining" (p.80). This deeper learning has been a goal of Education in the province of Ontario and beyond for at least a decade.

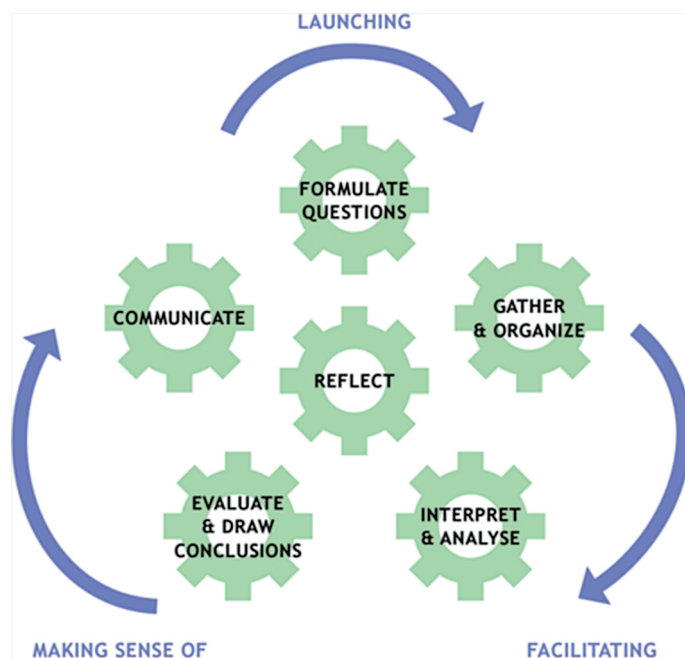
Teaching as Inquiry: Questioning

The significance and importance of deep inquiry and questioning is historically noteworthy since it was Socrates who believed that a life without inquiry is not worth living (Fadiman, 1978). Building on this Socratic belief, the Ontario educator in training will learn in teacher training that "inquiry and research are at the heart of learning in all subject areas. In health and physical education, students are encouraged to develop their ability to ask questions and to explore a variety of possible answers to those questions" (Ontario Health & Physical Edu-

cation, 2019, p.82). The instructional dynamic of questioning via inquiry is a process and a means to develop, grow and change. “Teachers can support this process through their own use of effective questioning techniques and by planning instruction to support inquiry (particularly in the context of experiential learning)” (Ontario Health & Physical Education, 2019, p.82). The process is layered, lengthy and lasting, as teachers and students explore four areas of learning including: “Knowing Yourself – Who am I? Exploring Opportunities – What are my opportunities? Making Decisions and Setting Goals – Who do I want to become? and achieving goals and making transitions – What is my plan for achieving my goals?” (Ontario Ministry of Education, 2019, p.38). The questioning is recursive over time, and leads to deep learning which concerns the need to comprehend and pursue meaning. Students are able to link concepts to new ideas and to experience, all the while critically examining resultant knowledge for pattern and meaning (Biggs, 1999). These areas of questioning and association require an inquiry framework, as depicted below in figure one.

Figure 1: Inquiry Framework for Health and Physical Education: Six Components of Inquiry-Based Learning

Source: (OPHE, 2015, p. 8).



Questioning helps all “explore and learn together. Students should have opportunities to participate in a wide range of activities . . . to enable them to develop inquiry and research skills and provide opportunities for self- expression and personal choice” (Ontario Health & Physical Education, 2019, p.56). “Research skills are critical to students’ success in all subjects of the curriculum and in all areas of their lives” (Ontario Health & Physical Education, 2019, p.78). Inquiry and research are commonplace activities in all subject areas, and “in health and physical education, students are encouraged to develop their ability to ask ques-

tions and to explore a variety of possible answers to those questions” (Ontario Health & Physical Education, 2019, p.82).

In the classroom of 2021, there is a need to be encouraging while inquiring and educators “can support this process through their own use of effective questioning techniques and by planning instruction to support inquiry” (particularly in the context of experiential learning. (Ontario Health & Physical Education, 2019, p.82). The requirement to question and inquire complements tradition in education wherein educators reflect upon (Schon, 1983) authentic problems (Dewey, 1897) in their practices and away from practice in theory. This reflective action connects the cognitive, the affective and the physical behaviours in order to address problems as a means of play (Piaget, 1990). Combined, these elements and strategic and systematic planning lead one to become an Action Researcher within a classroom and/or school (Ryan, 2018; Vaughan et al., 2018).

An Educator’s Toolbox: Action Research

The Action Research Network of the Americas Conference brought together many action researchers to “dialogue among scholars and activists from the global action research community and leaders of global circles of indigenous knowledge, and presentations of action research and participatory action research focused on education, health and wellness” (Rowell & Santos, 2016, p. 76). Of particular interest is the fact that this was a global event and AR was the centrepiece, viewed as a means to address these areas which included, “social reconstruction, and . . . sharing visions for a better future, and creating collaborations, and concrete plans for participatory forms of research and development projects across national borders and disciplinary boundaries” (Rowell & Santos, 2016, p. 77).

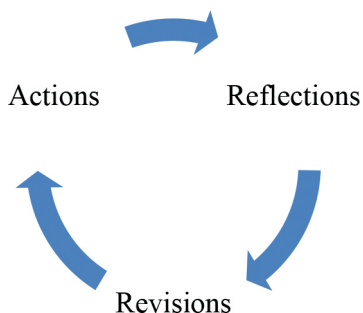
The recognition of AR as a global resource stems from the fact that “action research combines a substantive act with a research procedure; it is action disciplined by inquiry, a personal attempt at understanding while engaged in a process of improvement and reform”(Hopkins, 1993, p. 44). AR allows users to embrace “the capacity of people living and working in particular settings to participate actively in all aspects of the research process; and . . . The research conducted by participants is oriented to making improvements in the practices and their settings by the participants themselves (Kemmis, McTaggart, & Nixon, 2014, p.4). AR “is not a method or a procedure for research but a series of commitments to observe and problematise through practice a series of principles for conducting social enquiry” (McTaggart, 1996, p. 248).

Moreover, AR is a “systematic procedure completed by individuals in an educational setting to gather information about and subsequently improve the ways in which their particular educational setting operates, how they teach, and how well their students learn” (Creswell & Guetterman, 2019, p. 85). AR is a “deliberate way of creating new situations and of telling the story of who we are” (Connelly & Clandinin 1988, p. 153), as teachers in classrooms, schools and the community. AR can be embedded in day-to-day experiences and “conversation can play a significant role in the establishment and sustention of collaborative action research groups and can lead to the generation of new knowledge and understanding” (Feldman, 1999, p. 141). This reality challenges and opposes other research traditions and for

some the limited generalizability of AR causes some to dismiss its legitimacy (Ryan, 2018). AR is quite distinct, and it is this distinctness that makes it attractive for educators by focusing upon an issue, a tension and one's own practice to locate perhaps both an intervention and a resolution in a strategic manner (Herr & Anderson, 2015; Vaughan et al., 2018)

Admittedly, AR can be a lifelong and fragmentary activity rooted within personal enduring beliefs (values) that are more feeling than written and, in this sense, tacit. Value positions can be challenged in conversations giving rise to new orientations and understandings positions. Indeed, conversation “can lead to action, follow action or be part of action. Through the intermingling of conversation and action, praxis comes about with its growth of knowledge, understanding, and theory through action” (Feldman 1999, p. 133). AR reveals “clarity and understanding of events and activities and use[s] those extended understandings to construct effective solutions to the problem(s)” (Stringer, 2007, p.20). Ultimately, “it is a challenge to traditional social science by moving beyond reflective knowledge created by outside experts and sampling variables to an active moment-to-moment theorising, data collecting and inquiry occurring in the midst of emergent structure” (Torbert, 1991, p. 36).

Figure 2: Recursive Action Research Cycle – One Action Research Cycle/Phase/Step
Source: (Ryan, 2005b, p. 33).



AR brings the task of teaching into the research realm, as educators observe, guide, and amend pedagogy to engage and support the learner (Pedersen & Pedersen, 2008). Each educator needs to move prudently since AR “is not a panacea for all ills and does not resolve specific problems but provides a means for people to more clearly understand their situations and to formulate effective solutions to problems they face” (Stringer, 2014, p. 8). AR is a “critical and self-critical process aimed at animating these transformations through individual and collective self-transformation: transformation of our practices, transformation of the way we understand our practices, and transformation of the conditions that enable and constrain our practice” (Kemmis, 2009, p.463). AR is “grounded in the ontological ‘I’ of the researcher, and uses a living logic; that is, researchers organize their thinking in terms of what they are experiencing at the moment” (McNiff & Whitehead, 2006, p. 42). Looking within the experience, or even back upon experiences, requires a level of reflexivity wherein the author processes and labels memories via words, terms and phrases that can best illustrate and encode experience in language that all can be decoded while reading (Ryan, 2005a). It was Dewey (1934) who reasoned that “all direct experience is qualitative, and qualities are what make life-experience itself directly precious. Yet reflection goes behind immediate qualities, for it is

interested in relations . . . (p. 293), associations, relationships and linkages within life experience (data).

AR makes possible improvement of practice while practicing and in doing so helps to increase the understanding of the practice (Kemmis & McTaggart, 1982). AR “can transform teachers, the classroom, and the school community” (Ward & Millar, 2019, p.42). However, some time ago Schön (1987) suggested pre-service students learning to teach is rushed since student teachers, “plunge into the doing, and try to educate themselves before they know what it is, they’re trying to learn. The teachers cannot tell them. The teachers can say things to them, but they cannot understand what’s meant at that point” (p.1). It takes time and experience in teaching practice to realise what needs to be changed and how, nonetheless these positive aspects of AR make it a powerful means for educators in particular, in the preservice programme, who document their own professional development often as part of teacher training tasks. The following reflective account provides insight into some of the minutia of teacher development; it is these small changes that when added together produce significant developmental change in teaching, teachers and education. There are four cycles of Acting, Reflecting and Revision within this brief excerpt numbered one to four.

