



Asking “How” and “Why” and “Under What Conditions” Questions: Using Critical Realism to Study Learning and Teaching

ABSTRACT

Research paradigms offer a way for scholars to design, communicate, and reflect on their research effectively. A paradigm encapsulates the researcher’s worldview, including the epistemology, ontology, and axiology of the research. Researchers are often initiated, whether explicitly or implicitly, into particular paradigms through graduate study. This can cause difficulties in the multidisciplinary landscape of SoTL where practitioners either have to learn a new domain and/or communicate to peers outside their discipline. Learning about common research paradigms can help address these challenges. Four commonly used paradigms that have been proposed as relevant for SoTL research are post-positivist, critical realist, interpretive, and transformative (including indigenous). This article describes the basic tenets of critical realism and discusses them in relation to SoTL research. It i) describes key concepts within critical realism, including a stratified reality and a focus on causal mechanisms and the relationship between structure and agency, ii) explains how critical realism can be applied to studying learning and what this means for choice of SoTL methodology and method, and iii) describes the key aspects of two published SoTL studies. The paper concludes by suggesting that critical realism can enhance the theoretical rigor, practical utility, and interdisciplinarity of SoTL research.

KEYWORDS

critical realism, paradigm, pedagogical research, mechanism, systems thinking

INTRODUCTION

Scholarship of Teaching and Learning (SoTL) is a growing practice in higher education and has a substantial literature outlining the diversity of methodological approaches and perspectives that can be taken (e.g. Chick 2019; Huber and Morreale 2002; Miller-Young and Yeo 2015; Yeo, Miller-Young, and Manarin 2023). Despite ambitious aims to be inclusive of all disciplines and international contexts, scholars who take humanities and interpretive approaches to scholarship and scholars from non-Western contexts have found the space to be less than welcoming (e.g. Chick 2013; Chng and Looker 2013; Miller-Young, Yeo, and Manarin 2024; Potter and Rafoul 2023). Therefore, it is evident that the movement has yet to achieve the level of inclusivity it aspires to. As Löfgreen (2023) convincingly argued, developing an understanding of research paradigms is a key strategy for fostering diversity and inclusivity across the SoTL landscape.

In SoTL research, paradigms are useful because they offer the foundational frameworks to help communicate the researchers’ understanding and investigation of teaching and learning. They are associated with the underlying assumptions about knowledge, reality, values, and methodology, and therefore guide the formulation of research questions, data collection, analysis, and

interpretation. Carol Berenson (2018) notes, “in order to claim a space as a legitimate SoTL practitioner, it is helpful to do some preliminary thinking about the assumptions underlying our approach to research, or our research paradigm” (42–3). By articulating paradigms and assumptions clearly, SoTL researchers can also communicate the coherence and rigor of their studies (Ling 2019; Yeo, Miller-Young, and Manarin 2023). Further, by understanding critical realism, SoTL researchers can not only broaden their scope of research questions and designs but also may increase the usefulness of their work to others.

Critical realism is beginning to receive attention in the SoTL literature. Haigh and Withell (2020) describe its ontology and epistemology, which are summarized below. Löfgreen (2023) uses Habermas’ three knowledge interests to argue for the use of three major paradigms in a “balanced SoTL” (normative [rather than post-positivist], interpretive, and critical realist). Using a slightly different delineation, Yeo, Miller-Young, and Manarin (2023) include critical realism with a description of four major paradigms for SoTL (positivist/post-positivist, critical realist, interpretive, and transformative, which includes indigenous research). All of these sources propose critical realism as an intermediate paradigm that bridges the gap between positivism, which assumes a singular, objective reality, and interpretivism, which embraces the multiplicity of human experiences (Table 1). However, each of these sources only offers a brief overview of critical realism and its core principles. This paper aims to build on that foundation. The goal is to offer a deeper insight into how critical realism can be effectively applied to SoTL research.

