Practice knowledge and teacher mentoring: a realist analysis of professional development and learning

Richard Pountney and Michael Coldwell

"An ontology without a methodology is deaf and dumb; a methodology without an ontology is blind"

(Archer, 1995, p. 28).

"Reason is the object of understanding. Cause is the object of explanation."

(Öğütle, 2023, p. 343)

Introduction

Research into professional development and learning (PDL) is often hampered by an unhelpful dichotomy between subjective and objective understandings of practice and how it develops. On the one hand, some approaches to PDL focus on the personal and interpersonal, valorising qualitative, highly context-specific research, while, on the other hand, the emphasis is on quantitative research designs with highly generalizable and decontextualised studies that prioritise experimental, large-scale designs. The former leads to problems in explaining pattern in the social world, while the latter provides little in the way of understanding why, how, and under what circumstances the social 'impacts' found occur.

The longstanding critique of research in PDL is that there is little progress in understanding the causal processes by which it can lead to positive outcomes at a scale suitable for wider practice and future research. For example, Opfer and Pedder (2011, p. 376) argue that the complexity of the social world is at the heart of the issue: "the problem stems, in part, from researchers employing simplistic conceptualizations of teacher professional learning that fail to consider how learning is embedded in professional lives and working conditions".

So, while much of the literature on professional learning focuses on the context and conditions for professional learning, the practice knowledge itself is often obscured. This, we argue, reflects two distinct traditions: the first prizes large scale positivist approaches (e.g. Desimone, 2009) that tend to under-theorise learning and knowledge practices (Boylan et al., 2018), while the second exposes a 'subjectivist doxa' that dominates much education research in which knowledge is typically viewed as "comprising states of mind … or dispositions to act", in which the external realisation of professional learning is ontologically social (Popper, 1979, cited in Maton, 2014, p.4).

In this chapter we explore how realist approaches can provide an alternative to that briefly outlined above, by understanding the social world to be complex and layered, yet patterned and explicable by reference to underlying generative causal mechanisms. We address the question 'what insights can realism provide to enhance research into professional learning?'. To do so, we examine two fruitful applications of realism in empirical research: *Realist Evaluation* (Pawson and Tilly, 1997) and *Social Realism* (Maton and Moore, 2010), showing how these can be applied to one element of professional practice: teacher mentoring. We examine this problematic to consider a possible conceptual integration of ontological and epistemological realist approaches in order to identify a methodology appropriate for the evaluation of PDL programmes.

Central to the analysis of PDL is the notion of knowledge practices that take place in professional contexts, such as those practised by teachers. We explore one case of professional practice, teachers mentoring other teachers, as a form of social practice, and its emergence. This case illustrates the

means provided by a realist evaluation for plausible explanations of why certain interventions work (or not) in certain circumstances (Shearn et al., 2017).

In the next section, we begin by framing PDL research and its underlying philosophical perspectives, before moving on to provide a basic description of realist philosophy and two applications of realism - realist evaluation and social realism - as applied to mentoring. We then discuss a possible synthesis of these approaches to formulate a methodology for investigating PDL, and we consider the implications for future research.

Professional learning and underlying philosophical perspectives

In this chapter we follow Coldwell's (2017, p. 190) definition of PDL as "formal and informal support and activities that are designed to help teachers develop as professionals". This support includes taught courses and in-school training, as well activities such as coaching, mentoring, self-study, and action research. We are particularly interested in professional development programmes which are structured, with often formal activities such as mentoring, coaching, and training, which occur either over time or at particular moments in time.

Much of the academic literature on PDL takes either a constructivist stance or has no declared underlying ontological commitments, and realist perspectives have critiqued both positions. Social constructivist approaches are particularly prevalent in studies focussing on how individuals - working with others - create, interpret, and recreate their own learning. In contrast, studies that focus on evaluating programmes using models of PDL rarely declare their ontological commitments. For example, in a review of such models, Boylan et al (2018, p. 132) note that not identifying an ontological position restricts the power of the research: "In essence, we are not entirely clear on what basis the claims about analytical or empirical utility are being made, so are unclear about the limits of these claims." Where a position is declared, a form of positivism is often used, for example Desimone (2009), indicates a focus on predictive power based on empirical observation of change processes.