AR as a Reflective Exercise in Teacher Training

Within the province of Ontario (Canada) it is generally accepted that all teachers benefit from AR experience, and it is this recognition of AR that causes many Teacher Educators to include AR exercises in teacher training and in-service once teacher training has been completed. The current two-year teacher training in the province of Ontario (Canada) includes AR classroom tasks that are completed in teaching practicum located in Ontario schools. The teaching practice unfolds in Ontario classrooms and often stretches over five or six weeks. Teachers in training must act, reflect and revise their actions and thoughts via reflective AR based exercises. What follows is an exemplary excerpt from reflective accounts (practice tasks). The accounts have been mined from lengthy teacher training practice exercises anchored in an AR mode which often complete assigned practice tasks.

Indeed, the following narrative illuminates classroom management as a challenging aspect of teaching in 2021. While problems are able to be solved; it is the dilemmas which cannot be solved, and instead need coping strategies, that seem to garner much attention in pre-service teacher training (Ryan, 2020). The teacher in training is reflecting upon teaching actions to refine, revisit and revise their pedagogy in the moment and for the future.

AR Reflective Journal: An Excerpt (Act, Reflect, Revise)

#1:

Act: During the middle of my math lesson, discussing the area of a rectangle, I asked a question about shortening the formula to a smaller, easier to write, form. I was writing on the

left-hand side of the board and turned around when I asked the question and a student stuck up her hand to answer. This girl frequently had her hand up and usually knew the answer, so I asked her for the answer which she gave without hesitation.

Reflect: It seems that I have a tendency to turn to my left when coming up from the board and so I would usually not make it to the other side of the room before I had chosen my student to answer the question. Even my associate said, in my un-graded evaluation, that.

“It is important that he continue to develop strategies to monitor the class for students who try to dominate his attention, so he can give his attention equitably among all students.”

Revise: I suppose that in hindsight I probably should have been waiting to see who all had their hands up, or even chose a student that doesn’t often answer. So, with this firmly in mind, I will try to keep a conscious list of which students have answered before and who needs to try now. Not being pushy about it, just encouraging others to have a voice in the classroom.

#2:

A: Often, when the students would come back from recess, or sometimes even between classes, the students would get very loud and boisterous in their talking with their neighbours. A small amount of time for talking at the beginning I felt was fine, but after a while if I needed them to be quiet, I would raise my voice and say, “Ladies and Gentlemen, could I please have some quiet?” To which they quieted down and sat in their seats.

R: I felt that this was a good strategy for me to get some quiet in my class. My voice is sufficiently loud enough that I can be heard over the din of their voices. And in reflection after a while, I no longer needed to raise my voice to ask for quiet, if I was standing up at the front many of the other students would tell their peers to be quiet. Which I felt was even better, because it may just work itself into a non-verbal queue.

R: I don’t think that my action should need to be revised; I got the desired response from the students so why would I change it. However, this being said, I may try other more non-verbal queue in the future but will more likely revert to this technique if it appears that the non-verbal cues are not working.

#3:

A: It was my first time teaching a history lesson, a subject about which, I know very little. So, my associate and I brainstormed, and decided that the best way to present the material was to do it through a movie. I readily agreed because I felt that the less, I talked the better the lesson was going to go, at least until I got a lot of the terminology down. Initially I thought it was going well, the students seemed to like watching the movie, and they very quickly responded to the questions that I asked of them. However, during one of the chunks of movie watching I happened to look over at Mike and saw that he was looking every which way but at the movie, which I found odd because he could answer the questions I posed, or at least have an answer that was somewhere in the vicinity of a right response. I really didn’t think that much of it and returned to checking my queues for when to stop the movie to discuss the next part.

R: I did feel that the class got a lot of history knowledge out of the movie, but it still nagged at me that someone wasn’t watching the movie, and when my associate told me that more than once the guys at the back of the class seemed distracted by everything else but the

movie, I felt that I should do something else. So, I made some suggestions to my associate and we decided that the best thing I could do would be to come up with a handout over the course of the night to maybe make them focus a little harder for the continuation of the movie on the following day.

R: The fill-in-the-blanks sheet worked well. It kept the students on task, and when I told them that they were going to have to pay attention because the wording for the question wasn't verbatim from the movie, it worked even better. It was also a good way to choose sections of the movie to stop at and ask further questions of the students.

#4:

A: My associate decided that her students were going to have a test in history at the end of the week, and she decided that I should do the review with them during the Thursday history class. So, I decided on a game for the students and set it up that night. When the review class started the game appeared to be going well, it was each man for his or herself and you had to answer enough questions to spell CONFEDERTION and then you would win a prize. Unfortunately, this didn't work very well, for very long.

R: After about 5 minutes I was accused of favouring one side of the classroom which may have been correct judging by action #1, and so I changed it mid-stream to not having to spell CONFEDERATION and instead it was one side against the other, for points. So, I would ask the question to one side give them a possibility of 3 tries at answering and then if they couldn't get it, the other side could have a chance to score the point. Unfortunately, this didn't last for more than 10 minutes before one side accused the other, and me, of getting more chances to answer than they got. So, I reflected and revised again. I called it the sudden death, and the groups would remain as they were, but they would only get one opportunity to respond, they could however discuss among themselves what the answer would be up to a max of 30 sec. This finally seemed to get me somewhere, so I stuck with it, and rode it to the end of the period.

R: In the future I will probably stick to games that are one group versus another, unless the rules for individual play are clearly laid out and have no loopholes. As I said this last attempt seemed to work so that will probably become my blueprint or starting point for any games I do in the future.

While this journal entry is quite easy to read, there is evidence of uncertainty, growth and internal debate as philosophical positions shift and stances change as pedagogy matures. This record can now be shared and made public to involve other stakeholders in the growth process of an educator. The record may instigate adjustments that ease the frustration and confusion in classrooms. There are other instances where practice accounts (inquiry) resemble a story without distinct phases. The account is personal, professional and an exemplary teacher training AR account which is both purposeful and expressive, as follows.

AR Reflective (Narrative) Journal Excerpt

Another situation that arose during my placement had the opposite results. In this situation I tried everything to resolve the issue at hand, and it ended up escalating and blowing up in my

face. My AT teaches all three of the grade eight physical education classes, as well as two of the grade sevens. During my first week of observation in September there was no rotary, therefore I did not have the opportunity to meet or learn about any of the other students besides my AT's core class. We observed one physical education lesson for each of the classes upon our return in October; however, besides us not knowing the students, they did not know us either.

My one grade eight class went incredibly well, and there were no classroom management issues to speak of. They impressed me on a whole new level with their participation and consideration for others. However, the other grade eight class definitely questioned my abilities in becoming a successful teacher. I felt that with physical education, most people are excited to have a break from the mental stress of other classes. I believed that any issues would surround a slight level of overexcitement due to immaturity and excess energy. The other problem could be the girls not wanting to participate. I was definitely not prepared for the disruptive behaviour that occurred that morning.

It was the Tuesday morning. My third lesson ever. My first lesson with a different class. The students in this class had major attitude issues. They sat in their squads looking at me with this facial expression implying the question: "Who do you think you are?" I was taken back slightly by their unimpressed response with me. We began class with a relay warm up, which they enjoyed. However, I was already noticing one group of boys who even though talented in sports, exhibited a considerable lack of effort and a need for disrupting other students in the class.

That day I focused on the skill of the volley. We discussed the skill and then I had them working in pairs, and afterwards in small groups practicing the skill. These particular boys were in a group of three due to odd numbers in the class and this is where the experience began. To begin, one of the boys started joking around with one of the girls and ended up whipping her in the face with the volleyball. I sent him out into the hall immediately. He tried to re-enter at one point, and I told him to return out into the hall until I had talked to him. This particular boy is a pretty good individual. He is on the volleyball team and for the most part he does not intentionally cause issues, so he was pretty upset to be in trouble. I went out into the hall to talk to him. I asked him if he knew why he was in the hall. He explained to me why he thought he was in the hall. I took the disappointed angle with him and talked about how he is considered a role model in the class because we were doing volleyball and he is currently on the volleyball team. I mentioned how he is in his element right now and if anything should be a leader in the class assisting others. He felt badly and apologised, and I allowed him to re-enter the class. He was not an issue after that.

The other two boys, however, were a challenge. One boy had recently returned from a suspension and the other one acts out regularly in class. They are both on the volleyball team and enjoy sports so once again I was surprised at their lack of motivation towards physical education. They were behaving very immaturely. While the other students in the class were genuinely attempting to perform the skill properly and improve, these two boys were hitting the ball everywhere, kicking the ball, and disrupting other groups. There was no focus or desire in performing the task at hand. I tried reasoning with them. I used the same volleyball tactic I had taken with the previous boy and suggested a way to increase the difficulty of the activity in order to stimulate their interest.

It seemed like everything I did wouldn't work. They continued to act inappropriately and out of control, so finally I had had enough and sent one of the boys out into the hall who

deliberately acted out when I was watching. The problem with these boys is that nothing phases them. They do not argue when I send them out or attempt to reason with me regarding their actions. They don't care. They just walk into the hall without the smallest amount of remorse. I then talked to this boy about his actions.

The rest of the class continued in a similar way, and it didn't matter what I did or suggested, new people would replace the others in behaving inappropriately. I even talked to one of the boys prior to the next class regarding his actions and whether there would be any issues with him today and he said no and apologised. That class began as the last one ended.

