

Chapter 3 Methodology

Critical realist's research methodology seeks to discover the structures and mechanisms in the real domain that cause events and experiences in the actual and empirical domains. This chapter outlines the main elements of such research that finds application in curriculum development, critical pedagogy, and community development. Such application is illustrated by reference to Banfield's model of socialist pedagogy that seeks to develop students' standpoints in ways that foster class consciousness. The relations between class and other forms of oppression are explored through a critical realist reading of intersectionality theory before the focus turns to economic planning from below that has the potential to empower the working class. The use of ChatGPT as a teachers' assistant reveals AI's potential to suggest activities on co-operatives which incorporate the context + mechanism + outcome formula of critical realism. The chapter concludes by reflecting on the likely impact of AI on teacher professionalism.

Methodology refers to the ways in which scientists, including geographers, work to produce knowledge. It is informed both by theoretical issues related to the philosophy of science (ontology and epistemology) and more concrete issues concerning how one can conduct research or put theory into practice. Key to critical realist methodology is the identification of structures and mechanisms in the deep domain that cause phenomena (events and experiences) on the surface of society (in the actual and empirical domains).

These mechanisms can be bio-physical, social or psychological and may well not be directly observable except in terms of their effects. Researchers propose what mechanisms may be causing phenomena then collect evidence to eliminate some while supporting others. They recognise that mechanisms operate in changing configurations (conjunctures) and that they not only facilitate events but may block them occurring. Their causal powers can enable or constrain and will not necessarily be operative in the situation being studied.

Methods of research are context dependent. It is the nature of the things we study (their structures and mechanisms) that determine what knowledge we can obtain about them and how this knowledge can be acquired and applied. There are no universal step-by-step models of critical realist research, but it does display key elements that are transferable from one context to another. Some of these have

been introduced in previous chapters but they will now be revisited and new ones introduced, to provide an overview of methodology that applies to such fields as curriculum development, critical pedagogy, and community development as forms of inquiry.

Elements of critical realist research

Ethics. Critical realism claims that research in the social sciences is never pure of innocent but always entangled in social life and its politics. As we have seen it seeks to overcome fact/value dualism and make its own interests clear, the emancipation of humankind from the currently unjust, undemocratic and unsustainable world order. In both the natural and social sciences, values shape the selection of problems, the establishment of conclusions, and adherence to standards of enquiry. Values and social beliefs are part of the subject matter of the social sciences that study both social objects (including beliefs) and beliefs about those objects.

Interdisciplinarity. Critical realism adopts a holistic (non-reductionist, non-dual) view of the world. It is particularly suited to research in geography which is concerned with the workings of bio-physical and social systems, their interactions, and the resultant political economies, natures, places, and spaces. While geography itself is interdisciplinary, some consider that integrated curricula, for example environmental education or education for sustainable development and global citizenship, better meet the needs of both school students and society.

Role models. Some much cited research studies grounded in or implicitly consistent with critical realism act as role models for other researchers investigating similar or related topics. These may be classical works, such as those of Marx and Harvey, or contemporary works such as [Taylor's research](#) [1] on housing or [Isaksen's research on learning](#) [2].

Naïve and critical realism. Critical realist research is generally prompted by a desire to critique naïve realism or simplistic accounts of reality that are often embedded in hegemony, 'common sense' or taken for granted views of the world. Guided by its philosophy of science and critical social theory it draws on quantitative and qualitative data to evaluate competing explanations and arrive at a more critical and truthful account of reality.

[Judgemental rationality](#) [3] is the process of evaluating competing explanations or knowledge claims and deciding which ones are more credible or justifiable. This often involves rejecting simplistic, ‘common sense’ or hegemonic explanations. **Explanatory critique** is the related view that we can and should simultaneously explain and criticise what we study. Chapter two linked explanatory critique with emancipatory spirals (page 25) and both serve to mediate between factual propositions and value statements as researchers refine their theoretical and practical knowledge.

[Immanent critique](#) [4] a core concept in critical social theory, is a method of analysis that evaluates a social system or theory by examining its internal contradictions and inconsistencies, rather than applying external standards. It focuses on how a system’s own ideals or stated goals are not fully realised in its actual practices and structures. [Open Democracy](#) [5], for example, is engaged in immanent critique of democracy as practiced around the world.

[Retroduction](#) [6] relates to how researchers reach well founded conclusions based on initial and revised premises. It takes some phenomena or issue of interest as its starting point and asks what mechanisms must in all likelihood exist and interact in what circumstances (conjuncture) for the phenomena to be what it is? The researcher hypothesises likely mechanisms and conjunctures by drawing on critical social theory and tests them empirically. Retroduction is not about reaching conclusions from premises but about finding the premises when the conclusion is given. It draws on existing theories and empirical research, involves a movement to depth, and involves creativity and imagination. See for example [the research on pathways into homelessness](#) [7] that informs curriculum unit four in *Critical School Geography*.

Retroduction differs from **induction** that moves from particular cases to a general statement (e.g. this class consisting of mainly working class students underperform in school so all such students will underperform) and **deduction** that moves from a general statement to a particular case (working class students are known to underperform in school so that explains this student’s low test scores). Induction and deduction rest on the assumption of the constant conjunction of events and so have limited applicability beyond the description of such events in artificially controlled (experimental) environments. Unlike deductive reasoning or inductive reasoning, **abduction** infers a probable explanation, but not a certain one.

Retrodiction. While retrodiction identifies mechanisms, retrodiction analyses how they interact in actual events, ultimately further describing the cause of an effect. Researchers often use the term retrodiction to cover both and sometimes neither term is used when they simply refer to going from outcomes to causes and causes to outcomes.