Table 1. A heuristic of SoTL research paradigms and their philosophical differences

Category	Nature of knowledge and how it is known (epistemology)	Nature of reality (ontology)	Purpose/values (axiology)	Research process
Positivism/ postpositivism/ normative	Knowledge builds based on empirical observations	There is an external reality which exists independently from people	Empirically generalizable findings/ researcher values objectivity and attempts to control for bias	Deductive
Critical realism	Knowledge is socially and historically produced	There is an independent, external reality but it is inseparable from context	Analytically generalizable findings/ emancipation through explanation then action	Retroductive
Interpretivism	Knowledge comes from co-constructing meaning from experience	Reality does not exist independent of people; people interpret facts and phenomena	Describe, understand, interpret experiences/ researcher values subjectivity	Inductive/ abductive
Transformative	Knowledge comes from co-constructing meaning	People experience multifaceted realities	Change, emancipate, empower/	Participatory

		influenced by their social location	researcher seeks social justice through collaborative processes	
Indigenous ¹	Knowledge is constructed from a multiplicity of sources and is grounded in physical, social, and spiritual contexts	People experience multiple, subjective experiences grounded in relationship between living and nonliving	Restore, reconcile, reciprocate/ researcher values protocols, seeks balance and harmony	Relational

Table adapted from Creswell and Poth 2016; Löfgreen 2023; and Yeo, Miller-Young, and Manarin 2023.

As an engineer, critical realism fits best with the way I think about studying the social world of teaching and learning. I come from an applied discipline where we do not seek universal truths but rather develop and use models, recognizing their limitations but using them in appropriate contexts. Thus, although I am a quantitative researcher by training, I recognize that teaching and learning takes place within a particular context from which it cannot be isolated. As a result, I feel that using correlation and regression equations to isolate the effects of different variables from one another in an attempt to find a “universal truth” (a post-positivist approach) is not always useful to inform SoTL and teaching practices. At the same time, I recognize the value of interpretive research and have contributed to this body of work myself. Therefore, I share Löfgreen’s (2023) argument that SoTL as a field will benefit most when contributions are drawn from a balanced mix of paradigms.

Having acknowledged my biases, I now turn to the goals of this paper. First, I aim to describe key concepts within critical realism, including its emphasis on uncovering causal mechanisms and its perspective on the dynamic relationship between structure and agency. Next, I will explore how critical realism can be applied to the study of learning and teaching, and what this means for methodological and method choices in SoTL research. Finally, I will illustrate these ideas by describing key aspects of two published SoTL studies. I conclude by arguing that critical realism offers a valuable framework that can enhance the theoretical rigor, practical utility, and interdisciplinarity of SoTL research.

Critical realism

Critical realism is a philosophy of science first developed by Indo-British philosopher Roy Bhasker in the 1960’s (Bhaskar 1975, cited in Mingers 2014)² and its implications started to be explored in the social sciences in the 1980’s (e.g. Sayer 1984). It is best distinguished from other paradigms by its ontology. It asserts the existence of a mind-independent external reality about which we may acquire knowledge, but also recognizes that the social world is different from the physical world and requires different approaches for acquiring knowledge (Table 1). Haigh and Withell (2020) provide an excellent description of its ontology and epistemology; I present key excerpts from their work below, adding my own description of its axiology.

Critical realist view on the nature of reality (ontology)

Critical realists believe there is a world that exists and acts independently of knowledge that we may construct about it. This “real” world is made up of things (entities) with properties that give them the power to act in ways that can cause effects or events. . . .

Critical realists emphasize that while the properties and processes of entities may not be observable, and therefore need to be inferred, actual events or outcomes caused by them may be directly experienced and observed. . . . Critical realists also believe that while the real world is characterized by complexity and change, it is a world that can be described and explained, even if imperfectly, through research. (Haigh and Withell 2020, 19)

The critical realist ontological perspective has important implications for SoTL research. It asserts that a “real” world exists independently of our perceptions, composed of entities with inherent properties that have the power to generate effects. These causal mechanisms, though often unobservable, can be inferred through the outcome patterns they produce—outcomes we can directly experience and study.