During drill transitions, I refused to talk over the students and therefore an enormous amount of their time was wasted on waiting for everyone to focus. Overall, I felt like a failure with that class. I was definitely not expecting so many issues in one period. I needed to be better prepared and ready to respond in different ways. I talked to my AT and he suggested that in order to control more than one child at a time, I can just sit them on the different benches around the gym, isolated from each other. It was a simple concept; however, I was so flustered at the time that it had never occurred to me. It was a good experience as it definitely taught me that these scenarios can escalate at a rapid rate and that I need to be ready for all kinds of different situations. I also learned the true concept that a major part of teaching is not the actual content but classroom management.

Even though I learned a lot about being a teacher during that class, I was still angry as all my attention was focused on dealing with these students, when I could have been helping other students with the actual skill. Why should the rest of my class be neglected of proper attention while I deal with issues not even related to the lesson at hand? Another essential concept I learned was the importance in knowing your students. I am already getting to know the students in my AT's core class and have already been establishing which techniques are working for different students. It was difficult with the other classes as I had only met them once and had no idea which techniques would work, and which ones wouldn't. Also, the students in that class had no idea who I was either. I feel for this class especially a lot of the respect is built in getting to know the students as people and allowing them to get to know you as well and understand that you are a real person to and one that has the best intentions in mind.

I was happy that my AT never intervened. I feel that if he had stopped the class and talked with them, then that might have undermined my ability as a teacher. I respect him for having let it all happen and allow me to learn. My problems now reside in the "where do I go from here?" thought. Next time, yes, I can sit students on the bench and yes, they are wasting their own gym time and that is their problem. However, I want to get through to them. I want to succeed with them. I want them to be motivated. I know that with these boys, they will end up sitting on the bench every class due to their behaviour and if I split them into different groups, they will still find each other and the concept of forming specific groups is hard to do in physical education as time is limited as is. Also, some of them are in the same squads, so having them work in squads wouldn't necessarily be beneficial either.

It is harder to control in a gym environment, since students are not sitting at desks. They are moving around and interacting with each other. I want to be able to have everyone benefit from the class. I don't want my well-behaved students to suffer, and I don't want my teaching to become so militant that physical education is not fun anymore. I want those boys to want to participate and I need to develop different approaches in order to try and make that happen. I may attempt to use them as examples in front of the class so that they feel more important. I

may ask them directly what I can do to challenge them or make them more interested. I am determined to not have my management reside in them sitting on the bench every class because then that would also feel like failure. Failure to motivate.

Sometimes if the whole class is being disruptive, I may have to have them sit in their squads for the whole class and think about why they are not playing in gym right now. Perhaps I can find different ways to penalize, for example, doing inventory or running laps other than sitting students on the bench. Maybe when they are sitting on the bench, I will have the class play their favourite game and not allow them to participate. There are different options available, and some may work, and some may not. It is a trial-and-error attempt until a technique that works for the class surfaces.

All of these concepts would be more practical if they were my own class, and if I was going to be teaching them for the rest of the year. When I do have my own class, it will be easier to get to know my students and their interests. I feel that that is so important in becoming a successful teacher. It allows you to build rapport and respect, and it also allows you to understand the mindset of your students and perhaps the ‘why’ of their behaviour.

The record above communicates actions, emotions and in-the-moment thoughts that can now be revisited in this reflective account since they have been captured on paper. Over time these accounts can reveal trends, habits and instances where professional development is possible and necessary. AR remains a tool within the teacher’s toolbox to maintain the educational landscape.

Discussion

A beginning teacher in training may have “feelings of isolation and loneliness . . . [due to] the shock of facing multiple demands . . . [and often fear] the challenge of teaching subject matter for which they are inadequately prepared” (Rosaen & Schram, 1997, p. 257). Faced with new and multiple challenges, a pre-service educator in training has little time to reflect, process and sort, in class teaching experience into useful feedback. This situates the teacher in training within a time deficit hence reflective efforts only superficially address an AR task in teaching practice. Conceivably this is a limitation of attempting to complete AR during teacher training. Nonetheless, it is generally accepted that AR is a way to sort out not only “one’s values, beliefs, motives, but also to give more attention to the analysis of the experiences of the classroom: ‘new perceptions’ may lead to ‘altered conceptions and reconstructions’ of aspects of the art of teaching” (Rudduck, 1991, p. 94). The teacher researcher is making a contribution to what is known about teacher training.

Once written down experiences can be made available to advisors, supervisors and other stakeholders. Those reading such accounts, including the author of the AR reflection, can begin to construct responses and suggestions that may offer differing interpretations and pathways (Ryan, 2020). Since the millennium, educators and education have felt a need to look back to see how we got to this point in time. This reflective habit is both informative and useful in all walks of life. Gabel (2001) claimed, we are in an,

era of teacher education during which reflective practice . . . and the value of reflexivity between experience and pedagogy are common research themes . . . Teaching journals are

assigned to facilitate deep and critical reflection on one's experiences in the field. At times, it seems that every possible identity is explored, every experience is examined, and every personal story is told. (p. 37)

The Ontario teacher in training, and really all educators, question their practice, their routines and their school community, as it is constantly changing, adapting and growing. AR supplies both a strategy and system to address emergent questions; the actions of the AR are empowering as they are often the centre point of the investigation. AR is the type of research, which is very accessible, adaptable and complementary to the role of an educator; and in addition, it is good research. Miles and Huberman (1994) agree, suggesting,

good qualitative research . . . requires careful record keeping as a way of connecting with important audiences. The first audience is self: The notebooks of the . . . help each keep track of what was done along the way, suggest ways of improving next steps, and give reassurance about the reproducibility of the results. (p. 280)

A question "serves as a mechanism and catalyst to engage actively and deeply in the learning process" (Blessinger & Carfora, 2015, p. 5). AR has been found to "serve not only as a means of improving teaching. . . but also, in developing practitioners' flexibility and problem-solving skills" (Parsons & Brown, 2002, p.6). Improvements "should be developed so that it reduces rather than increases such pressures" (Keegan, 2019, p.127), over time.

Figure 3: Teacher Improvement via AR

Source: (Ryan, 2006, p. 12)



Student-teachers may naturally reflect within the moment (Schon, 1983), or reflect following teaching, in each case reflection is "constructivist in nature because it allows the student to

take greater ownership of her/his learning by allowing them a means by which to construct their own knowledge rather than just having that knowledge merely spoon-fed to them by others” (Blessinger & Carfora, 2015, p. 5). AR is utilised “to improve the practice of education, with researchers studying their own problems or issues in a school or educational setting” (Creswell, 2012, p. 592). The data and the research are embedded in the teacher’s daily teaching practice and developed over time” (Keegan, 2019, p.128). “Education, as a ‘field of action’ of action research, can significantly affect the development of reflection” (Luttenberg et al., 2017, p. 94), as the action researcher can develop very personal insights that are documented and sometimes made public.

Admittedly, AR is “not expected to be generalisable. It is intended to focus on an identified area of improvement in an individual classroom or in a particular school” (Ward & Millar, 2019, p.43). AR can be shared, however, “teachers often find that some solutions identified by classroom researchers relate to their own circumstances; because of common foundations” (Ward & Millar, 2019, p.43). AR “can be a transformative tool for the environment and the curriculum, as well as for the child, the teacher, and the community” (Ward & Millar, 2019, p.43).

Conclusion

AR is and has been for some time a positive force in education, yet sometimes there are barriers such as gaining entry, and getting ethics approval to examine your own work within a classroom which meets with resistance from protective stakeholders, who may fear what is written, reported and eventually made public. AR is very different from traditional sciences, as AR is firmly positioned in the social sciences, and understood easily by those who work within an educational role where personal experience is valued and instructive (Rutten, 2021). The almost intimate insight the reader gains by reading a journal entry made public via publication can be uplifting, bonding and motivating. This effort to develop a journal is a subjective task requiring risk-taking and confidence. Nonetheless, AR is iterative, and brings what may be tacit to the written page via planned actions, reflections and revisions (Zuber-Skerritt, 2018) through repeated cycles of AR over time (Ryan, 2020).

AR is a mode to make thinking visible, just as pedagogical documentation makes student thinking visible through photos, video, audio data, and written notes for the purpose of understanding thinking and planning. AR is a means to listen and decode pedagogy as tacit knowledge is made visible (Dahlberg 2012; Fyfe, 2012). By documenting within an AR enterprise, a window is opened to everyday insights “concerned with developing practical knowing in the pursuit of worthwhile human purposes” (Reason & Bradbury, 2008, p. 4). The journal entry is personal, subjective and meaningful, as it captures reflections in detail through the effort of the participant who works to advance their practice and understanding of their own pedagogy. Reflection on one’s everyday professional world seems an important “entry to a deeper understanding of educational innovation and change”. Through such reflection and revaluation, the teacher may gain a clearer sense of the way in which the past shapes and informs possibilities for action in the present” (Rudduck, 1991, p. 94).

A.R. fuses action while coupling “theory and practice, in participation with others, in the pursuit of practical solutions” (Reason & Bradbury, 2008, p. 4). A.R. is appealing, pliable, and inclusive as it seems to complement educational landscapes with it act, reflect and revise routine. Most importantly, an action researcher “addresses a specific, practical issue and seeks to obtain solutions to a problem” (Creswell, 2012, p. 577). A.R. is used “to improve the practice of education, with researchers studying their own problems or issues in a school or educational setting” (p. 592). The AR in this article demonstrates a need to reflect on self (reflexivity) in relation to others which is a fundamental developmental task within teacher training that impacts self-development in a professional manner. Making sense in a practice is a recursive cyclical exercise that is strategic and systematic within a particular context embedded in the education setting. The teachers in this article take actions, reflect upon these experiences, and plan next steps as a pedagogy which is something that helps pre-service teachers professionally develop. Professional development includes the revision of teaching plans, actions and decisions while training to be a Health and Physical Educator. The AR journal herein was a means to discover, decode, and process experiences to build self and professionally develop. This act of documentation (writing) is a means to sort, identify and bolster the evolving educator.