Realists Pawson and Tilly (1997) argue that constructivist approaches pay too much attention to the specifics of the case at hand, and that in extreme cases they deny the possibility of learning across cases at all. Coldwell and Simkins (2011, p. 152) develop this argument in the context of PDL from a broadly realist perspective, positing that constructivist perspectives can be helpful, since "individuals may experience interventions in different ways, and that understanding these contestations and experiences may provide important information that can contribute to our understanding of how interventions work". Nevertheless, constructivist approaches suffer from a lack of focus on broader applicability, beyond seeking intersubjective agreement. This deficiency moves the focus from real changes to agreed subjectivities - with the obvious problem that this agreement may not be correct. Indeed, as McPhail and Lourie (2017) argue, while the interpretation of data is a necessary initial part of a realist approach to social research, it is insufficient given that how things are may differ from how things are taken to be. Furthermore, Wheelahan (2009) draws our attention to the failure of constructivism to distinguish between the context of a social practice, such as mentoring in this chapter, and the underlying mechanisms that operate within its structures (see discussion below).

While realist approaches can be compatible with a PDL evaluation model they require a strong focus on context (Coldwell, 2019). The realist critique is that whilst evaluation models can provide clear predictions of outcomes (and test these predictions), they struggle with understanding and explaining differences in different contexts. Coldwell and Simkins (2011, p. 151) refer to this as

flattening out variations in context, treating context as variables to be controlled rather than "essential ingredients in understanding causal processes at work." Beyond this work, realist approaches are rarely used in studies of PDL. We should note that recent work from Sims and colleagues (Sims et al, 2021) advances thinking about PDL mechanisms, but this approach is in its early stages of development. Our contention in this chapter is that there are implications of a realist approach that can be applied to study of PDL programmes, and in the next section we discuss two complementary approaches to the examination of PDL: realist evaluation as elaborated by Pawson and Tilley (1997) and a social realist focus on knowledge practices (Maton and Morre, 2010) to demonstrate how these features of realism can be brought together to evaluate outcomes in PDL.

Realist philosophy and two applications: Realist Evaluation and Social Realism

Our philosophical premise is critical realism. While our knowledge of the world is epistemologically fallible, we recognise that it is ontologically real. Realist philosophy hinges on an understanding of the social world as stratified, within which deep generative mechanisms operate. Realism is based on an analysis of agents and structures that asks, 'What must the world be like for us to have knowledge of it?' (Bhaskar, 1979 - see also Wheelahan and Moodie in this volume). This binary of agents and structures embodies an analytical dualism (Bhaskar, 1979) that involves 'ontological realism' as a commitment to the idea that there is a reality that exists independently from, and prior to, individual experience from which human beings can create knowledge. This constitutes 'epistemological relativism' in that all knowledge is considered to be humanly produced reflecting the conditions under which it is produced and 'judgemental rationality' as the notion of judgement and the possibility of judgement as beliefs that can be wrong (Moore, 2013).

Critical realism espouses a 'depth ontology' in that it considers the world to be stratified and that "the real cannot be reduced simply to experience" (Clegg, 2005, p. 420). Further, it is possible to differentiate three levels or strata of reality: the 'empirical' (apprehended through sense data); the 'actual' (how events can be experienced); and the 'real' (objects, their structures or natures and their causal powers and liabilities) (Fairclough et al., 2002, p. 3). The goal of realist research is to explain causal processes, made possible by identifying sets of concepts which collectively provide an explanatory framework and lie at the heart of a realist methodology (McPhail and Lourie, 2017). Noteworthy in realist approaches therefore is the distinction between understanding things through reason and explaining them by identifying causes: "Reason is the object of understanding. Cause is the object of explanation" (Öğütle, 2023, p. 343).