Critical realist view on the nature of knowledge (epistemology)

Critical realists assume that how we experience and interpret reality is influenced by our existing assumptions, theories, and values. This means knowledge about some thing can always change (or is transitive), such as when new research adds to or changes our understanding, or as we change our own assumptions, views, and values. However, the entity that we are researching remains the same—it is intransitive. (Haigh and Withell 2020, 19–20)

This epistemological perspective also has important implications for SoTL research. Critical realism reminds us that our knowledge of teaching and learning evolves; it is shaped by our assumptions, theories, and values. For SoTL scholars, this underscores the importance of approaching research with humility and reflexivity, recognizing that our current understanding is always provisional and subject to change as new insights emerge or our perspectives shift.

Critical realist values and purpose (axiology)

Bhasker asserted that understanding causality has emancipatory potential (Löfgreen 2023). Critical realism’s axiology reflects this commitment, emphasizing the pursuit of knowledge grounded in truth, ethical engagement, and social justice. Critical realism recognizes the fallibility and contextual nature of human understanding but insists that striving for deeper insights and practical relevance is not only valuable, it is an ethical obligation.

Bhaskar’s view that understanding causality has emancipatory potential aligns closely with SoTL’s focus on understanding, informing, and evolving teaching and learning. For SoTL scholars, achieving this potential requires grounding our inquiries in both rigorous research and a commitment to making a difference within and beyond our own context, all while recognizing the limitations and contextual nature of our own understanding.

Intransitive and stratified reality

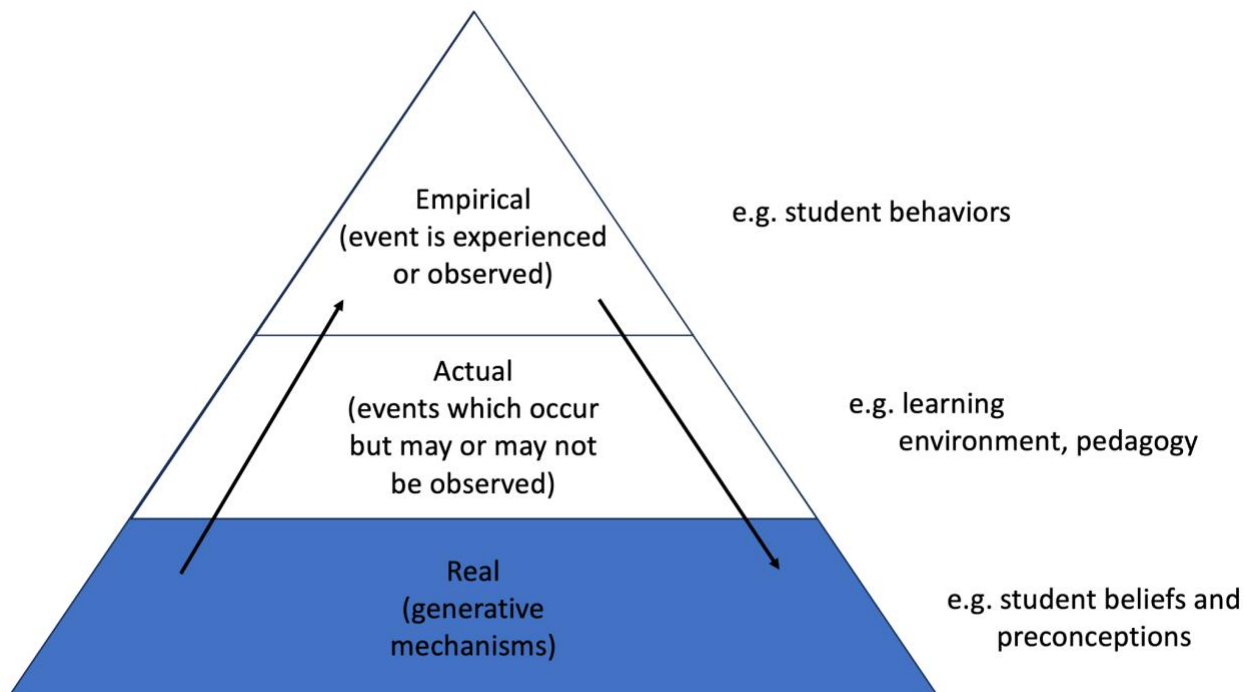
For Bhaskar, reality is both intransitive, existing independently of humans, and stratified, characterized by a hierarchical organization. The intransitive domain refers to a reality that remains relatively constant, with humans crafting theories to understand and explain its nature. The transitive domain pertains to causal mechanisms and is contingent upon our current understanding of the world, making it subject to change as our knowledge evolves. In the study of student learning, for example, the learning environment resides in the intransitive domain—it exists independent of our