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Co-construction of territorial and sociodemographic data in a poor informal neighborhood with high socio-environmental vulnerability in the city of La Plata, Argentina

Tomás Canevari

Abstract This paper presents the results of a census carried out in the largest of the 164 informal settlements currently in existence in the city of La Plata, capital of the province of Buenos Aires, Argentina. The objective is to define territorial and sociodemographic data of this poor informal neighbourhood with high socio-environmental vulnerability, paying special interest to the macro variables related to housing, education and work, as well as perceptions about the neighbourhood and future prospects. Therefore, the aim is to generate co-constructed scientific knowledge in tandem with the community, which in turn recovers knowledge and demands from the territory with a concrete potential for transformation. This work is part of a Participatory Scientific Agenda based on the interaction of the community, political, economic and scientific-technical actors.

Keywords: Poor informal neighborhood; socio-environmental vulnerability; Participatory Action Research; Participatory Scientific Agenda.

Co-construcción de datos territoriales y sociodemográficos en un barrio popular con elevada vulnerabilidad socioambiental en la ciudad de La Plata, Argentina

Resumen El artículo presenta resultados de un censo realizado en el más grande de los 164 asentamientos informales que existen actualmente en la ciudad de La Plata, capital de la provincia de Buenos Aires, Argentina. El objetivo es definir datos territoriales y sociodemográficos de este barrio popular con elevada vulnerabilidad socioambiental con especial interés en las macrovariables relacionadas a vivienda, educación y trabajo, así como percepciones en torno al barrio y deseos a futuro. Así, se apunta a generar conocimiento científico co-construido junto a la comunidad implicada, que recupera saberes y demandas del territorio con un potencial concreto de transformación. El trabajo es parte de una Agenda Científica Participativa basada en la interacción de actores comunitarios, políticos, económicos y científico-técnicos.

Palabras clave: Barrio popular; vulnerabilidad socioambiental; Investigación-Acción-Participativa; Agenda Científica Participativa.

1 Introduction

This article presents a Participatory-Action-Research process aimed towards the co-construction of territorial and sociodemographic data to nurture a Participatory Scientific Agenda and contribute to the development of public policies with high citizen participation. This paper is based on the results of a census carried out in the Puente de Fierro settlement in 2017. It is the largest of the 164 informal settlements currently in existence in the city of La Plata, capital of the province of Buenos Aires, Argentina. The survey has three distinctive characteristics. Firstly, its theoretical stance: that of a science that seeks to overcome the instances of diagnosis and criticism to intervene in phases of transformation. Secondly, its methodology, with the participation of the inhabitants of the neighborhood from the very design of the survey instruments. Therefore, both statistical data and perceptions about the neighborhood, its problems and prospects, are produced and interpreted with a comprehensive territorial approach from the very inception of the project. Third, its content, paying special interest to the macro variables related to housing, education and work, as well as knowing more about “identities, needs and dreams” of the inhabitants, by which the title of the survey is inspired.

The path of this dialogic research practice, with a territorial approach and with a strong coexistence of theory and praxis, began in tandem with an interdisciplinary team from the National University of La Plata (UNLP) and the National Council for Scientific and Technical Research of Argentina (CONICET). Since 2015, it recovers knowledge and the demands of the territory to nurture a Participatory Scientific Agenda which has been carried out since 2016. Said Agenda has its executing arm in what we call Permanent Work Table, a monthly meeting in the neighborhood with the participation of community, political, economic and scientific-technical actors so as to promote the generation and execution of different proposals and projects with possible solutions to the issues at hand.

During the six years of this currently ongoing Participatory-Action-Research process, social and environmental problems were addressed from a multidisciplinary and all encompassing management perspective of territory. Once the objective of a meeting per month over an extended period was achieved, in addition to dozens of inter-table and technical meetings, along with an attitude of respect and attentive listening, the stakeholders managed to build a fundamental bond of trust when it came to cooperative work with the inhabitants, grassroots organizations and their pre-existing networks. In recent years, within this process of participatory action-research, the study and intervention stages began to be carried out simultaneously since it became necessary to continue producing data that constitutes relevant input toward the initiatives and decision making process. Such is the case of the census presented in this article, promoted by the inhabitants of an informal neighbourhood who seek access to educational institutions and formal work as tools for integration and social progress.

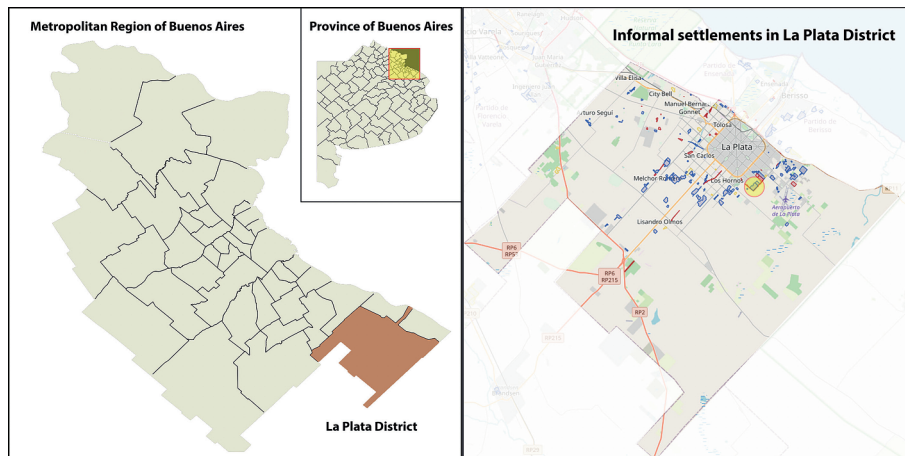
La Plata is in the southern end of a metropolitan region with more than 14.5 million inhabitants (INDEC, 2012), that means this region concentrates 37% of the country's population in less than 1 % of the national territory¹. This makes it the main urban agglomeration in the country, the second largest urban area in South America and one of the twentieth largest in the world (Fernández, 2011). Following the Río de La Plata eastward, we find the municipalities of Berisso and Ensenada which make up the Gran La Plata (Greater La Plata Area),

1 The Metropolitan Region of Buenos Aires is an operational regionalisation that since 2003 INDEC defines as the City of Buenos Aires and 40 districts in the Province of Buenos Aires, including the Greater La Plata (La Plata, Berisso and Ensenada).

an urban conglomerate of 799,523 inhabitants according to data from the latest national census (INDEC, 2012).

The case study focuses on the Puente de Fierro neighborhood, located in the Altos de San Lorenzo Community Center, southwest of the city of La Plata. It is the most heavily inhabited of the 164 informal urbanisations in the city (figure 1). It emerged in 1994 as thousands of others did in the 1990 s throughout Latin America based on collective land occupations, promoted in many cases by political, social and religious organisations. This settlement stretches over 50 hectares, and it has more than a thousand homes and 5,200 inhabitants. Furthermore, more than 30 social organisations such as political groups, soup kitchens, co-operatives and religious institutions are located within the neighborhood. These constitute the main network of sociability and political action (Canevari, 2019).

Figure 1: Location of the Metropolitan Region of Buenos Aires within the province of Buenos Aires; and a map of informal settlements in the Greater La Plata Area, with Puente de Fierro highlighted (Own elaboration based on a map of the Provincial Public Registry of Slums and Precarious Settlements of the Ministry of Infrastructure of the Province of Buenos Aires).



As it occurs commonly in this type of settlement, Puente de Fierro has a high socio-environmental vulnerability, as to the conditions of living in poverty, the peril of occupying a territory with high water flooding risk is added. Puente de Fierro is located on the outskirts of the city and on the floodplains of an important hydrographic basin, the Maldonado creek basin. This reality highlights the main problem of the countries of the region, which have perpetuated a model of inequity that is produced and reproduced in their cities. Poverty was a constitutive element in a model of urban exclusion (Reygadas, 2015). This exclusion is expressed in the limited possibility for many social sectors to insert themselves into the logic of educational institutions and the labor market. Moreover, this context also translates into processes of segregation, exclusion, stigmatisation of its inhabitants, disregarding their desires and dreams, as if these were not morally valid given the high level of unsatisfied basic needs they suffer from. In other words, there is a double discrimination present that silences and distances them. Therein lies the importance of the collective construction of knowledge,

which involves and revalues the word and the senses built by the very inhabitants of the settlement.

2 A context of multiple inequalities

Latin America is the most urbanised region in the world with 80 % of its population living in urban areas and it is the most inequitable on the planet, which is manifested by income inequality and the number of informal settlements, with 111 million people living in a precarious housing situation and one in five below the poverty line (UN-Habitat, 2012). This sad structural reality manifests itself spatially in large urban centers and intermediate cities in segmentation and fragmentation dynamics aggravated by the processes of globalization, commodification and privatisation (Ziccardi, 2008; Janoschka and Hidalgo, 2014).

Socio-spatial polarisation precedes globalisation and that it is rooted in pre-existing relations of production (Abramo, 2013), although this does not imply denying the effects of globalisation and neoliberalism on the city, or the impact that the increase in informalisation has in the spatial configuration and urban dynamics. As reported by the Argentine Government through the Socio-Urban Integration Secretariat (2020), in Argentina, 4416 informal neighborhoods were identified -where more than 900 thousand families live-², exceeding 4 million inhabitants. In the case of the province of Buenos Aires, this situation is repeated in 1726 neighbourhoods.

The reduction of the inequality of means, opportunities, capacities and recognition, fundamentally, implies a humanistic and respectful view of life, but it also means taking measures towards development. This occurs mainly for two reasons: on the one hand, because it focuses policies on rights and a humanistic vocation and, on the other, because it allows development models that improve productivity, economic and environmental sustainability, the strengthening of democracy and the exercise of full citizenship. There, in the equality of means and opportunities, the possibilities of education and work have a central role. This represents a more equitable distribution of income and wealth, greater participation in the wage bill, equal access to knowledge, competences and skills to undertake life projects that individuals consider valuable, while strengthening the visibility and affirmation of collective identities (ECLAC, 2018). In this regard, various authors have explained the centrality of work in the mechanisms for social reproduction (Bauman, 2000; Feldman and Murmis, 2000; Svampa, 2005). Redistribution of income, education and employment constitute key elements to reduce inequality.