Abstraction [8] refers to the ways in which researchers develop insights into the deep real or the structures and mechanisms that condition concrete phenomena and activities. Note how Blakeley uses abstractions to outline the nature of neoliberalism and how Fraser uses them in addressing ‘cannibal capitalism’ and 21C socialism. It is by focussing on both the concrete and the abstract that critical realist research remains grounded. Das provides a graphic of Marxism’s keywords that reminds us of its power to generate insights into structures and mechanisms. (Figure 3.1, page 65)

Cognitive errors. Critical realism draws attention to four possible errors when conducting research:

- Positivism that denies the role of values in shaping factual discourse
- Scientism that denies the role of factual discourse in shaping values
- Irrationalism that drains practice of cognitive content by virtue of its anti-intellectualism
- Theoreticism that empties theory of any practice

Explanation. Methodology seeks to generate explanatory theories or conceptual models of deep-real mechanisms that may or may not be observable, and do not always directly determine the events they govern. McAvoy and Butler see this as a three-step process:

1. *Create an a priori causal framework which represents the intransitive domain. This framework describes what existing theories suggest would be the mechanisms that might be involved, the events that would identify the actualisation of these mechanisms, and the contexts which might align to activate the mechanisms*
2. *Through a process of retrodution, guided by the casual framework, determine if the causal framework provides a good explanation for the observation of events that actually occurred, the mechanisms that led to the events, and the context which created these events. Differences between framework are represented as a new causal framework (there is one causal*



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Figure 3.1 [Marxism's keywords](#), Das, 2021, p. 14 [9]

framework created for each case examined). The difference between the outcomes that were expected and the outcomes that transpired is useful for showing the differences between what is believed and what the nature of the mechanism actually is.

3. *Through a process of retrodiction, the individual causal frameworks created for each case, are merged to explain differences and to create a single combined framework which is used to determine the most valuable explanation of mechanisms, how they are articulated (or not) and what impact the mechanisms have.* [McAvoy & Butler, 2017](#), p. 1318 [10]

The process illustrated in Figure 3.2 leads to results (causal frameworks) that are open to correction, re-description and revision and may therefore be repeated over several cycle. In the natural sciences that have techniques of experimental closure and the pure sciences to draw on, it is easier to identify and validate mechanisms and causal powers. There is a coherence of methodology in the natural and social sciences, but because of differences in their subject matter (see pages 9 & 10) they employ different techniques.

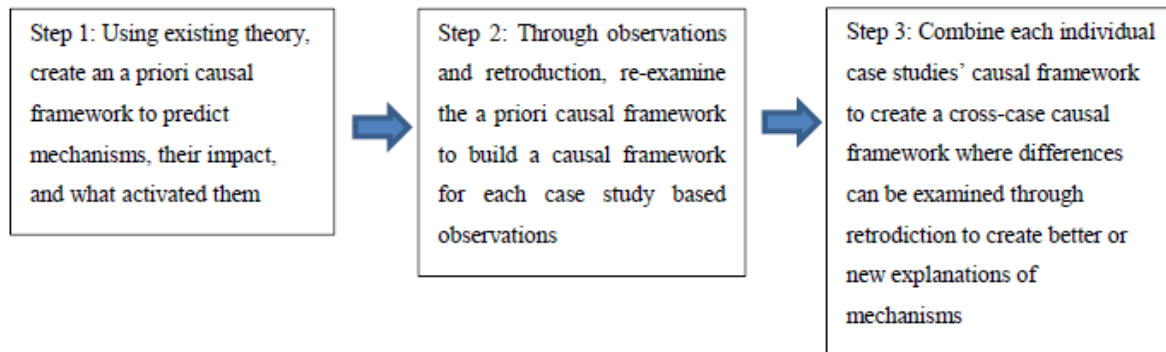


Figure 3.2 A critical realist research process, [McAvoy & Butler, 2017](#), p.1324

Quantitative and Qualitative techniques. Quantitative methods are more suited to physical geography where closed systems are more common (or can be isolated through experimentation) and qualitative methods are more suited to human geography where the meanings and concepts relating to phenomena are less suited to measurement. Hypotheses about such topics as migration or sustainability must be expressed in language and confirmed in dialogue meaning

that conceptual precision is to the social sciences what measurement is to the natural sciences.

When studying social phenomena, critical realist researchers use interviews, case studies, data relating to society and social provision, action research, and critical discourse analysis (see chapter four) to help them identify, delimit and describe a phenomena, pose questions regarding causal frameworks, conceptualise these frameworks (using abstraction and retrodution), collect relevant data to confirm, modify or deny their conceptualisation (a process involving judgemental rationality). Such action research or praxis is cyclical or iterative, tentative findings are refined through further testing them against the reality (do they have the power to explain and change the phenomena in ways that that empower people?).

Figure 3.3 (page 68) compares four research philosophies. We met positivism, interpretivism in the previous chapter and Schwab's concept of the practical (page 49) can be considered an example of pragmatism. Curriculum making and pedagogy can be guided by any one or a combination of these and those framings in which critical realism dominates can call on one or more of the other three. To illustrate what pedagogy guided by critical realist involves, we will examine Banfield's model of socialist pedagogy that seeks to develop class consciousness and then apply it to the teaching of economic planning from below and the role of the democratic economy and co-operatives in meeting the needs of the working class

Class and class struggle

In the conclusion to his 2016 text [*Critical Realism for Marxist Sociology of Education*](#) [11] Banfield argues that education is part of overall class struggle and should focus on developing class consciousness and the human capabilities needed to democratically remake society along with its history and geography. School geography largely ignores class and this neglect can be blamed on its long established role in sustaining ruling class hegemony and the more recent rise of liberal left identity politics that has directed attention towards identity and culture and away from class and class based politics.