(fallible) understanding of it. The transitive domain would relate to unobservable student characteristics, such as their beliefs and preconceptions (Isaksen 2024).

In critical realism, reality exists but is not necessarily accessible to direct observation. It proposes that “observable events (*empirical*) are underpinned by *actual* events that occur in space and time but may be different from what we perceive, and causal mechanisms (which are *real* but unobservable)” (Isaksen 2024, emphasis in original) (Figure 1). Each stratified layer represents a distinct level of reality that is emergent from, but not reducible to, the one below. Emergence is a defining feature of complex systems. For instance, biological systems arise from chemistry yet cannot be reduced to it. In the same way, human learning is an emergent property of the physiological functions of the brain but cannot be accounted for through biology alone.

In critical realist SoTL, the learner can be viewed as an individual complex system embedded within broader social and cultural systems. Observable events related to learning would include student behaviors and performance, which might be measured using grades on a test; actual events include the factors influencing those behaviors or outcomes, such as individual and group differences in preparation and motivation as well as perhaps an intervention by the instructor; and the real contains the causal mechanisms, such as students’ prior conceptions (Figure 1). Indeed, in SoTL research there are many factors related to student learning that are not directly observable, such as identity, belonging, motivation, cognitive load, emotions, values, beliefs, autonomy, self-efficacy, and more. These constructs are relatable to observable behaviors through theory. The goal of critical realism research then, is to ask, “what kind of causal mechanisms would need to exist to produce the events we observe in this context?” In other words, critical realism provides a way of going beyond “what works” (normative questions) and “what is” (interpretive questions) (Löfgreen 2023) to theorize “how,” “why,” and “under what conditions.”

Figure 1. The three levels of open systems in critical realism, often represented as an iceberg, where the widest and lowest part is not directly observable.



Causal mechanisms

Put another way, critical realism's focus is on the mechanisms that cause the empirical events. The ability of a mechanism to cause an event is known as being "generative" (Figure 1). In a teaching and learning context, generative mechanisms would explain why certain students would respond to a teaching strategy in a certain way within a specific context. In learning, types of mechanisms include cognitive, motivational, and self-regulation processes (Meijerman, Wijsman, and Kirschner 2024). In contrast to positivism, the relationship between mechanisms and events is not always a straightforward cause-and-effect dynamic. This is due to the interplay of multiple causal mechanisms, individual agency, and the influence of context. In critical realism, contextual factors are central to the inquiry rather than merely sources of noise to be controlled.

A mechanism does not necessarily produce the same outcome in different contexts, a feature of open systems. Closed systems are created in scientific experiments where it is possible to control variables, and thus to isolate and measure the effects of a single causal mechanism. In contrast, this is difficult to do in educational contexts, which are open systems (Brown 2009). In open systems, multicausality—varying levels of complexity and external influences are the norm—making it impossible to isolate and predict variables with certainty. Given the acceptance of subjectivity within the transitive domain and the theory-dependence of observations, it is likely that a range of possible explanations for any given observation may emerge. This underscores the importance of researcher reflexivity and brings to light a fundamental aspect of critical realism: socially constructed theories are never neutral and are inherently fallible, necessitating ongoing critical examination (Mingers 2014).