Regarding employment, according to INDEC (2019), Argentine National Institute of Statistics and Census: out of an economically active population of 13 and a half million people, in the second quarter of 2019, unemployment reached 10.6 %, the highest figure in the last 13 years. Among the unemployed, almost 45 % failed to start or complete their high school education. Furthermore, there is a 13.1 % underemployment rate, that is, the part of the population that works for a few hours and would like to work more, but is unable to. As noted, large sectors of the country suffer the effects of unemployment and job insecurity, with

2 The National Register of Informal Neighbourhoods (RENABAP in Spanish) considers as informal settlements those vulnerable neighbourhoods where at least 8 families live, where more than half of the population does not have a land title or regular access to two or more of basic services.

consequences in all areas of family life and in the educational path of the youngest. The destructuring of labour relations was a terrible blow to the social structure, which Merklen (2010) defines as a shift in categories from the worker to the poor, as “(...) victims of a process of transformation that makes them losers in all accounts” (p.74).

In this context, the Greater La Plata Area is at the national average with a 10.5% unemployment and 13.2% of its inhabitants underemployed, and is one of the areas with the most informal settlements in the province of Buenos Aires: 164 neighbourhoods inhabited by more than 132 thousand people. There, housing conditions, deficient basic services, lack of formal educational institutions and unemployment act in combination with natural threats which put lives and material assets at risk. Moreover, an accentuation of poverty fosters more asymmetric and unequal relationships with those who administer public goods; relationships which are by nature marked by discontinuity and uncertainty (Vommaro and Combes, 2016).

3 Theoretical foundations

The challenge is to apply an interdisciplinary and participatory research with a transformative teleological perspective (Bozzano and Canevari, 2019). This standpoint is founded upon an emerging scientific paradigm (de Sousa Santos, 2009) applied in Participatory-Action-Research processes based on Orlando Fals Borda (1986). Diagnostics and critical evaluations are of great importance, but often insufficient to contribute to the construction of higher levels of autonomy and of social, economic and environmental justice. Therefore, the theoretical perspective is based on the joint realisation of knowledge construction which stems from working with the community, and praxis oriented towards the promotion of virtuous transformations and “real utopias (Wright, 2014).

In line with De Sousa Santos, in his *Epistemologies of the South* (2009), it is herein proposed to articulate with other types of knowledge more rooted on the local and historical aspects and, from there on, develop critical diagnoses of the present to allow for better decision making in the future. For this, its main premises are recovered: a) All natural scientific knowledge is social scientific knowledge; b) All knowledge is local and total; c) All knowledge is self-knowledge; and d) All scientific knowledge seeks to be constituted in common sense (de Sousa Santos, 2009).

From this approach, this paper is part of a practice of Participatory-Action-Research that recovers the definition of Fals Borda (1986) as “(...) a method of study and action that goes hand in hand with an altruistic philosophy of life to obtain useful and reliable results in the improvement of collective situations, especially for the popular classes” (p.320). It is multi-disciplinary and applicable in continuums that go from the micro to the macro of the studied universes, without losing the existential commitment to the vital philosophy of change that characterises it.

As noted by Wright (2014), this is a social science that provides systematic scientific knowledge about the social world to promote emancipation. The projection of real utopias should be useful to move towards alternatives of more just and sustainable territories. These alternatives are developed and evaluated according to their desirability, viability and feasi-

bility in three stages: a) Phase of diagnosis and criticism of the studied reality; b) Evaluation of viable alternatives; and c) Theory of transformations.

These transformations do not occur only on the material plane, such as the removal of a garbage dumpsite, the construction of sidewalks, a square or a community center in the neighborhood. Transformation processes occur in both, territories and in subjects and subjectivities. In this manner, a simultaneous process of construction of territories and subjects mediated by the construction of projects is articulated (Bozzano and Canevari, 2020), promoting appropriation, valorization, organization, communication and projection following symbiotic, interstitial and disruptive modalities (Wright, 2014).

As a result of the objectification and reflection of this Participatory Action-Research process, which began in 2015, two emerging concepts of praxis were born: the Participatory Scientific Agenda and the Permanent Working Table ((for further development on the epistemological origins of these concepts see Bozzano and Canevari, 2019). Both responding to the objective of carrying out a type of science that approximates people's wishes with public policies in cases of high exemplarity and replicability (Sousa Santos, 2009).

Participatory Scientific Agendas are born from interdisciplinary and multisectoral research. They emerge with the community, and are institutionalised in the scientific system. They are co-constructed among the involved communities, scientists, public institutions, social organisations and businesses. In contrast with the usual compartmentalised and sectoral approach, these Agendas must respond to more comprehensive visions of territory. They are carried out using a multiplicity of techniques and in a planned manner with Permanent Work Tables, at least monthly, uniting both community and science. It is a scientific methodology that builds knowledge and transforms reality, democratising and producing new knowledge.

Diagnostic work, prioritization and planning of actions are part of the work done with the community. These comprehensive agendas, in addition to promoting solutions to the problems addressed, aspire to promote a more plural and democratic governance: "They pursue a vision of macro-transformation -subjective, social, environmental and decisional- beyond the micro-transformations that each one brings about in relation to the activities and concrete actions that are agreed to be executed. The objective is that Agenda topics derive in State Policies or Public Policies and that the participants are co-authors of these policies. It is not a question of taking the role of the government nor replacing its citizens, but rather of contributing with knowledge and decision vectors typical of Transformation Theories, which are often absent from bureaucracy, political partisanship and the business world" (Bozzano and Canevari, 2019, p.33).

For its part, the Permanent Work Table is a space for dialogue and exchange, for the production of knowledge, and for the inception of transformation processes. Seen as a space of communication and popular education, the dialogues of knowledge (Freire, 1996) are very significant. These dialogues begin with the recognition of what Paulo Freire called "vocal universes" and "generating words", those challenge the participants to engage in new debates and contribute from their own knowledge, journeys and experiences. In short, the work is done from a problematizing perspective instead of using linear and dominating theories (Freire, 1970) that position the other as a passive agent.

The meeting is public and always open to new participants. It is not conceived as a communication space for the annulment of conflicts from a functionalist approach, but to manage complex scenarios as a result of multisectoral convergence. There the word is passed among stakeholders, and by doing so, implementing a way of understanding and exercising

power, in favour of a collaborative and participatory management of matters that run through life in the neighbourhood. Identities, subjectivities and new moralities that were degraded in the world of labour in the post-wage society became the anchorage of the neighbourhood (Svampa, 2005). There, citizenship is built, a way of structuring the popular classes where the neighbourhood constitutes itself as a support point for collective action in the face of the breakdown of work-related ties. The neighbourhood becomes the bedrock of this process, as it is from there that one goes to look for work, to earn a living or to study, and there one returns in search of rest and help. In other words, it is the basis of elementary sociability and solidarity. These are social practices of a sector of society in the face of the disorganisation that mainly caused the disarticulation of employment and social protections.

In essence, it aims at empowerment, achievement of higher levels of autonomy and construction of synergies to project a future of their own. In this regard, these results are not expected to be used, but the passage from *dialogues of knowledge* (Freire, 1996) is merely assumed as part of the investigative process which we propose to call *dialogues of doing* (Bozzano and Canevari, 2020). In this framework, the Agendas condense the first concept, while the Tables execute the second one.

4 Methodological aspects

The rollout of the Permanent Working Table in Puente de Fierro in August 2016 was the result of a year of fieldwork surveying social and environmental problems in co-ordination with initiatives to promote transformation processes. After eleven meetings with different actors in this multisectoral space, a census was carried out in the Puente de Fierro neighbourhood. The objective set by the community was to be able to count on concrete data validated by the scientific system to initiate negotiations with political decision-makers, focusing on habitat, education and employment. Therefore, this census presents statistical data but also specific questions about neighbourhood identity, the consequences of impoverishment, and the expectations of the community as a whole.

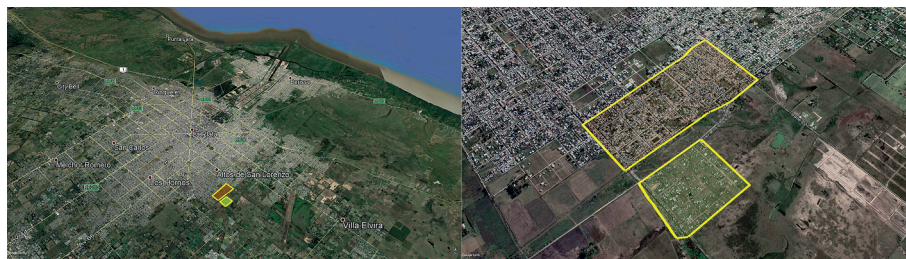
The design of the survey script was the result of six Work Table meetings by applying a participatory workshop dynamic. Regarding the thematic, sample and organisational aspects, the census was carried out block by block and each dwelling was identified by means of a block and lot codification. The head of the household answered the survey, and they were the ones who provided data on the other inhabitants of that dwelling. An instrument with standardised questions was used for the variables on housing and family group data, education and work, and open questions to show what they think about their neighborhood: defining it, how their neighbourhood improved and how it has gotten worse in the last five years and what are their dreams for the future. In the case of the first block, it was processed by means of the descriptive statistical analysis technique using the Statistical Package for the Social Sciences 23 (SPSS) software. As for the second block, the AtlasTi 8 software was used for its analysis and interpretation.

