NERUPI Methods Guides
Critical Realism

What is it?

A Critical Realist approach to evaluating causality is concerned with the process through which an action produces a result (or not), recognising that social factors frame the observations and assuming that reality can be objectively observed.

How it can be used:

Critical realist evaluation is used to collect evidence to develop credible hypotheses capable of explaining the process through which an action produces an outcome. This differs to realist evaluation which focuses on how the combinations of mechanism and context generate outcomes.

Strengths:

Critical realism aims to reconcile the tensions between whether reality is objectively or subjectively constructed by combining the (realist) idea that the social world is real and independent of the observer with the (constructionist) view that previous experience influences understanding and meaning-making (social, historical, cultural, political, personal etc factors). This is useful in policy research in terms of thinking about the implications of both social structures (institutions, patterns, relationships etc) and individuals (perceptions, ideas, reasoning, actions etc).

A main strength of a critical realist approach is in acknowledging that outputs, outcomes and impacts will be affected by multiple mechanisms, influences and interconnections.

It can fit well with Praxis teams. For example, when it involves stakeholders in an iterative process of evaluating and seeking to explain the outcomes – which could facilitate 'ownership' and acceptance of evaluation (even if the findings capture disappointing results or reflect badly on some stakeholders).

The approach does not depend on any particular method so evaluators have the opportunity of using the most suitable methods depending on the objectives of the evaluation and the nature of the subject being evaluated. Mixed methods approaches combine the strengths of both quantitative methods (e.g. representativeness, ease of data collection etc) and qualitative methods (increased depth and awareness of the participant perspectives, sensitivity to context, receptiveness to unanticipated outcomes etc).

By seeking to explain phenomena through a process of making inferences, it provides the chance to make changes/improvements in the situation under investigation. Therefore the approach might be particularly valuable in situations where the organisation 'owns' the evaluation and is wanting explanations that will help them to improve what they do (rather than for an external audience).

The experience of participants has a key role to play so the approach works well where organisations are looking to engage participants/students as co-researchers.

Critical realist approaches challenge dominant themes, assumptions and norms because they set out to expose the underlying structures and relationships which are below the surface and the interrelationship between structures (e.g. between socioeconomic status, gender and race).

Weaknesses:

Critical realism draws on philosophical explanations and has been criticised for failing to translate into a practical methodology which provides empirical data. It

considers reality to be like an iceberg – the 'events' and 'experiences' can be observed but reality is below the surface and invisible. This makes it difficult to define the criteria that should be used to judge the quality and implementation.

Causal explanations are made by making inferences and selecting theories which most accurately represent the data given the existing knowledge, however the influence remains uncertain in that it's not designed to make predictions or assess the transferability/repeatability.

Because a critical realist approach draws on multiple conceptions, measures and methods, these type of studies will rarely be comparable and would be difficult to integrate in a meta-analysis.

Critical realist approaches can be challenging because they risk exposing uncomfortable relationships or unintended consequences, which could be contentious for those concerned.

Mixed methods: Critical realism uses mixed methods research. It embraces a wide range of methods and argues for more thoughtful forms of data analysis in empirical studies (i.e. integrating qualitative and quantitative method in order to come up with theories rather than using qualitative methods to inform quantitative methods or visa versa). The convergent mixed methods design (Creswell, 2015) where quantitative and qualitative elements progress concurrently supports retroductive theorising interpret the results together.

Expertise: High. Requires competency in both quantitative and qualitative methods. Also because critical realism sees reality as an 'open system' making inferences requires knowledge of the wider context and theories about how education works.

Requirements: Mixed methods require different skillsets, which could mean bringing together a team of evaluators, although it's important that different data and evidence is used to gain a holistic understanding rather than as separate elements.

Ethical Considerations: Ethical considerations for quantitative and qualitative methods apply – such as the need to obtain permission through informed consent, protect anonymity and confidentiality, avoid disruption and over-burdening research participants, communicate the purposes of the study accurately, avoid deceptive practices, respect people's rights and respond to potential power concerns.

The approach can be ethically challenging because it requires nuanced insights – and therefore data collection tends to require in-depth probing and could be seen as intrusive. Collection of honest and open insights from participants to explain how they experience the world probably needs to be underpinned by a high level of trust between the researcher and the participant. Care and concern is needed at every stage of the research to avoid uncovering uncomfortable aspects of a situation in a way that harms participants, and attention needs to be paid to maintaining anonymity (this needs careful thought in studies which seek to provide detailed descriptions of the context).

The position of the researcher also needs to explicitly recognised especially their role in drawing on social theorise to provide explanations.