Structure and agency

Critical realism's ontology provides a framework that accounts for both agency and structure, viewing them as inextricably related. Structures can be either physical or social and shape actions by compelling some, enabling or constraining others, and influencing still others, yet they do not determine actions in a linear, cause-and-effect way. Instead, social structures and agency exist in a dynamic relationship; structure influences action, while action reproduces or transforms structure. Social structures are not directly observable but they are real; they can be identified through the social activities they shape, and they are always relative to particular times and cultures (Mingers 2014). In an education context, social structures include, but are not limited to, gender, class, race, curriculum, and the social norms, values, and roles of an institution (Scott 2010). The notion of boundaries, for example between communities of practice or disciplines (Pohl et al. 2019; Wenger 1998), is another example of a social structure. SoTL researchers are well poised to investigate the relationship between social structures and student agency because of their intimate knowledge of their study's context.

Critical realism and learning

A growing body of literature uses critical realism to understand learning. Tikly (2015) developed a five-layer ontology of learning, ranging from the individual level to the macro and adding "exo," a layer specific to education (connecting Bronfenbrenner's (1976) well-known ecological model to critical realism). I have integrated this with Bhaskar and Danermark's (2006) seven laminated systems, which start at the physiological level and go to the global level (Figure 2). Each level is emergent from but also influences its lower level. This inclusive model can incorporate SoTL interests ranging from a focus on the individual (e.g., cognitive, emotional, biological) to a focus on the micro (psychosocial relationships), exo (education systems), macro (socio-economic factors), planetary

(climate), and more. While SoTL research tends to focus on the factors that affect student learning, critical realism also recognizes that the researcher is part of the research context, therefore influencing the context and also being changed by the research process.

Figure 2. Critical realist stratified hierarchy of open systems

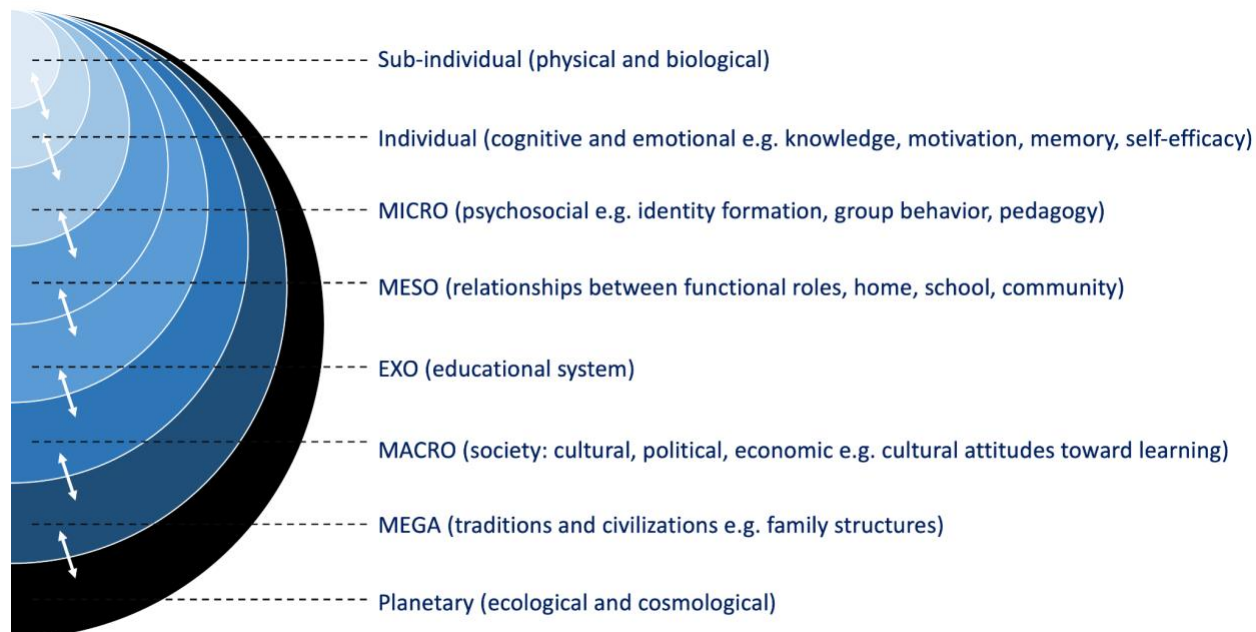


Figure adapted from Agbedahin and Lotz-Sisitka (2019); Bhaskar and Danermark (2006); and Tikly (2015).