In order to carry out the census, training was arranged for pollsters and people from the neighbourhood who were willing to participate as companions during the field work. Subsequently, so as to improve polling resources, the authorities arranged the participation of

more than 50 students and teachers from the School of Nursing of the San Juan de Dios Hospital in La Plata, social workers from the Municipality of La Plata, volunteers from the National University of La Plata and the NGO Nuevo Ambiente. House-to-house data collection was carried out with the accompaniment and participation of neighbours and neighbourhood leaders all the time.

The neighbourhood occupies 50 hectares, with a total of 1077 households and an estimated 4055 inhabitants. The survey included 407 households, where data was obtained from 1,852 people. It should be noted that at the beginning of 2017 the settlement expanded over 20 hectares in size, forming what was named as Barrio Evita, where it is estimated that 1,200 people who have not been surveyed live (figure 2).

Figure 2: Location in La Plata of the Puente de Fierro neighborhood and, below, the new Evita neighborhood (Own elaboration based on Google Earth images)



Until February 2020, when the meetings began to be discontinued due to the COVID-19 pandemic, the participating team had carried out 43 monthly Work Tables, where the co-constructed Agenda is carried into practice. It has involved more than 120 work and technical meetings in the neighbourhood and public offices, to a large extent, using the data obtained in the survey whose most significant results are presented below.

5 Survey analysis

Out of 1852 people surveyed, 37.6% are between 0 and 17 years old, 59.4% between 18 and 64 years old and 3% are over 65 years old (figure 3). The data reveal a mostly young population, primarily within the economically active population range, that is, one made up of people in working age.

Unlike other more recent land occupations in the city and in the province, the people who inhabit this neighbourhood have largely done so for more than a decade: 40% have lived in the neighbourhood for less than 10 years, 39.6% have lived there for 11 to 20 years, while the remaining 20.4% have done so for more than 20 years (figure 4).

As it was made explicit above, access to housing and overcrowding constitute a structural problem in Argentina. According to the 407 registered households, 43.1% have up to 3 members. The number of households with 4 members represents 22.4% of the total, with 5 members 20.7% and with 6 or more members 36.8% (figure 5).

Figure 3. Population age (Own elaboration)

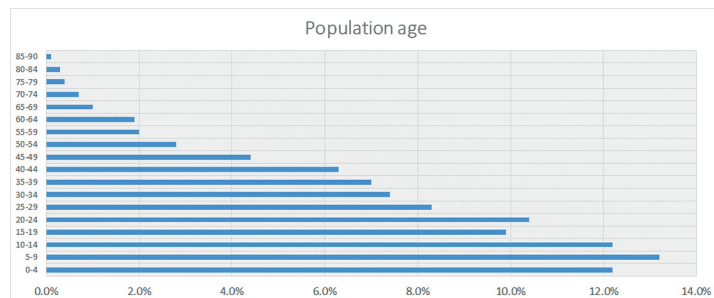


Figure 4. How many years have you lived in this neighbourhood? (Own elaboration)

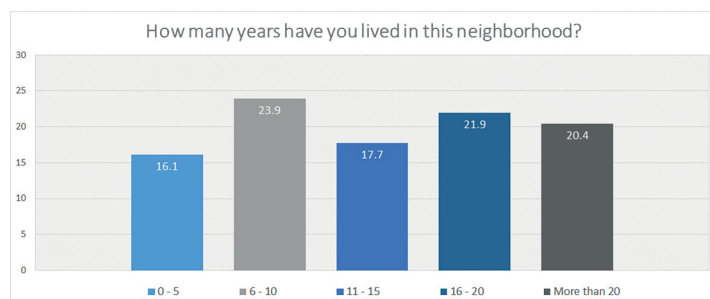
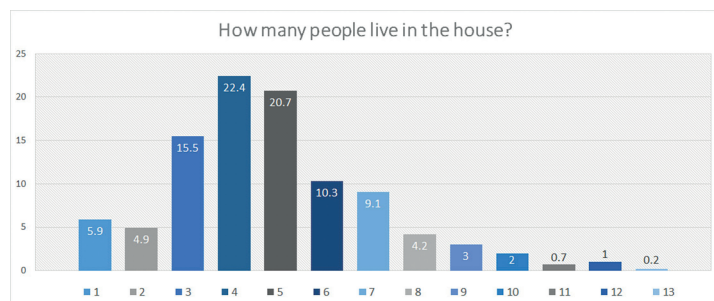


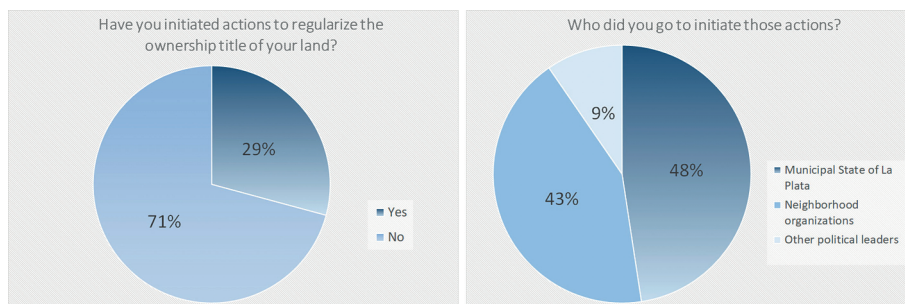
Figure 5. How many people live in the house? (Own elaboration)



In neighbourhoods like the one under study, the informal land market plays a crucial role in satisfying the demand for access to land. This informal market occupies a space where the formalities of public policies and the market are not present or not enough (Abramo, 2013). The lack of legal documents proving land ownership is a common situation for all inhabitants. In this regard, almost 71 % of the respondents did not initiate actions to try to regularise the legal situation of their land. Moreover, of the total number of respondents who started some kind of action, they did so to a greater extent from 2007 onwards: 50 % from 2007 to 2015, and 40 % in 2016 and 2017 (figure 6). Furthermore, the information of those who tried to start the process was verified, and as reflected in figure 7, they attempted to start the process recurring through different paths. These are divided between the municipal delegation corresponding to

the neighbourhood and the Municipal State of La Plata (47.6%), neighbourhood organisations (42.8%) and other political leaders (9.6%).

Figures 6 and 7. Have you initiated actions to regularise the ownership title of your land? Who did you go to initiate those actions? (Own elaboration)



The inhabitants of Puente de Fierro, since the occupation of the land and the creation of the settlement, set out to establish a “neighbourhood”, differentiating it from a “slum”. Therefore, they organised and opened streets trying to follow the guidelines of the urban layout by delimiting blocks, lots and sidewalks. Also, over time, they managed to create their own rainwater drainage system, and manage electricity and water services. Currently, precarious connections continue with open water pipes for drinking water, which are sometimes found next to sewage drains (figure 8). Regarding housing, 49.2% of those surveyed live in solid masonry construction houses (bricks), while 16.3% live in wood and sheet metal constructions, and 34.5% combine masonry with sheet metal and/or wood.

Figure 8: Stream channels, ditches, water pipes and garbage. (Photos by the author)



The self-built drains, the proximity to the Maldonado creek and the precarious housing conditions were part of the reasons that caused serious problems in the neighbourhood when a storm occurred on April 2, 2013. High social vulnerability, due to poverty, in addition to precarious housing (figure 9) conditions made Puente de Fierro prone to be severely affected given its location in the floodplains of the Arroyo Maldonado, which gives its name to one of the main water basins of the city.

In the Maldonado basin, water exceeded 2 meters in height and remained in the houses for an average of 12 hours (Ingeniería UNLP, 2013). The extreme situation highlighted the disinformation and the lack of attention to the problem of water risk, but also the territorial dimension of inequality and disputes on the subject of the representation of the city (Canevari,

Figure 9: Precarious construction of houses and construction on stilts after the 2012 flood (Photos by the author)



2019, 2021). 74.3 % of respondents had their house flooded that day on April 2. It is worth noting that half of them (49.8 %) said the flood rose above the height of their dining table, between 0.80 and 1.70 meters.

When asked about the most urgent need in the neighborhood, the five most repeated responses were security (20.5 %), asphalt (16.7 %), sewers (15.5 %), street lighting (14.3 %) and the legal situation of the land (10.5 %). The remaining 22.5 % is divided between drinking water supply, food, rainwater drainage system, educational and sanitary spaces, public spaces, housing, buses and bus stops, and waste collection.

5.1 Education and employment

98 % of cases surveyed who were between 6 and 11 years old are attending primary school. Of those between the ages of 12 and 17 years old, 73 % are currently in secondary school, 15 % continue in primary school and 8.2 % have dropped out. The data presented reveals a high schooling rate among those in school age. The figures vary when analysing the cases of those over 18 years old, where 13.2 % did not complete the primary level and only 34.5 % completed the secondary level. Likewise, as developed later, the completion of these school instances stands out as one of the main dreams of the inhabitants of the neighborhood. For these reasons, it turned into a central issue of the Work Tables in search of possible actions that maybe adapted to the analysed realities.

With regard to working conditions, 29.3 % of those over 18 years old stated that they had a formal job, 10.1 % were working in neighbourhood co-operatives (largely dedicated to cleaning the stream, ditches and public roads), 21.5 % doing temporary work in minor tasks (known as “changas”), 8.3 % receiving a retirement or pension, 18 % being a homemaker (unpaid work) and 12.8 % not being able to find work.

A central aspect to revisit in the Work Tables and the articulation with diverse pertinent State organisms, is that 90.3 % of the respondents agreed that it would be good to get training so as to gain access to a decent job. In the design of the instrument, it was agreed to define a series of twenty possible answers for multiple-choice questions that investigates the preference for training between different trades, resulting in the following order of preference according to the trades chosen by the largest number of respondents: in first place, cooking courses (12.7 %), followed by electricity (10.2 %), nursing (8.7 %) and pastries (8.7 %). Then comes hairdressing (8.3 %), masonry (8.1 %) and bakery (7.5 %).