Aspect	Positivism	Interpretivism	Critical Realism	Pragmatism
Ontology (Nature of reality)	Objective, external, independent of social actors	Subjective, multiple realities, socially constructed	Objective reality exists, but is interpreted through social conditioning	External, multiple, view chosen to best answer the research question
Epistemology (What constitutes acceptable knowledge)	Observable phenomena, law-like generalizations	Subjective meanings, social phenomena	Observable phenomena provide credible data, facts. Insufficient data means inaccuracies in sensations	Either or both observable phenomena and subjective meanings can provide acceptable knowledge
Axiology (Role of values)	Value-free, researcher is detached and objective	Value-bound, researcher is part of what is researched	Value-laden, researcher acknowledges bias	Values play a large role in interpreting results
Typical methods	Quantitative	Qualitative	Mixed methods	Mixed methods, qualitative, quantitative
Data collection techniques	Highly structured, large samples, measurement	Small samples, in-depth investigations, qualitative	Methods chosen must fit the subject matter, quantitative or qualitative	Methods chosen must fit the research question
Typical approach	Deductive	Inductive	Retroductive	Abductive
Strengths	Economical collection of large amounts of data, clear theoretical focus	Facilitates understanding of how and why, good for theory generation	Overcomes weaknesses of positivism and interpretivism, recognizes importance of external world and social structures	Emphasis on practical solutions, flexibility in choosing methods
Weakness	Inflexible, artificial findings, not good for theory generation	Time consuming, difficult to analyze and interpret data, not good for generalizations	May be seen as less scientific than positivism, can be difficult to fully separate researcher bias	May lack a clear philosophical foundation, can be seen as "sitting on the fence"

Figure 3.3 [Four research philosophies](#) [12]

Classes are large groups of people differing from each other by the place they occupy in a historically determined system of social production by their relation (in most cases fixed and formulated by law) to the means of production, by their role in the social organisation of labour, by the dimension of the share of social wealth of which they dispose and their mode of acquiring it. Lenin, 1965 quoted by [Hill, 2013](#), p. 14 & 15. [13]

For critical realists, class is not merely an identity, a social category, or a status label but a structure deep within society that results from the ruling class owning and controlling the means of production and the working class having to sell their labour in order to live. Class reflects and causes major economic, social and cultural differences in income, wealth, education and lifestyle and shapes how we are treated and how we present ourselves. Discrimination and oppression based on class is both personal and structural involving stereotyping, labelling, bullying, and mistreatment by employers and the agencies of the state which generally acts in the interests of capitalism and the ruling class (class nature of the state – Figure 3.1, page 65).

The working class and the subaltern

While the working class is often included as part of the broader category of the subaltern, they are not synonymous [14]. The subaltern, in postcolonial / decolonial theory refers to any marginalized or subordinate group excluded from the power structures and cultural narratives of a colonial or imperial power and from the metropolitan homeland of an empire. They are socially, politically and geographically excluded whereas the working class, who must sell their labour for wages, do have rights to make contracts with employers and enjoy the benefits the state affords them that may include protection from expropriation. Both experience oppression and marginalization, but while the subaltern experience expropriation, the working-class experience exploitation: these are different forms of oppression and different modes of domination. Fraser explores the economic and arguments behind this distinction which informed discussion of the knowledge of the powerless in the previous chapter (Figure 3.4, page 70). Capitalism is both classed and racialised with class being a signifier of exploitation and ‘race’ a signifier of expropriation.

	Exploitation	Expropriation
Meanings	Capitalism purchases labour power from workers who are exploited. Exploitation is classed = different classes are variously exploited.	Capitalism confiscates human capacities and natural resources from the subaltern and conscripts them into circuits of capital. Expropriation is racialised. 'Race' is a signifier of expropriation.
The economic argument – two forms of oppression.	Capitalism exploits workers (keeps wages and conditions down) to make profits. Workers are doubly free. They are free to contract with employers and enjoy rights as citizens. Historically a feature of core states in the global economy. Financialised capitalism or neoliberalism brings expropriation to the core, Precarity, debt servitude, decline of social wage. New class of acutely vulnerable enlarged by technological change.	Expropriation is a feature of colonialism and imperialism. The subaltern are unfree, dependent and subjugated peoples. Historically a feature of peripheral and semi-peripheral states in the global economy that lowers costs of production in the core = e.g. cheap food and textiles keep wages down. Modern forms include illegal migration, corporate land grabs, structural adjustment.
The political argument – two modes of domination.	Under managed capitalism (liberal democracy) the working class is constituted as workers and citizens and protected from expropriation. Class compromise – struggles for emancipation channelled into paths convergent with the interests of capital. Liberal democracy. Right and left populism on the rise as core states find it harder to fund welfare and citizens lose faith in liberal democracy.	Subaltern constituted as inherently violable with limited or no rights. Labelled alien, other, refugee, illegal, migrant. Frequently stateless. 'Race' a sign of violability. No accommodation with the state. Uprisings put down often with force. Naked repression. Migration brings increasing numbers of the subaltern to core states and prompts populism.

