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# 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

# 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.

# 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-



# 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 socio-demográficos 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 territory<sup>1</sup>. 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).