The real stratum of social reality emerges from interactions between actions, structures, and ideas to create generative mechanisms that may be enacted in the actual which in turn may be observed in the empirical. A realist explanation relies on the identification of causal mechanisms and how they work, and the conditions under which they are activated (Sayer, 2000). These mechanisms and social structures are real but not always observable, and therefore we need to use other methods "to uncover these mechanisms, the contexts in which they are triggered and the outcomes that ensue" (Shearn et al., 2017, p. 3). Pawson (2013) summarises this as the context-mechanism-outcome (CMO) framework. Given that the mechanisms are not always directly observable, the search for them is led by the theories about them; in other words, we look for the operation of CMOs in places that the theories about them guide us to look. For example, Shearn et al. (2017) in their realist evaluation of sexual health services, examined the possible embarrassment and shame, associated with sexual health issues, that might prevent people taking up these services. Because neither the user's feelings of shame, affecting their decision-making, nor the cultural conditions contributing to

these feelings were visible, Shearn and her colleagues developed programme theories that directed attention to these mechanisms in their collection of data.

This view of reality, which realists argue persists even when not enacted, can be described analogously with the scientific material world - so for example the potential for a match when struck in the presence of oxygen to create a flame is just as real whether enacted or not. Critical realists describe this potential as 'causal power'(s) in which an entity (the match) has a property or power (to catch light) that can have a causal impact on the world (to produce heat), and this potential exists whether or not it is used (Elder-Vass, 2005).

Structures and generative causal mechanisms are durable and longstanding, as they are enmeshed in material, psychological, and social reality, but they are not unchanging. To develop the example above further, the generative mechanism that sustains the emergent property of the match is the act of striking it, at which point the property is lost or transformed. Talking examples from the social world, an abrupt change might be a revolution, whilst a longer-term change is the participation of women in the workforce. Archer (1995) refers to this transformation in the 'morphogenetic cycle' whereby structures and cultures influence actions that can then transform and/or reproduce these cultures and structures. Whilst reality is constantly changing, the persistent nature of structures and mechanisms, and the constraints they produce for action, means that whilst change processes are not governed by laws, there are 'tendencies' for things to act in particular ways that may produce patterns which are observable. Returning to the example above of women in the workforce, we can say that while the structures, agency and culture involved have different properties there are generative causal mechanisms that underlie these, such as the emancipation of women in society brought about by the process of industrialisation.

Here, the concept of 'emergence' is central to critical realist studies, and is routinely invoked in critical realist theory, but is rarely examined (Elder-Vass, 2005). Simply put, emergence is operating when a whole has properties or powers that are not possessed by its parts. Emergence, therefore, is identified as the space in which a new *sui generis* social practice may emerge that is irreducible to the sum of its parts and has its own properties and powers (Archer, 1995; Sayer, 2000). Indeed, Bhaskar, a key critical realist theorist writes "It is only if social phenomena are genuinely emergent that realist explanations in the human sciences are justified" (Bhaskar, 2009, p. 103) and that "explanation depends upon emergence" (p. 104). Society emerges from but is not reducible to the individuals that comprise it - so, while Emily Pankhurst organised the battle for women's suffrage, she alone is not responsible for its outcome. However, a key criticism of critical realism is that, as a philosophical perspective, it is not readily applicable to research. We address this problematic in the next two subsections where we examine two applications of critical realism to research: *Realist Evaluation* and *Social Realism*.

Realist Evaluation

Realist evaluation (Pawson and Tilley, 1997) and realist synthesis (also known as realist review, Pawson et al., 2004) are both specific forms of realist research. They focus on understanding social programmes, initiatives, or interventions. Realist synthesis uses mainly secondary data, in for example how Pawson et al. (2004), in a realist review of mentoring relationships, develops a model (a programme theory) of mentoring mechanisms, by means of a synthesis of evidence in existing research. Realist evaluation uses mainly primary data to develop programme theory and centres on realist philosophy to underpin evaluations of social programmes. For example, Pawson and Tilley's (1997) evaluation of crime prevention leads to the central question in their seminal work: 'what works, for whom, in what circumstances and why?'.