It's worth noting that the visual presented above bears a strong resemblance to other conceptualizations rooted in systems thinking and ecological models. Indeed, critical realism could be described as having a systems ontology. While critical realism and systems thinking developed independently, they share similar perspectives on how parts of a system interrelate, how embedded systems function over time, and how they operate within the context of larger systems. Both emphasize processes, interdependencies, feedback loops, and causal relationships (Mingers 2014). A further concept in systems thinking is that of complex adaptive systems, or learning systems, which highlights how individual elements continuously interact, respond to changes (i.e. learn), and produce emergent behaviors. The shared goal of critical realism and various forms of systems thinking is to understand system behavior and emergent outcomes while identifying leverage points for change. Systems thinking is widely applied across many fields, including STEM and environmental education, and is starting to receive attention in SoTL (Kruger, Godley, and Neubauer 2025; Scharff et al. 2023; Tan, Yang, and Tan 2023; Walls 2016). Some models, like the “4M framework” inspired by the use of ecological models in education (Simmons and Taylor 2019), share commonalities with other forms of systems thinking but more clearly delineate levels and place less emphasis on interdependencies, emergence, and feedback loops (Tikly 2015). The model presented above centres the learner and prioritizes learning processes and influences between levels, whereas the 4M framework is typically used to describe contexts for SoTL impact and is not always applied with a systems-thinking or ecological perspective.

Research approach and process

In critical realism, causal explanation is considered more important than mere description and therefore the primary purpose of research is to theorize explanations for events. As a result, critical realism “does not necessarily have a set of research methodologies directly associated with it. Rather, it takes a pragmatic approach, and uses various study designs depending on the question being studied” (Yeo, Miller-Young, and Manarin 2023, 40–1). Quantitative methods may be employed to test the nature and strength of existing mechanisms, while qualitative methods often aid the search for deeper explanations. Given the inherent complexity of the phenomena critical realist studies seek to understand, it is common to use a triangulation of multiple methods (multimethodology) or mixed methods (Yeo, Miller-Young, and Manarin 2023).

The best methodology and methods for each individual critical realism study should be determined by the researcher’s initial theoretical and conceptual framework, which is treated as fallible and subjected to critique throughout the research process (O’Mahoney and Vincent 2014). The initial research question should be shaped by a theory, serving as a foundation for deeper analysis that can refine, expand, or challenge that theory. The researcher then needs to look for evidence to confirm or falsify the theory, which drives methodology and method. Next, events are observed, and data is generated and collected. Data analysis typically begins with the search for patterns or tendencies at the empirical level. The next stage of data analysis occurs through a certain logic of inference-making called retroduction.

Retroduction incorporates induction and abduction (Mukumbang 2023). Inductive reasoning seeks to make broad generalizations from observation. Abduction, as Haigh and Withell write:

... involves inferring a best explanation for something without basing the inference on an existing theory. While existing theory may sometimes be drawn on, it is reinterpreted using critical realist perspectives ... Retroduction involves inferring entities, properties, and processes that *must* exist for something to be possible. (Haigh and Withell 2020, emphasis in original)

The implications of these ideas are significant for SoTL research. Abduction invites us to move beyond the constraints of existing theories, encouraging a creative process of reinterpreting and reimagining explanations for observed phenomena through a critical realist lens. Retroduction, on the other hand, asks us to think more deeply about the underlying structures and mechanisms that must be in place for certain educational outcomes or practices to occur. Together, these approaches challenge the researcher to go beyond surface-level observations and critically evaluate our initial theoretical assumptions.