Figure 3.4 A summary of Fraser's distinction between the working class and the subaltern in chapter two of *Cannibal Capitalism*

Marxism and class

Keywords relating to class occupy the lower left quadrant of Figure 3.1 (page 65). While Marxists start from a binary classification of class (the proletariat vs. the bourgeoisie) they admit that the composition of the social classes change with developments in the forces and mode of production. The social structure of contemporary UK society is [far more complex](#) [15] than a binary division suggests, but it still results in mechanisms (social processes) that set people against one another and lead to class struggle. Such struggle is over things that matter, what the world is and what it will become, and is essentially a struggle

for hegemony or what are the dominant ideas shaping social organisation and political economy. As we saw in the preceding chapter, such struggle is increasingly between the populist right and left and the school curriculum is one site where it takes place. Socialist pedagogy offers a means of honestly representing it while asserting widely held ethical and procedural values.

Class and socialist pedagogy

In his contribution to Kelsh, Hill & Macrine's edited collection, [*Class in Education*](#) [16] Banfield insists that class is an essential and deep feature of capitalist societies but that this does not make Marxism determinate, ideological or reductive. By theorising Marx's base-superstructure model of the social in terms of critical realism's general meta-theory of the stratification of nature, he outlines a socialist pedagogy that can explore the construction of nature, place and space, and is thus well suited to the teaching of critical geography.

Banfield's representation of strong historical (and geographical) materialism shown in Figure 3.5 builds on the model outlined in chapter one (page 11). The three levels (the natural-material base, the socio-material base, and the superstructure) are rooted in the natural-material and are emergent from each other. Each level has its own mechanisms and these shape/reshape each other vertically. Meanwhile, the mechanisms shape/reshape one another horizontally across time and space. This should be viewed as a model of structures and mechanisms that have powers to shape events and experiences.

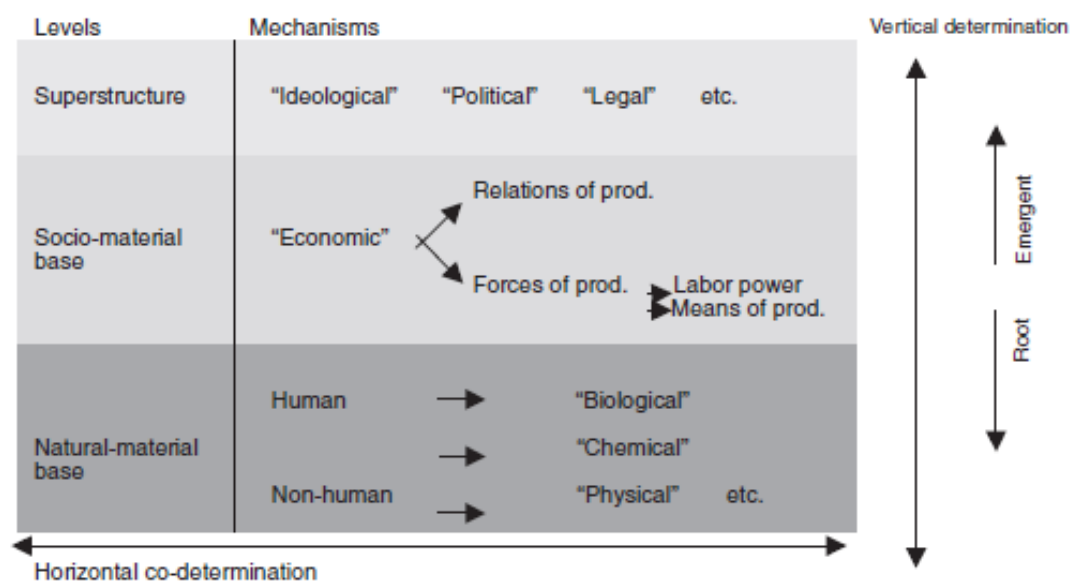


Figure 3.5 Strong historical materialism, Banfield, 2010, page 140

Teachers should, in Banfield's view, develop students' standpoints or vantage points (see standpoint theory, page 29) by enabling them to move conceptually within this model, exploring both vertical and horizontal determination / causation in ways that focus on class along with other concepts listed among Das's keywords (Figure 3.1 page 65). The traditional way of teaching regional geography is well suited to this as it moves up and down Figure 3.5 from physical geography to economic geography to political geography and then to cultural geography, and across Figure 3.5 via historical geography and the application of such concepts / keywords as time-space compression and uneven and combined development. Some of the concepts / keywords in Figure 3.1 fit neatly into a level in Figure 3.5 e.g. labour and labour process in the natural-material base, the class nature of the state in the socio-material base, bourgeois hegemony in the superstructure. But others, such as dialectics and socialism are more comprehensive and stretch across both the vertical and horizontal axes.

The presence of the keyword bourgeois hegemony among the keywords prompts such pedagogy to consider neoliberalism, it promises and realities (Figure 2.3 page 34) while such keywords as metabolic rift, gender and race, use value, imperialism, class struggle, and socialism in Figure 3.5 allows it to explore Fraser's models of cannibal capitalism and 21st Century socialism (Figure 2.8, page 47). It allows consideration of the four conditions that capitalism cannibalises (subjugated and racialised peoples at a distance, unwaged and underwaged carers, non-human nature, public services) along with its the exploitation of workers. There is scope for considering both exploitation and expropriation, the working class and the subaltern, and to explore how class intersects with other social signifiers. Unlike Fraser, Das maintains that all workers are subjected to expropriation but that minorities (signified by their 'race, indigeneity, sexual orientation, caste, gender, ethnicity, religion, sub-nationalism, and nationalism, etc') are also socially oppressed and suffer more than other workers as they are subjected to discrimination and made to feel inferior. He maintains that such oppression of minorities is rooted in the class nature of capitalism:

All workers are subjected to capitalist expropriation and, increasingly, to varying degrees to attacks on their democratic rights and tyranny. However the socially oppressed workers – those who are subjected to discrimination and inferiorization by the capitalist system based on race, indigeneity, sexual orientation, caste, gender, ethnicity, religion, sub-nationalism, and nationalism, etc – suffer more than other workers. Social oppression is dominantly (is not

exclusively) rooted in the class nature of society. On the one hand the division of the masses on the basis of cultural identity is carefully crafted by the ruling class to produce two effects: it justifies the super-exploitation of the oppressed groups (when they are denied the average rate of compensation) and it weakens the masses politically inhibiting their united struggle against the ruling class and the state. On the other hand: in their everyday life situation structurally imposed by the capitalist system, common people have to compete for dwindling job opportunities with decent wages and increasingly limited government welfare, and this generates animosity among them which takes the form of conflicts between identity groups. As well, reformist actions of their leaders and of opinion-makers such as academics who play up identity politics and ignore class politics also contribute to relations of oppression among common people and to their inclination for identity politics. So, while there are politically advanced layers within the working class who possess class-political and democratic consciousness, and while the proletariat has a tendency to be revolutionary over the long-term, narrow-minded, conservative, patriarchal, racist, Islamophobic, and even fascistic, just as they are reformists and electoralists. [Das, 2021](#) p. 37 [17]

Note in this extract how Das maintains that social oppression is ‘dominantly if not exclusively rooted in class division of society’; that the ruling class divides the masses on the basis of social identity; and that this allows super-exploitation of oppressed groups and weakens their potential for united class struggle. Note also his remarks about academics who play up identity politics and ignore class politics and his recognition that sections of the working class may be reactionary and even ‘fascistic’ and, as we saw in the last chapter, this causes them to support the populist right.

In chapter 3 of [Marxist Essays on Neoliberalism, Class, ‘Race’, Capitalism and Education](#) [18] Hill considers critical race theory that regards ‘race’ as the most significant form of oppression, and parallelist or equivalence theories that see ‘race’, class and gender as equivalent forms of oppression. Like Das he opts for Marxist theory that regards social class as the key determinant of oppression, discrimination and inequality, while acknowledging that it is often takes ‘raced’ and gendered forms.

Critical realism and intersectionality theory

Such a view is not supported by most advocates of [intersectionality theory](#) [19] that focuses on how social class interacts with other social categories to create specific experiences of oppression, poverty and social exclusion and can be seen to promote identity politics over class politics. Martinez Dy, Martin & Marlow develop a critical realism position on intersectionality theory suggesting that its limitations can be traced to its positivist and interpretivist origins. They offer an augmented account that insists that while they may be abstract social constructions, social categories serve to define real relationships of power that can in some cases exist unactualized, or be actualised but unrecognised by actors, groups and institutions (see Figure 3.6). Intersectional forces can be explored and researched on the three levels of reality recognised by critical realism in ways that advance intersectionality theory enabling it to more effectively account for the nature of structures of domination as well as how they are connected and replicate themselves.

Real	<p>Real generative mechanisms emerge from intersecting structures of domination that serve to position individuals and groups within social hierarchies.</p> <p>These complex and dynamic mechanisms privilege or disadvantage (enable or constrain) agents in relation to social mobility and material, political, social, cultural, and economic resources.</p>
Actual	<p>Enablement or constraint on the basis of positionality impacts people's lives – in particular, by offering or limiting opportunities and choices, and affecting how they are perceived and treated by institutions, groups and individuals.</p>
Empirical	<p>Via their tendencies, privileges and disadvantages are recognised, acknowledged, and understood by individual agents, others, institutions.</p> <p>They may (or may not) be taken into account and considered in the exercise of agency.</p>

Figure 3.6 Critical Realist Intersectional Ontology, [Martinez Dy, Martin & Marlow, 2014](#), p. 14 [20]

Categories such as class, 'race' and gender are then taken as abstract starting points with durable social meaning from which to explore broader social inequalities as well as dynamic processes of positionality, vantage point, and agency. Such a reformulated account of intersectionality theory would move it beyond mere discussions of identity and towards its original aims of dismantling

negative structures of domination and promoting emancipation and human flourishing. Related research would reveal the relative importance of class among other social categories while acknowledging that classism is embedded deep within the economy and shapes social and cultural mechanisms of prejudice and oppression linked to the forms of social exclusion that Das lists.

Progression, extending students' vantage points by moving from the local to the global

Banfield offers the model in Figure 3.7 (page 75) which suggests that students of geography extend their vantage points by considering natures, places, spaces and issues that require ever more complex forms of explanation. It reflects the oft stated principle of moving from the local (where fewer vertical mechanisms are in play and horizontal / spatial / global extension may be simpler) to the global (where more vertical linkages may be in play and spatial / horizontal extension is complex). Such keywords / concepts as capital, value and class need to be introduced early in a student's geographical learning while such concepts as uneven and combined development and the limits to reforms under capitalism can be left for a much later stage / age.