5.2 Perceptions about the neighbourhood and future prospects

A section of the survey examines the symbolic level and refers to perceptions about the neighborhood, changes in recent years, interests and dreams. Despite the answers being open, as we are dealing with shared conditions from the same territory and historical moment, in many cases the perspectives coincide. The word clouds plotting the results highlight the most repeated words by size.

When asked to define Puente de Fierro in a single word, the responses were mainly skewed towards negative traits (figure 10). The most repeated associations focused on insecurity: “insecure neighbourhood” and “dangerous neighbourhood”. Crime, poverty, laziness, needs, drugs and oblivion were other responses, with less frequency though. Some responses account for the conditions of uncertainty and resilience in the face of adversity, such as “living day to day”, “suffering” or the blunt definition of it being a “survivors’ neighbourhood”.

To a lesser extent, there were also words with positive connotations that came up in the responses of the inhabitants where they defined Puente de Fierro as a “quiet neighbourhood” or “good neighbourhood”. Also, the sense of belonging is present, as their place in the world, when defining it as “my neighbourhood”, “my place” or “my home”. This accounts for a feeling that is repeated in popular neighbourhoods, where home is a concept beyond the house and it includes also the sidewalks, the corners of their block, squares, a soccer field or other recreational spaces. Other definitions, such as “solidarity” and “progress” highlight strong community ties or the perception of improvement, an aspect that is further elaborated in the following questions.

Figure 10: Word cloud based on the definition of the neighbourhood by its inhabitants (own elaboration).



Respondents were asked about their perception of transformations in the last five years within their neighbourhood. The word clouds reflect the definitions of those who believe that it improved (figure 11) and those who maintain that it worsened (figure 12). The perceptions of positive changes refer mainly to street lighting, asphaltting and public street maintenance, the

frequency and route of buses, the completion of new sidewalks and the greater quantity and quality of housing construction.

Conversely, those who perceive that the neighbourhood worsened underline the issue of insecurity, coinciding with the most used words to define the neighbourhood: insecure and dangerous. Some of the concerns mentioned are unemployment, insufficient income to make ends meet, the problem of garbage, drugs and young people without access to a job or education. In the negative side, “new people” and the worsening situation at “the bottom of the neighbourhood” were brought up.

Figures 11 and 12: Word cloud showing changes in the neighbourhood according to the respondents. It is divided between those who pinpoint what has improved and those who indicate how it has worsened (Own elaboration).



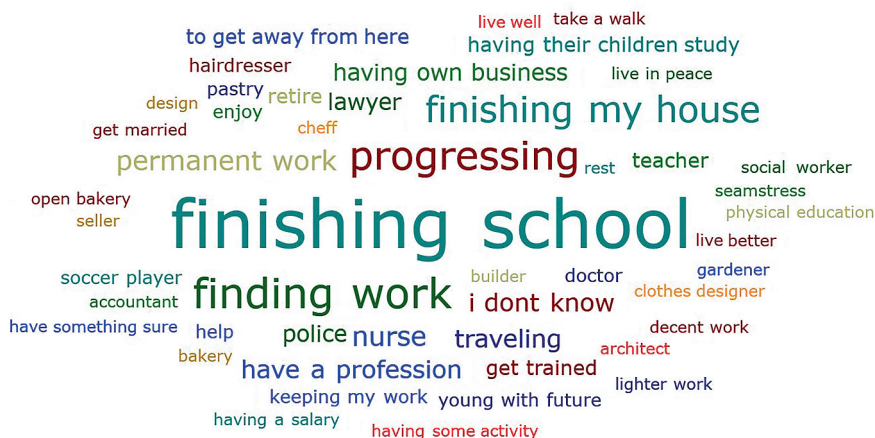
The possibility of planning for a future and having dreams is not predetermined but it is strongly conditioned by the reality faced by each person. This survey gathered information regarding the future dreams of the inhabitants of the neighbourhood according to their view. In the systematisation of this variable, the responses were classified into four main groups: education, work, professions and others. Regarding education, finishing school, training to have a profession and having their children study were the most outstanding responses. Finding work or keeping the one they already have; having a salary or own business; being able to retire; and that their children get decent work were the most common phrases found among those who projected their dreams thinking about work related situations. Another type of response was to directly define a profession they dream of having, among which police officer and nurse stand out. Finally, the dream of finishing the construction of their own house, progressing, traveling, ensuring a better future for their youngest ones were the most relevant, and in some cases the dream expressed was: “to get away from here”.

A broad analysis of these dreams shows that the majority of them focused on finishing school, having a job, progressing and finishing the construction of their houses (figure 13). To clarify what this last answer refers to, there were those who expressed it with greater detail: “Leaving my children a house with doors, windows and a bathroom inside.”

6 From Agendas to Tables. From the dialogue of knowledge to the dialogue of doing

The data obtained became one of the main contributions to the Participatory Scientific Agenda put in place a year before the census of this neighbourhood. Just as the design and field work of the survey was co-constructed, the information obtained was also presented and debated in

Figure 13: Word cloud showing the dreams expressed in different sizes according to frequency of cases (own elaboration).



multiple editions of the Permanent Working Tables. Beyond the dozens of conjunctural issues addressed in the meetings, three macro issues were agreed upon to implement actions in the immediate, medium and long-term future. These may be synthesised in fair access to habitat, education and employment.

This survey highlights the problems of the precariousness of housing and the number of inhabitants per household: while the average for the La Plata district is 2.9 inhabitants per household, in Puente de Fierro it amounts to 4.5. Impoverishment and the high cost of legal channels make informality an alternative when it comes to the access to land and the right to housing. What Abramo (2013) defines as the logic of necessity, in those places where the State and the formal market are not a viable option. These territories are characterised by their environmental vulnerability. According to testimonies in the neighborhood, rain always causes problems, but the storm of April 2, 2013 brought awareness to the risk of life. That event caused the flooding of 74% of those surveyed and in the case of half of those flooded, the water inside their houses exceeded the height of their dining table.

In addition to the efforts for short-term improvements in the maintenance of ditches, the collection of waste and the eradication of garbage dumpsites, the Work Table decided to present a formal request to the government of the Province of Buenos Aires for the Puente de Fierro neighborhood to be included in OPISU, Provincial Organism for Social and Urban Integration. The request is based on the data obtained which reveal a violation to the right of access to housing and the breach of Law 14449 on Fair Access to Habitat. Its inclusion is intended for the neighbourhood to obtain improvements for its urbanisation, the property ownership regulation of the land and the installation of basic services. Regarding educational attainment, it is observed that most children and young people currently of school age attend educational institutions. However, when focusing on those over 18, it is noted that 65.5% did not finish their high school studies (mandatory in Argentina). At the same time, the possibility of studying was one of the main dreams of the respondents. With these data, the regional coordinator of the Programme for the Completion of Primary and Secondary Studies (FinEs) was summoned to the Work Table. This programme is carried out by the national government

as of 2008 and continues to this day focused mainly on the completion of secondary education. The target is young people and adults over 18 who have been left out of the school system. The constant support and assessment strengthened the existing space and promoted new ones in order to make this programme a reality. It allows studying in a mixed mode and with flexible hours. It is currently held in five venues within the neighbourhood. The difficulty of finding a job is stressed by the inhabitants of the neighbourhood. Those who occasionally have temporary work (*changas*), those who answered that they are housewives and those self declared as unemployed account for 52.3 % of the population over 18 without stable income. As a first initiative in response to emergencies in terms of education and employment, the members of the Work Table agreed to encourage the development of trade courses in the neighbourhood, emphasising the topics most chosen in the survey. In agreement with the participants, the participation of officials from the National Ministry of Labor and the Ministry of Labor of the Province of Buenos Aires was requested. Over time, these and other steps led to the existence in the neighbourhood of twenty job training courses to date.

These courses, with official certification from the province, are offered at the headquarters of local social organisations. This situation renews an old demand regarding the need for a community center to develop these and other activities. An emerging long-term initiative refers to the creation of a fiscal land of 8 hectares so as to obtain the legal ownership before the State Property Administration Agency (AABE) for the creation of a Labour Training Centre with a kindergarten, as well as primary and secondary school annexes. The requests were carried out by the members of the Work Table who met with officials of the AABE, State Prosecutor of the province of Buenos Aires and provincial authorities of the Ministry of Education. Currently, the creation of an NGO is under way with the aim to have all the neighbourhood organisations to become the beneficiary of the lot, as required by the competent authorities to carry out the legal assignment.

These actions are part of a comprehensive management of the territory based on the application of participatory methodologies. These are not linear processes, but spirals of action-reflection-action (Freire, 1970) carried out in 43 Permanent Work Tables in co-ordination with a multiplicity of actors prioritising the identities, needs and dreams of the inhabitants of the neighborhood.

7 Discussion and Conclusions

This study combines socio-demographic data with territorial data based on the spatialisation of social life. In Argentina, the low expectation of growth and job opportunities in small and medium-sized cities generate internal migration under very unfavourable conditions, which increase informal settlements in the peri-urban areas of large cities, where they cross multiple dimensions or levels of inequality, as developed in the analysis of different variables in this article. Generally, in the Latin American urban space, and in this case study in the Metropolitan Region of Buenos Aires in particular, a differential and inequitable access to the valuable material and symbolic goods that are part of the city is expressed, consolidated and reproduced.

This assumed scientific position implies working on an object of study, but also on objects of intervention. That is, to identify possible problems and also possible solutions. The co-constructed knowledge, the recognition of cultural universes and multisectoral articulation result in concrete strategic actions. In this sense, Participatory Action-Research requires the commitment of researchers to a permanent and systemic process.