Does every critical realist study need to articulate a new or refined theory through retroduction? No, but the work should at least offer a theoretical account of the mechanisms at play to hypothesize how observed events might be explained. Indeed, the role of theory is to help explain what factors are of interest, how those factors are related, why those factors are related (causal mechanisms), and under what conditions they are related (who, where, when) (Whetten 1989). Isaksen (2024) further explains:

It is perfectly legitimate to hold a critical realist ontology, epistemology and etiology without seeking to uncover causal mechanisms in every research endeavour ... What critical realism allows for and invites is a deeper exploration of observable phenomena, if and when this is deemed relevant. (118)

Multimethod approaches and theoretical development in SoTL research often require a certain level of prior experience on or collaboration with a team possessing diverse methodological expertise. For those newer to SoTL or critical realism, applying a few key concepts at a time may be more manageable. A relatively simple way to ground a SoTL study in critical realism is to incorporate interviews that focus on probing the “how” or “why” behind observed outcomes, or to focus on structure-agency interactions. For instance, in a postpositivist study that evaluates an intervention based on its effect on student grades, interviews could explore the underlying mechanisms—such as increased conceptual understanding, greater motivation, or enhanced exam confidence—that might explain grade improvement. Alternatively, researchers could examine the contextual factors at a higher or lower system level, expanding their focus to include factors from other levels that influence, or are influenced by, the primary focus of the study. An example would be a study examining the relationship between student sense of belonging (micro level) and broader social structures (meso level), such as societal and institutional norms, especially focusing on students from underrepresented groups. Of course, critical realists also recognize that data from interviews provides fallible or possibly incomplete evidence of real experiences and processes, and that it is co-constructed between the researcher and the participant (Moore and Kelly 2024). (From a critical realist perspective, the relationship between the interviewer and interviewee could be considered an important causal mechanism that influences the outcomes of the interview.) Therefore, the critical realist researcher must be reflexive and must also explore beyond the surface of the data—whether it be interview or focus group transcripts or other forms of evidence—to uncover the underlying structures, mechanisms, and processes that may not be directly observable within the data itself.

There are also other ways to use theory within a critical realist perspective. Theory can be thought of as scaffolding (Miller-Young 2024), offering a level of abstraction that enables a researcher to compare and contrast their study with others in different contexts. Whether through collaborative inquiry or reflective engagement with the literature, such an approach can generate new or more refined understandings of the mechanisms and conditions underpinning how or why something occurs. This approach addresses the post-positivist criticism that small SoTL studies fail to produce empirically generalizable findings, demonstrating instead that these smaller studies can contribute to analytic generalization (Yeo, Miller-Young, and Manarin 2023). Additionally, there is an expanding body of literature examining how various methodologies and methods—such as grounded theory, mixed methods, and thematic analysis—can be effectively used within a critical realist paradigm. While these methodologies in combination with critical realism have not yet been applied in the SoTL literature, they hold promise for enriching the depth and diversity of SoTL research.

Examples

To further illustrate the potential application of critical realism to SoTL research, I will now briefly describe two relevant published studies, one that adopts a relatively straightforward approach and another that uses a more complex design.

Syska and Pritchard (2023) studied students’ perceptions of blended learning and their sense of belonging during the global pandemic, as well as the factors that mediated this experience. They used multimethod triangulation and administered three questionnaires and two focus groups over a period of seven months. They used quantitative responses to the questionnaires in order to assess whether students’ perceptions of their learning, experience, and sense of belonging changed over time. They then analyzed students’ open-text responses to the questionnaire and the data from the

focus groups via thematic analysis to identify the factors and grouped those factors into three domains: real, actual, and empirical (Table 2).

Withell and Haigh (2018) executed a more complex action research study using a critical realist perspective and three cycles of design-evaluation-redesign. Interested in enhancing the design thinking expertise of first-year university students, they gathered data from questionnaires (students), semi-structured interviews (students), design project portfolios (students), and teacher-researcher reflections as they made gradual changes to the learning environment (Table 2). Students from product design as well as business programs were involved, allowing them to also conduct a comparative analysis. They describe some of their challenges in the paper, including the difficulty determining causality due to the contextual complexity of the study. They also note that they found the interview data most useful for generating explanatory theory.