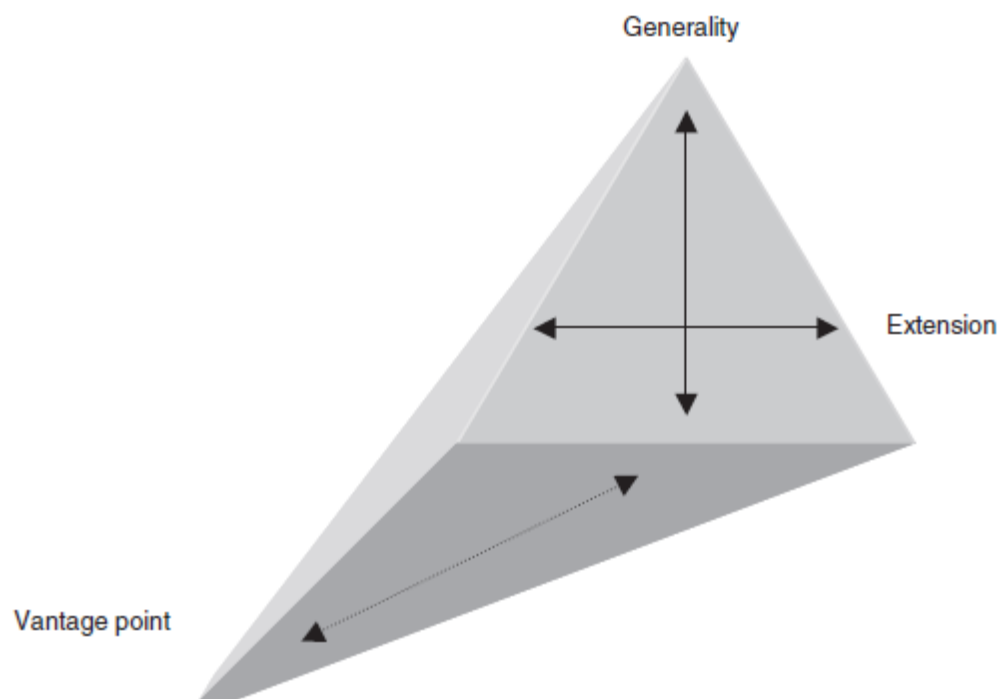


Figure 3.7 The three dimensional modal operation incorporating vantage point, Banfield, 2010, page 145

Democratic planning from below

We do not have to live in a society defined by such extreme inequality of wealth and power. We do not have to spend the rest of our lives dealing with the feelings of hopelessness and despair. We do not have to live in a world that is unfree. We have only to peer through the cracks already emerging within capitalism to catch a glimpse of the real freedom that awaits on the other side. [Blakeley](#), 2024, p. 295 [21]

Geography teachers seeking to enlarge and change students' standpoints in ways that develop class consciousness, should deal with class struggle in constructive ways that demonstrate how democratic economies take root, develop along with wider changes in politics and culture. The choice facing UK citizens, as Blakeley makes clear in *Vulture Capitalism*, is between democratic planning and oligarchic planning, between the current hegemony of the oligarchs and the counter-hegemonic bloc of radical parties and social movements. The examples she cites of citizens seeking to 'take back control' via democratic planning and community organising from below are the Lucas Plan, the Greater London Council's Enterprise Board, Australia's green bans, the Marinaleda co-op in Spain, the People's Plan for the Royal Docks, participatory budgeting in Porto Alegre, people's planning in Kerala, the Ciudad Futura co-op in Argentina, cooperative and community enterprises in Jackson, Mississippi, community wealth building in Preston, and social enterprises in Blaenau Ffestiniog.

Such democratic planning is a recurring theme in the politics and policies of the populist left. It attempts to remake places, contributes to the institutional re-design envisaged by 21C socialists (Figure 2.8, page 46) and draws on transformative knowledges generated around the world (Figure 2.9, page 49).

The UN designated 2025 the [international year of Co-operatives](#) [22] seeking to raise awareness of their contribution to sustainable development and promote their development. The websites of the [Middleton Co-op](#) [23] and [Giroscope](#) [24] demonstrates how they have made a difference to place giving local people a greater stake in its economy and their futures. The [2024 report from Co-operatives UK](#) [25] defines the democratic economy:

The democratic economy focuses on businesses that give people a stake and a say, it consists of organisations that are democratically owned and equitably controlled by their members. These businesses have a mutual purpose to meet common need with all activities in the interest of current and future members.

They are co-operatives and they are mutuals. Not all mutuals are co-operatives. Both are member owned but while mutuals focus primarily on pooling resources for mutual benefit, co-operatives also emphasise member control and participation and adhere to a common set of values and principles. Co-operatives UK, 2024, p. 7

It also provides an overview of the extent of co-operation, its distribution, and its impact on the UK economy. A project on local co-operatives and mutuals is an appropriate way of introducing students to the democratic economy and planning from below whilst also exploring working class standpoints past and present.

AI and critical pedagogy

In his substack [Here's How I'm Engaging AI This Fall](#) [26] Blake argues that we should teach our students that learning and writing are processes via which we learn and develop useful capabilities and that cheating by using AI reduces their capacity to become critical thinkers who can contribute to the ongoing development of society. He maintains that LLMs (large language models) expose the weakness of much existing pedagogy based on rote learning and suggests principles and prototypes of productive engagement that teachers should follow as they adopt AI.

The six principles that Blake outlines will be familiar to teachers well versed in critical pedagogy. These he summarises as build agency, encourage reflection, explain what learning looks like, make values and learning goals explicit, find ways to show your students you trust them, and build socio-technical thinking. The last principle is particularly significant for pedagogy underpinned by critical realism since it requires students and teachers to consider the impact of AI (a real structure giving rise to mechanisms, events and experiences) on themselves, their neighbours, the natural world, and truth, virtue and their vision of the good life. He reminds us that:

We are still in the early stages, but the combination of generative AI with our existing channels for online communication is bound to create significant challenges in the years to come. We are slowly but surely moving toward the prospect of algorithmically-curated personalised worlds that increasingly bear little resemblance to those of our neighbours.