The fragmentation of theory and practice is one of the most important obstacles to gaining understanding and also to taking action. The research experience within this article was not made without inertia and obstacles, it does not replace actors or solve all problems. It works on the assessment of micro-agreements and micro-transformations that allow progress. This requires reflecting on medium and long-term perspectives, to avoid being locked into the urgency that usually represents an obstacle to achieving consistent change objectives.

The Agenda is traversed by tensions of reality between what was planned and the unpredictable, between people and institutions, between innovation and resistance to change, between the local and the global. Faced with this, the sustainability of an action research process over time reinforces bonds of trust and allows group action to acquire the routines and rituals that participating actors later make their own. Thus, it becomes a collective way of being and acting that builds its own language and codes.

Among those surveyed and their perceptions arises the concern to resolve situations in their immediate future and the impossibility of planning and projecting, they define the neighbourhood as a “day to day” experience. The dreams expressed by the inhabitants of the neighbourhood coincide with the search for a solution to the main problems revealed in this research: finishing school, getting a job and completing the construction of their homes. The word cloud shows the validity of the idea of progress through study and work. An analysis of relationships presented, in accordance to the survey, infers a sequential path of studying, getting decent and stable employment, progressing and living better.

Throughout the investigative process, the importance of interdisciplinary and inter-actor work is highlighted. Not only does it refer to the interaction and dialogue between scientific disciplines, but also with relevant public agencies in each addressed issue. But mainly, the focus should be placed at the value of the participation with members of the community, which enhances the production of knowledge while allowing the construction of initiatives and projects that turn them into subjects of transformation of their own realities.

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“Action research is not only a method.”

5 questions answered by Marianne Kristiansen and Jørgen Bloch-Poulsen, authors of *Action Research in Organizations. Participation in Change Processes*¹

About the book: Who decides to initiate change processes in organisations? Who sets the goals? What does it mean for employees to participate in change processes? The book examines organisational change processes based on collaboration between employers, employees and action researchers in Europe and the U.S. in the later part of the 20th century. The authors offer important insights into participation and change in organisations for researchers and practitioners by identifying dilemmas and paradoxes, conflicting interests and exercising of power.

Marianne Kristiansen

I am an Associate Professor Emerita and Ph.D. at the Institute of Communication and Psychology at Aalborg University/CPH, Denmark within interpersonal and organisational communication. As an action researcher I focus on participation, power, and dialogue.

I hold a Master of Arts (cand. mag.) in English and Danish from the University of Copenhagen (1975). I have studied at the University of Kansas and at Radcliffe College, Boston, and am trained as a psychodynamic and body psychotherapist. I have been a co-editor of the journal *Action Research* from 2008-2011 and am a member of the Editorial Committee of IJAR – International Journal of ActionResearch.



¹ The interview was first published by Verlag Barbara Budrich (<https://budrich.eu/news/interview-kristiansen-bloch-poulsen/>).

Jørgen Bloch-Poulsen

I am former Associate Professor in employee competence development and organizational change processes at the Institute of Learning and Philosophy at Aalborg University/Cph. I am a senior lecturer at the Master's Programme in Conflict Mediation at the Faculty of Law at Copenhagen University. I hold a M.A. Research in the history of ideas from Aarhus University (1972) and I am trained as a psychodynamic psychotherapist. I have written a Ph.D. thesis on Marianne's and my contribution to the development of a theory of dialogue and dialogic competences in organisational action research.



1. Dear Ms Kristiansen, dear Mr Bloch-Poulsen, please summarise the content of your current publication *Action Research in Organizations* for our readers.

Ideally, action research in organisations means that employers, employees, researchers, and other interested partners together initiate a combined change and research process in a workplace, because they want to improve and examine something.

Often these processes are called democratic, participatory, co-generative etc. The book examines the meaning of the prefix 'co-', i.e. what participation means in practice. Does it imply that such processes are democratic? Does it mean that employees, e.g., decide that these processes are to be initiated? What their goals are going to be? How they are designed and evaluated? Do researchers have a monopoly on interpreting the results or? Do employers and employees participate as co-researchers, as respondents or?

These and similar power issues are described and analysed through a study of some famous organisational action research projects in the 20th century: Kurt Lewin's change-oriented social science experiments in the American textile industry in the 1940s; the socio-technical systems thinking starting with the Tavistock Institute's studies in the British coalmines in the 1950s; the Norwegian industrial democracy projects in the 1960s; the Swedish and Norwegian democratic dialogue projects in the 1980s, and pragmatic action research projects in the Spanish co-operatives in the 1980s. The projects represent different approaches to action research as applied research, accompanying research or co-generative research.

The book focuses on tensions, dilemmas, and paradoxes arising when involving partners with different interests and knowledge such as those of researchers, employers, and employees.

2. From the perspective of organisational action research, what are currently the greatest challenges for participation in change processes?

The book points to three major challenges facing organisational action research to-day:

1. A higher degree of co-determination for employees

In most of the examined action research projects, participation means that employees can suggest methods to implement the goals decided by employers and action researchers in advance. Thus, participation means deliberative democracy in a weak sense in terms of methods. Only in few cases, the employees have co-determination on the means or methods. Usually, they have voice, but rarely choice.

As employees become higher educated, research shows they do not only demand to be heard, but to be part of decision processes. Co-influence will no longer be sufficient, we think co-determination will become necessary. This does not only deal with how a goal is going to be achieved. Employees want to participate in deciding the goals of a combined research and change process, how it is to be designed and evaluated, and afterwards who is allowed to tell "the truth" of it or learn from it. Thus, we think participation must develop from co-influence into co-determination on several aspects.

2. Increased emphasis on action researchers' self-reflections

This means, too, that action researchers no longer have a patent on truth automatically. Conversely, this does not imply that due to a higher education employees and employers become researchers. We think that ongoing dialogue on the exercising of power between researchers, employers, and employees becomes crucial, because they have different and often contrasting professional interests and knowledge. During the writing of the book, we came to understand participation as exercising of power, and to conclude that action researchers' ways of exercising of power could be considered as a silent discourse in the history of organisational action research.

3. Increased emphasis on basic academic standards

In some countries, action research is considered a pariah. It does not live up to positivist ideals of distance to the object, because its knowledge interest is not only to produce explanations or interpretations, but to create changes. As action researchers, we

think this positivist value-free ideal is itself a value. Conversely, the book points to some action research projects that exclude themselves from academia by not providing adequate documentation or valid argumentation. We understand improved fulfillment of basic academic standards as a current challenge for action research in organisations.

3. How do you think these challenges will change in the coming years?

We do not have a qualified bid for how the labor market will develop in the future with increasing globalisation, climate changes, migration etc. We think complexity will grow and thus tensions, dilemmas, and paradoxes. Probably, this means that action researchers must be able to handle unpredictable contexts to a greater degree.

We fear that continued self-reflection and increased emphasis on basic academic standards will become more difficult in the future. In our view, this is due to a continued de-reflection of higher education. Reflection is losing ground to competence. Second-loop learning is being substituted by single-loop, why by how. To a great extent, questions like: ‘What is my status and obligation as a researcher?’, ‘Why do I do as I do?’ seem to be substituted by ‘What is the most efficient method?’, ‘How can I perform in the most appropriate way?’

However, action research is not only a method. It is a contribution to creating a better world, not for, but together with other people. This requires continuous self-critical reflections together with other partners with different interests and professional backgrounds.

We think we have paid some hard lessons in the action research projects we have contributed to within the last 25 years. We hope the book can help others not to make the same mistakes, but hopefully learn from some new ones.

4. How did you get the idea to write this book?

When we entered the field of organisational action research in 1995, we would have liked to read a book like the one we are publishing now. We realised very quickly that participation in change processes is very complex. Often, we were faced with many practical dilemmas and paradoxes that we did not know how to handle. Many of them dealt with balancing voice and choice when involving employees and employers in change processes. Others were of a more scientific kind. Among others, they dealt with how to understand and document emergent change processes and our own practice as action researchers in co-operation with partners.

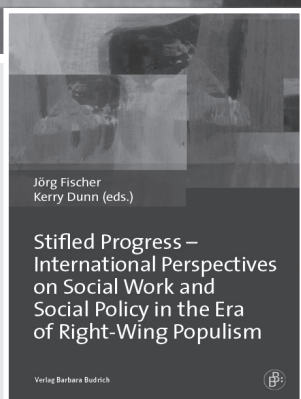
We would have liked to read a book like our own where we could learn that we were not the only ones dealing with such challenges. We started to read what former colleagues had done within the field, but we never had time enough to study their work in depth and

write about it. We were too preoccupied by action research projects, teaching, writing articles, reviewing etc, etc.

Now, we are emerita and senior external lecturer and have had time to write the book that we would have liked to read when entering the field. The book is our goodbye to a field that have given us many pleasures, challenges, and experiences. We hope different kinds of readers can find inspiration here and hopefully learn that their individual challenges might not only be their problems. We hope the book might help to understand the problems as more general challenges when doing action research in organisations.

5. This is why we are authors with Barbara Budrich

Barbara Budrich publishes the International Journal of Action Research. Werner Fricke, the former Editor-in Chief of the journal, learned about our book and suggested to publish it at Budrich. We are grateful for his recommendation and have felt at home at Budrich during the process. We appreciate its professionalism in terms of compliance with deadlines, rapid follow-ups etc. We like their openness to dialogues about crucial matters like, e.g., the title of a book, and the general kindness we have met from all employees. Thank you or 'tusind tak', as we say in Danish. We warmly recommend Budrich to future authors.



Jörg Fischer
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Action Research in Organizations

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Who decides to initiate change processes in organizations? Who sets the goals? What does it mean for employees to participate in change processes? The book examines organizational change processes based on collaboration between employers, employees and action researchers in Europe and the U.S. in the later part of the 20th century. The authors offer important insights into participation and change in organizations for researchers and practitioners by identifying dilemmas and paradoxes, conflicting interests and exercising of power.

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