Realist evaluation draws on the 'theory-based evaluation' tradition in social policy evaluation which encompasses a set of approaches, each of which "involves some attempt to 'unpack' the black box so that the inner components or logic of a program can be inspected" (Astbury and Leeuw, 2010, p. 364). Realist evaluation starts from the premise that interventions and programmes (such as PDL programmes) can be seen as sets of resources introduced into pre-existing social situations which may or may not be used by actors to change aspects of the social and material world. These may be seen as hoped for 'outcomes' by researchers. At the heart of this approach is the role of the evaluator in uncovering context-mechanism-outcome (CMO), combinations that are associated with positive changes in relation to the social programme or intervention at hand.

For realist evaluators, mechanisms are descriptions of causal processes that take place as part of a programme or intervention that create changes in the thinking and behaviours of actors, individuals, or groups of individuals that are the subject of the programme. It is also important to note that mechanisms interact with the natural world, in for example, how a health programme to combat measles involved a campaign to have children vaccinated. Operationalisations of causal mechanisms are partial explanations of phenomena that are abstracted, for example, Shearn et al.'s (2017) model of system change in the programme they were examining - a local system change programme focussed on sexual health - could act to create these mechanisms.

The final element of the CMO combination is context. Pawson and Tilley (1997, p. 57) describe context as the conditions, social and cultural, within which change programmes take place including structural setting, in spatial, temporal, and organisational terms, and the characteristics of and relationships between the actors involved. Pawson (2013, p. 37) characterises these same conditions in later work "as 'the 4 I's': individuals; interpersonal relations; institutional settings; and infrastructure (the cultural, economic, and social aspects of the setting)". However, whilst they are often treated as relatively static in some PDL programme models, especially logic models and path models (Coldwell and Maxwell, 2018), the realist perspective is that the context for a programme is as amenable to change as identified outcomes. De Souza (2013) argues that "social contexts are relatively enduring and are what social programs aim to transform (rather than reproduce) by activating various structural, cultural, agential and relational mechanisms to produce various outcomes" (p. 142).

One key aspect of change processes in relation to PDL is the development, production, and enactment of knowledge – what we might term 'knowledge practices' – which brings us to Social Realism.

Social Realism

The work of sociologist Basil Bernstein, itself derived from that of Emile Durkheim, has given birth to a collective body of work in the sociology of education that has come to be known as social realism (Maton & Moore, 2010). The literature is rich, with focuses on, for instance, curriculum (e.g. Young, 2008), vocational education (e.g. Wheelahan, 2010) and critical pedagogy in Higher Education (e.g. McLean, 2006). The development of Bernstein's theory of knowledge, or code theory[i] can be traced in the development of his ideas, and the concept of code as the means of analysing the structure of practices. To achieve this, Bernstein first introduced the concepts of Classification and Framing. The modalities of classification (C) refer to relative strengths of the boundaries between contexts or categories (such as academic subjects in a curriculum for example). The relative strength of control within these contexts or categories is given by the modality of framing (F), in which relatively strong framing indicates strong control from above, or by the teacher in relation to what happens in the classroom (Bernstein, 2000: 12). The combination of classification and framing, as a knowledge code,

allows a description that reveals the underlying practices, the rules of the game, and the unwritten principles that shape practice.

Having conceptualised knowledge codes and their modalities to analyse educational contexts and practices and the dispositions that social groups bring to education (their coding orientations) Bernstein next raised the question of how different forms of educational knowledge are constructed. He formulated the pedagogic device, the symbolic structure and rules operating when knowledge is created. He identified three 'fields' of activity: a field of production where new knowledge is constructed and positioned; a field of recontextualisation where discourses from the field of production are selected, appropriated and re-positioned to become 'educational' knowledge; and a field of reproduction where pedagogic practice takes place (Maton and Muller, 2007).