As regards prototypes for students, Blake suggests that AI can act as a homework helper, an interactive encyclopaedia, and an ideation partner suggesting ideas to

investigate. For teachers it can act as a pedagogy coach, an active learning activity generator, and a generator of feedback, summaries and analysis. Via such prototypes, Blake hopes that students and teachers will come to see AI as a friendly helper, to be used cautiously as a tool for critical pedagogy that is constantly evaluated against the values of the teacher, school and community.

Using ChatGPT to suggest classroom activities

Prompted by Blake's prototypes, I asked ChatGPT to suggest activities I can use with my 15 year old students to explore the principles and mechanisms shaping co-operative and democratic economies.

ChatGPT replied with some text emboldened:

*Exploring **co-operative and democratic economies** with 15-year-old students can be both educational and engaging if you balance theory with interactive, student-centered activities. Here are **age-appropriate, hands-on activities** that highlight key principles such as **shared ownership, democratic decision-making, solidarity, and equitable distribution of resources**:*

It then listed and outlined seven activities: Co-op Business Simulation, Mock Democratic Workplace, Co-op or Corporate? Debate, Case Study Projects, Co-op Principles Puzzle, Build a Co-op: Design Thinking Project, and Economic System Board Game. It also offered five principles to embed in such activities: shared ownership and profit, participatory democracy, equity and inclusion, solidarity and ethical practices, and long-term sustainability. Some of these differed from those in its initial / summary answer above.

ChatGPT had replied in less than one minute and provided answers with much potential to result in critical pedagogy even though it paid more attention to co-ops than the democratic economy more generally. But what about critical realism? What if I revised my initial query and asked it to suggest activities I can do with my 15 year old students to explore the principles and mechanisms shaping co-operative and democratic economies in ways underpinned by critical realism?

This time ChatGPT replied:

*Here are **six engaging activities** to help your 15-year-old students explore the principles and mechanisms of **co-operative and democratic economies**, grounded in a **critical realist framework** (i.e., focusing on **Context + Mechanism***

→ **Outcome**). Each activity invites reflective inquiry on how structures and human agency interact.

It not only outlined six activities but summarised them in a table:

Activity	Focus	CR Focus Context-Mechanism-Outcome
Co-op Simulation Game	Experiential learning through role play	Test how governance structures interact with shocks
Antigonish Study Club Model	Action-research small group projects	Collective planning, reflecting on real co-ops
Town-Hall Forum	Civic engagement public debate	Unpacking, enabling and limiting contexts/mechanisms
Case Study Mapping	Analytical research and presentation	Map contexts, mechanisms, outcomes from real examples
Collaborative Role-Switching	Peer-learning across perspectives	Explore how positional context shifts mechanism effects
Student Created Media	Creative representations	Synthesise and communicate complex interactions clearly

Figure 3.8 Summary table of activities suggested by ChatGPT

and explained why they work:

- **Hands-on, collaborative learning:** simulate cooperative economic activity, allowing students to feel how mechanisms operate in practice (simulation games + public pedagogy) [WikipediaWikipediaWikipedia](#).
- **Critical realism integration:** students are continuously supported to ask “why?” by linking **structure, agency, mechanisms, and context**, not merely listing events or opinions.
- **Development of critical scientific/social literacy:** balancing inquiry with real-world systems, exposing students to multiple perspectives and power structures within economic governance [PMCcpgj.wordpress.com](#).

It also offered help designing worksheets, discussion prompts, and lesson guides based on any of the six activities.

The context + mechanism + outcome formula

On the second time of asking ChatGPT replied with Critical Realism Case Studies as one of its six suggested activities and this appeared as number 4 Case Study Mapping in its summary table (Figure 3.8). Its outline of this activity is reprinted here:

4. Critical Realism Case Studies

- *Provide short case studies of real cooperatives (e.g. a local credit union, a platform co-op, farmers' co-op).*
- *Students apply the **CR explanatory triad**:*
 - **Context** (e.g. local need, legal environment, membership structure)
 - **Mechanism** (how decisions are made, reinvestment, democratic voting)
 - **Outcome** (financial sustainability, social benefits, member satisfaction) [Routledge+6Brill+6cpgj.wordpress.com+6](https://www.routledge.com/6Brill+6cpgj.wordpress.com/6).
- *They produce posters or short presentations mapping these three layers and reflecting on how contexts shape whether mechanisms can succeed.*

As you can see, ChatGPT has drawn on a chapter by Christodoulou that outlines a critical realist perspective on teacher education, and specifically on his use of [Pawson and Tilly's](#) [27] context + mechanism + outcome formula that reminds users that how, when and whether a mechanism will be activated depends on how it interacts with the context. They argue, to quote Christodoulou that:

- *Mechanisms refer to how the properties of one or more entities affect those of others*
- *Context refers to what conditions are needed for an entity's causal mechanisms to be triggered and*
- *Outcomes refer to the empirical manifestations produced by causal mechanisms being triggered in a given context* Christodoulou, p. 65

Reviewing column three of Figure 3.8 with the formula in mind suggests that ChatGPT has considerable potential to assist teachers with curriculum

development based on critical realism. The shocks in the third column for the simulation game activity presumably refers to the kind of shock that UK retail co-ops suffered when their computer systems failed in 2025.

On asking ChatGPT the same critical realism related question a day later (31.07.25) it came up with a rather different answer: seven activities that did not include Critical Realism Case Studies, no summary table, no explanation of why they should work, and no reference to Christodoulou. Consistency does not appear to be a feature of this LLM!