Table 2. Key aspects of critical realist SoTL studies

Study	Focus	Methodology	Domains	
Blended learning as a site of struggle (Syska and Pritchard 2023)	Students' perceptions of their belongingness and the factors that influenced it	Multimethod triangulation	Empirical	Students' perceptions of their experience
		Methods: quantitative: descriptive and inferential statistics	Actual	Events such as contact time, pedagogical practices, interactivity, and online social events
		Qualitative: thematic analysis	Real	Structures such as lockdowns, lack of resources, curriculum, and mental health support
Enhancing curricula and learning environments (Withell and Haigh 2018)	Students' design thinking expertise and the factors that influenced it	Participatory action research, multimethod triangulation	Actual	Student attributes such as conceptual knowledge, motivation, confidence, and emotional intelligence
		Methods: quantitative: descriptive statistics Qualitative: comparative content analysis	Real	Key mechanisms such as questioning, reflecting, perspective taking, visualising, empathising, and pattern recognizing

There are likely other SoTL studies that employ a realist ontology and relativist epistemology (realism), but are not explicit about it. Studies that focus on individuals' agency, interactions between levels, causal mechanisms, and/or that use systems thinking or complexity theory as frameworks likely best fit within a critical realism paradigm.

CONCLUSIONS

This article has offered an introductory exploration of critical realism and argued for its relevance to SoTL research. Critical realism provides a lens for understanding the world that resonates with the complexities of studying teaching and learning and is inherently grounded in context (Felten 2013). Unlike the “what works” questions central to post-positivism or the “what is” inquiries emphasized by interpretivism—both of which Löfgreen (2023) rightly highlights as essential for a balanced SoTL—critical realism offers a critical framework for investigating learning across diverse contexts and conditions. This approach enables SoTL researchers to respond to calls for greater attention to social justice (Booth and Woollacott 2018) while also addressing the need to diversify their inquiries by asking questions like what works for whom, under what circumstances (e.g. where and when), how, and why (Chick 2023; Chng and Looker 2013). It also addresses calls for using ecological models to understand student learning (Scharff et al. 2023) and for more intentional theory-building (Chick 2023; Yeo, Miller-Young, and Manarin 2023). It may help reduce the discomfort those from more positivist disciplines feel when first engaging in the multidisciplinary landscape of SoTL (Miller-Young, Yeo, and Manarin 2018; Smith, 2019; Webb and Tierney 2019). Finally, its embrace of theoretical and methodological pluralism also makes it a useful paradigm to adopt for interdisciplinary and transdisciplinary SoTL studies.

I am certainly no philosopher (I find Bhaskar’s writing extremely challenging, and for others like me I recommend reading the authors I have cited in this paper instead as they are much more accessible). However, I have always argued for the value of reflecting on and clearly articulating the philosophies and theories that guide our SoTL work (Miller-Young and Yeo 2015; Yeo, Miller-Young, and Manarin 2023). Critical realism provides me with a concise and scholarly framework to describe and reflect on how I understand and study the complexities of teaching and learning. Before I came across critical realism, I knew that neither post-positivism nor interpretivism were a good fit for me, but I didn’t have the language or frameworks to easily explain my thinking. Discovering critical realism felt like both a relief and a validation of my perspective (Miller-Young, Yeo, and Manarin 2024). I invite others to use, expand on, and critique the ideas presented in this paper and to present alternatives, contributing to ongoing dialogue. This will strengthen and balance our collective efforts to understand each other and to evolve teaching and learning.

AUTHOR BIOGRAPHY

Janice Miller-Young, P.Eng., PhD, (CAN) conducts SoTL research on her undergraduate engineering classes. She has authored and co-authored numerous articles, book chapters, and two books based on SoTL projects, SoTL methodologies and frameworks, and SoTL identity.

NOTES

- 1.) I respectfully acknowledge that some argue we should not try to classify Indigenous research using Western philosophical categories, so I emphasize this is a heuristic for learners only. Others have suggested that Indigenous perspectives and critical realism are fairly compatible because of their holistic perspectives (e.g. Weasel Head 2023).
- 2.) Other forms of “critical realism” exist which share similar ontological and epistemological foundations; this paper, however, focuses on Bhaskarian critical realism.

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