These fields constitute pedagogic discourse, which Bernstein considers having two types: horizontal discourse and vertical discourse. Horizontal discourse is everyday common-sense knowledge where meanings are largely dependent on the context and where knowledges are strongly segmented from one another. Vertical discourse is the educational, formal, or official knowledge and 'takes the form of coherent, explicit and systematically principled structure' (Bernstein 2000: 159) where meanings are related to other meanings rather than to a specific social context. Two types of knowledge structure exist within a vertical discourse:

- Hierarchical knowledge structures: e.g. physics, that develops through integrating past knowledge within more overarching ideas that attempt to explain a greater number of phenomena previously achieved.
- Horizontal knowledge structures: e.g. humanities/sociology that develop through the addition of a new approach of a new theory or alongside existing approaches and for which it is strongly bounded.

This model of different forms of knowledge is useful in understanding how knowledge develops over time and the context dependence of meaning, as will be discussed below in relation to teachers' mentoring practices. Furthermore, as Wheelahan (2009, p. 230) notes, "Bernstein's analysis adds depth to critical realism because he explores the causal properties of the structures of knowledge, and the implications for the way such knowledge is produced and acquired." Importantly, this model can be elaborated as a conceptual rubric that allows theory and data to interact, a methodological process for creating a 'language of description', or translation device, derived from the empirical investigation data to become the means through which instances of knowledge practices can be examined, compared, understood, and explained (Pountney and McPhail, 2017). The use of a translation device, therefore, offers a methodological mechanism that serves to provide the researcher with the means of approaching context independence while also being relevant to specific contexts.

While critical realism has been described as an 'underlabouring' ontology to social realism (Maton, 2008), Wheelahan (2023) reminds us, not all social realists are critical realists. As a broad sociological project social realism argues that knowledge comes first, in both an ontological and epistemological sense (McPhail, 2017). Social realist studies that examine the epistemological basis for knowledge and the curriculum take account of reality in order to know the world (Maton, 2004). In terms of professional learning, its external realisation is ontologically social, in which knowledge practices are a form of social practice, taking place in professional contexts such as those practised by teachers. Mentoring, therefore, is one form of a teacher's professional knowledge practice, in which

professional development is epistemic development over time, and therefore can be considered to be emergent.

Here we remind ourselves of what realists mean by practice, acknowledging that knowledge practices are a form of social practice, where systems of meaning are (re)produced within culture through practices, phenomena, and activities (Archer 1995). Critical realists share a view on this on an ontological rather than a purely epistemological point of view, in which things are irreducible to physical description. The crux of professional knowledge, therefore, lies in the specialised language and procedures for seeing the 'particularities' of practice and this is the derivation of its causal potential. However, if this knowledge remains the tacit, context-dependent knowledge of the workplace, its selection and usefulness is determined by the extent to which it is relevant in a particular context. Bernstein (2000, p. 157) refers to this as everyday knowledge that is "likely to be oral, local, context dependent and specific, tacit, multi-layered, and contradictory across but not within context".

Towards a synthesis of Realist Evaluation and Social Realism to investigate PDL

Social realism is important, therefore, because it allows the researcher to examine the organising principles of knowledge, discourse, and practices. For example, Pountney and McPhail (2019) identify the underlying principles operating in the interdisciplinary curriculum on a pragmatic / principled continuum, making visible the basis of teachers' curriculum making. Furthermore, social realism offers the potential to explain the relationship between theory and research and set out its place in sociological method: "Against positivism realism insists upon the primacy of theory over experience, but against constructionism it acknowledges the ontological discipline of the discursive gap – reality 'announces' itself to us as well as being constructed by us' (Moore & Muller, 2002, p. 636). Bernstein's pedagogic device for example is identified as a social realist approach in that it describes how society's social structure shapes the way it distributes knowledge and how its education system differentially specialises consciousness (Maton & Muller, 2007).