The future of AI and democratic schooling

In an article for the NEU's magazine *Educate*, [Gillen](#) [28] suggests that teachers need to catch up with the fast moving developments in AI as they affect schooling. The government is presenting it as a 'silver bullet' that can solve unmanageable workloads and teacher shortages. It has funded initiatives that include a '[content store](#)' [project](#) [29] to bring together data on areas that include the curriculum and lesson planning. The DfE has funded developers to create AI tools for marking and feedback.

While the NEU has concerns about consultation, workload, class sizes, monitoring impacts, and the delivery of related CPD and training, Gillen also points to the dangers of further de-professionalisation ('dumbing down' teaching) and the use of AI to censor content. AI increases the need to teach media literacy, research skills and the philosophy and politics of knowledge. Meanwhile [Stockings](#) [30] offers some thoughts and a useful bibliography on ChatGPT in geography education.

[The Co-operative Academies Trust](#) [31] its schools, and their curriculum would seem appropriate notes on which to end this chapter. The trust would appear to be [democratically governed](#) [32] guided by co-operative principles, and takes part in [community development](#) [33]. Its [curriculum principles](#) [34] are well worth studying by readers seeking to develop a curriculum based on critical realism. They suggest that schooling may be able to oppose mainstream hegemony and offer a more democratic and caring alternative to what happens in many other academies. That's for you to judge.

Further reading

[Ferguson](#) [35] claims that critical realism offers an ontology and epistemology to frame science education and focus on the development of critical scientific

literacy by teaching students which is real and what is arbitrary about science. Do her recommendations apply to geographical literacy and if so how should they be reflected in geographical education research?

[Seamon & Gill](#) [36] examine qualitative approaches to understanding environmental behaviour with reference to critical realism. They recap philosophical and conceptual approaches to research and outline a range of qualitative approaches and methods. Which of these can be used by your students as they investigate local and more distant issues?

[Rodriguez](#) [37] suggests new horizons for critical-emancipatory educational research guided by critical realism. He outlines 'lessons from critical realism' and concludes that the importance of human agency is as yet under-developed in his work. Others would point to much critical realist literature on this topic (see chapter three).

[Hill](#) [38] focuses on class, capitalism and inequality, recognising that the working class is segmented horizontally into 'layers' or strata (for example the dispossessed, unemployed, unskilled through to the supervisory, managerial level / stratum) and also vertically by 'race' and by gender. He addresses two types of Marxist analysis and proposes activist programmes of resistance at the levels of society and education. Also read [Harris' review](#) [39] of Budd's book *Underdogs: The Truth about Britain's White Working Class*. How can geography lessons capture the realities of class in contemporary Britain?

[Anne Simpson's article](#) [40] 'The Rich as a Minority Group' was published in the spring 1984 edition of *Contemporary Issues in Geography and Education*. She argued that multicultural education paid too much attention to 'race' and that 'if we shift the focus on race to a consideration of power as it is exerted along other axes – class, gender and region -we can see that a focus on race alone is by its very nature divisive'. Is her argument still valid and does the updating of the information she provides (pp. 20 & 21) strengthen the case for addressing class in school geography?

In a 2023 presentation entitled 'Fear and education: Inequality and the mask of school segregation in England' [Danny Dorling](#) [41] exposes the costs of what is ultimately a 'sad and silly situation'. To what extent do these costs remain hidden to state school students and their parents / carers? Do they warrant exposure via the geography curriculum?

[Driscoll and Feinstein](#) [42] write about the power of place or building independent power within local communities. [Majority](#) [43] claims that our political system has failed and exists to rebuild our democratic institutions to serve the interests of the many. It supports citizens to become activists and activists to become leaders. Given the government's guidance on [political impartiality in schools](#), [44] how would you defend the teaching of such ideas about change from below?

Read about the work of the [Association for Progressive Communications](#) [45]. How can you use its resources and stories to teach about issues of human rights and digital inclusion raised by the rapid advance of AI?

Discussion

While the structures and mechanisms of the bio-physical world are often visible those of the social world are largely invisible and must be inferred or retroducted. How should geography teachers draw attention to social structures and mechanisms and enable students to see their relevance to explaining nature, place and space?

In what ways can older school students be introduced to judgemental rationality, retroduction, and abstraction? Give examples related to frequently taught topics in school geography.

Figure 3.1 presents Marxism's keyworlds. What keyworlds are associated with neoliberalism and social democracy and how should these be explored along with the Marxist keyworlds as critical pedagogy moves vertically and horizontally within Banfield's model of historical materialism, Figure 3.5?

Can McAoy & Butler's three step process (test on pages 64 & 66 and Figure 3.2) be translated into student friendly language? Try this with reference to a place-based issue they can investigate.

Is the author correct in his assertion that school geography has largely ignored class? Is this true of the curriculum in both state and private schools? How might critical realist research be applied to address these questions?

Is Das' distinction between economic and social oppression helpful? How are the relations between class, 'race' and gender and other forms of expression explored (or not explored) in the curriculum you teach?

Are co-operatives the most effective way of introducing the democratic economy? Has not the Co-op supermarket become much like any other? Is an Academy Trust school really that different? Should your school set up or establish links with a local branch of the [Woodcraft Folk](#) [46] whose work is rooted in the values of the co-operative movement?

In his 2024 book [Brave New Worlds](#) [47], Salman Khan explains how AI will revolutionise education and why that's a good thing. Carry out a [SWOT analysis](#) [48] on the likely impact of AI on school geography. Are you an optimist like Khan, a pessimist, or an 'it all depends' sort of person?

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