Work planning:

The selection of methods is perhaps the most difficult part of a critical realist approach. This is because epistemologically different methods identify with either positivist (objective) or interpretivist (subjective) interpretations, whereas critical realism seeks to integrate elements of both. So for example, from a positivist point of the responses to a survey responses would be taken on face value, whereas an interpretivist would seek to uncover the meaning and the thoughts behind the responses. From a critical realist perspective the focus would be on uncovering a theoretical expression of the meaning (i.e. the mechanisms involved). As a rule of thumb you would select the mix of methods which maximises three criteria: 1) comprehensiveness (i.e. enough data to ensure findings are reliable); 2) abductive reasoning (i.e. sufficient insight to be able to develop hypotheses) and 3) confirmation (i.e. being able to confirm the hypothesis through observations in the data).

In practice this means using quantitative methods to give you breath of data across your population (e.g. to establish characteristics, variables and patterns) and qualitative data to give you in-depth intersubjective insights into the process by which the results are achieved. Critical realist approaches are probably more suited to intensive studies, with a discrete group and limited number of participants, to make it easier to systematically analyse the interplay between the social factors and individual agency of the participants.

Convergent mixed methods designs (conducting quantitative and qualitative research at the same time) have been identified as most productive for theorising. Taking this approach, work planning would involve weighing up the research methods (depending on the nature of the activity) and progressing the analysis in six phases (discussed further below – see analysis).

In practical terms, the methods needs to draw out understanding of the social structures which in turn will explain why people can/can't do certain things. The social situation will be either an enabler or constraint to individual action and agency – so factors such as people's past experiences; values, beliefs, interests and agendas; sense of self (personal identity) also need to be considered when thinking about why people act as they do, as well as the social situation they are operating in. Human action/behaviour (agency) can be seen to either reproduce or change the pre-existing structure.

Data collection tools (e.g. interview scripts) would seek to collect evidence to confirm/or repute the theory (examples can be found of asking interviewees to reflect on scenarios). They should also allow participants to construct their own meaning (some researchers ask participants to reflect back on a summary of what they seem to be saying).

Finding a definition or typology of how the social structures work can be helpful (e.g. about learning, teaching and knowledge) because this can create a framework against which to interrogate how the structures might constrain or empower individuals in the context of the evaluation.

Data analysis:

Critical realist studies are likely to produce a lot of data in different forms (quantitative and qualitative). The analysis phase would involve looking for explanations (the causal mechanisms) by focusing on what the participants achieve (their agency, actions, behaviours) in the context in which they are operating (social structures and institutions). A critical realist approach to

analysis pays attention to three 'levels' – 1) the observations collected to show what happened (i.e. empirical data) 2) the 'below the surface' explanations (drawn out through qualitative research) and 3) the 'real' explanations (i.e. what can be inferred about what is really going on).

The third step involves an iterative process of theorising starting with the data and moving back and forth between developing/testing theory and understanding the observations. The key analytical tools are abduction and retroduction. Abduction is the first step and involves analysing the individual data into patterns/a framework which has potential to explain the underlying structures. Retroduction is the second step and involves inference – identifying the mechanisms that could explain the outcomes and testing them against the evidence (e.g. through higher-order coding). The 'critical' aspect of critical realism means researchers need to take a critical stance towards the theories they apply and the explanations they propose.

A practical approach to gathering and interpreting data in order to generate causal explanations could be phased as follows:

1. Set out what is known about the situation (empirical observations).
2. Create a set of narratives about the participants (could involve bringing information together from different sources).
3. Identify the embodied institutional and social structures and relationships.
4. Draw out how structures are experienced by participants (and how participants influence structures) and synthesise the patterns (by looking at what is known about each participant and their relationship with the structures) (abduction).
5. Make inferences which explain the underlying causal mechanisms (retroduction)
6. Check the conclusions and consider between alternative explanations.

Reporting:

The reporting should draw out the most plausible causal explanation (mechanism) – which means the one that best fits the evidence.

A critical realist approach is improvement focused – so the idea behind identifying the mechanisms is then to address the underlying social realities (which are often presented as 'enablers' or 'barriers' to change).

Some critical realist researchers have conceptualised the data as a case study and this might be a useful approach when considering access and participation interventions. (although this is said to contradict the critical realist idea that reality is 'open' since case studies are generally bounded in terms of context/place and time).

References:

Ferdinand C. Mukumbang, F.C. (2023) Retroductive Theorizing: A Contribution of Critical Realism to Mixed Methods Research, Journal of Mixed Methods Research 2023 17:1, 93-114