The sociological implications of critical realism, therefore, are potentially made accessible by means of social realism - "the sociology of knowledge in the sociology of education can have as an 'object' the socially organised ways in which such knowledge is systematically produced and transformed (rather than simply 'constructed' and reproduced)" (Moore, 2013, p. 339). Furthermore, social realism draws attention to the 'blind spot' within the field regarding knowledge (Muller, 2000; Moore and Maton, 2001; Wheelahan, 2010). With this in mind, the case discussed below identifies the kinds of events that might be suitable for analysis in a study of teachers' mentoring practice, including periods of stability and change prior to the emergence of new practice.

Therefore, we argue for the complementary nature of realist evaluation and social realism approaches, and we set out the features of this in Table 1. Both approaches view PDL as an intervention, where social realism adds the focus on knowledge practices and discourse to open settings in complex social systems, to enable a theory of change. Contextual features that are examined as webs of causal processes in realist evaluation, which combine to generate outcomes, are modulated in terms of social realist knowledge codes and knowledge structure, as epistemic meanings close to context. The underlying basis of key mechanisms that affect these outcomes and how they are produced, recontextualised, and reproduced is made accessible by the pedagogic device. Here, the enduring mechanism is knowledge and knowledge structure. Thus, the ontological basis for examining PDL practice is offered a methodology that can account for, and theorise, practice, while having wider applicability to professional learning.

Table 1: Complementary features of realist evaluation and social realist analysis

Realist evaluation	Social realism
PDL as intervention played out in 'open' settings in **complex social systems**, where context affects outcomes.	PDL as an intervention in knowledge practices and discourse where recontextualisation provides **a theory of change**.
Examines **webs of causal processes** which in combination generate the outcomes.	Examines features modulated in terms of **knowledge codes and knowledge structure**.
Makes explicit how various contexts interact and affect the outcomes of an intervention via the triggering or inhibiting of **key mechanisms**.	Reveals the underlying basis of practice, subject to the '**pedagogic device**', in which the enduring mechanism is knowledge and knowledge structure, and how they are produced, recontextualised and reproduced.
Research is theory-led and uses tools that support the **analysis of the complexity** inherent in the system.	Research develops **external languages of description** (translation devices) that enable theory to talk to data and vice versa.
Provides the **ontological basis** of examining PDL practice.	Provides for the **epistemological basis** for examining PDL practice.

The complementary potential of the two realist approaches discussed above are now applied to a case, to consider a methodology for examining practice in professional learning.

The case: professional knowledge for teacher mentoring

In this section, we apply a realist evaluation to a PDL programme of mentoring as a case of a complex intervention, in an open system, that will provide a context-related rich description (Ridder, 2017) to enable interpretive sensemaking for theory building (Stake, 1995). This case is characterised by multiple parts that interact with each other; the political, social, and geographic contexts in which they are situated to produce outcomes. The search for mechanisms, therefore, is led, inductively, by themes about them – they guide us to look. Such underlying mechanisms are often hidden (Sayer, 2000) which when triggered under particular contextual conditions can lead to the outcomes (Bhaskar, 2009).

The case in question is a 50-hour programme of enhancement of teachers' mentoring practices (2017-21) in South Yorkshire in the UK, with over 800 teacher participants. The intervention arose from the context of three drivers: (i) the ongoing requirement for schools to assess new teachers; (ii) the shift to a school-based model for teacher education (DfE, 2011), and (iii) the introduction in England of the National Standards for School-based ITT Mentors (2016). The response made by

Sheffield Hallam University was the provision of a course of study to supplement the 'basic' and predominantly procedural training provided by universities and other teacher education organisations. The course included the requirement to demonstrate that processes are in place to manage poorly performing trainees.

The intervention was informed by the literature on the mentoring of teachers, which draws on the notion of mentoring as "the support given by one (usually more experienced) person for the growth and learning of another, and for their integration into and acceptance by a specific community" (Malderez, 2001, p. 57). The mentoring of trainee teachers, however, is considered essentially evaluative rather than developmental, as a form of 'judgementoring' (Hobson, 2016). A meta-synthesis of research on mentor education for mentors of newly-qualified teachers (Aspfors and Frannson, 2015) identified the formalisation of mentors' professional development, as a distinct profession within the teaching profession. They found the training of mentors to be inadequate, and the emphasis to be on the quality assurance of teachers' competence for teaching, while neglecting the knowledge and skills for mentoring others. It is the interpersonal strategies that mentors use that Pawson et al. (2004), in a realist review of mentoring relationships, identified as the intervention mechanism that brings about individual change. This notion of mentoring as nurturing and developing the mentee rather than their practice, is prevalent in studies.

In contrast, a broad definition of teacher professional development is the "activities that develop an individual's skills, knowledge, expertise and other characteristics as a teacher" (OECD, 2009, p. 49), and "any activity that increases a teacher's knowledge and understanding and their effectiveness in schools and can help raise children's standards" (DFES, 2006, np). Shulman (1986, p. 9), in his work on teacher knowledge, calls this perspective pedagogic rhetoric because "it does not specify what teachers should know, do, understand or process that will render teaching more than just individual labour". Learning on the job and learning through experience is linked to the notion of teacher growth that is constituted through the evolving practices of the teacher, which are iteratively refined through a process of "enaction and reflection" (Clarke & Hollingsworth, 2002: p. 955).

Schon (2001, p.185) in his discussion of the need for an epistemology of practice, reminds us that much of what passes as professional education is "problem-solving, but the most urgent and intractable issues of professional practice [are] those of problem-finding". This echoes the notion of practice as emergent (see above). However, mentoring, as a professional practice in itself, while having the skills and attitudinal component that concerns the "actual services to the client", lacks an "underlying discipline or basic science component" from which the practice rests or from which it is developed (Schein, 1974, cited in Schon, 2001, p. 187). This dominant model constitutes a hierarchy of professional knowledge in which the application of science (in this case of education) yields professional practice (of teaching and learning), "which in turn provides models, rules, and techniques applicable to the instrumental choices of everyday practice" (2001, p.187). In other words, by this reasoning, mentoring of teachers is a professional practice, potentially at least, adrift of its epistemology.

To enhance teacher mentors' professional knowledge for practice the Mentoring Programme in this case developed a curriculum that addressed change in teachers' practice. This was predicated on the principle "that is often necessary to initiate change among those whose self-impetus for change is not great … and it provides the encouragement, motivation, and occasional nudging that many practitioners require to persist in the challenging tasks that are intrinsic to all change efforts" (Guskey, 2002. P. 388). The course offered learning materials, comprising learning content, readings, case studies, and self-evaluation against the Mentor Standards. Successful completion of the course was 'certified', requiring teachers to reflect on their own mentoring practice in relation to the

learning content and to carry out learning tasks. These activities included contributing to discussions in communal forums and to shared online spaces. The resources aimed to raise the understanding of mentoring as professional practice, requiring specialist professional knowledge (Pountney, 2019). Based on an evaluation of the completed workbooks (Pountney & Grasmeder, 2018) teachers reported increased confidence levels in meeting the Standards, enabling them to understand their relevance and application to mentoring practice, with strong insights evidenced into mentor's own current practice and plans and how to develop this further.

A realist analysis of a mentoring programme

Here, we draw together the two approaches of realist evaluation and social realism, summarised in Table 1, to consider PDL, using the mentoring programme outlined above as an instrumental case appropriate for a realist evaluation. This prompts us to consider underlying change mechanisms which operate in specific contexts to lead to sought-for outcomes – referred to in the literature as context-mechanism-outcome (CMO) combinations. As discussed above, realist evaluation, provides a method for understanding causal mechanisms in relation to knowledge practices, of which mentoring can be seen as an example. The mentoring programme, discussed above, begins with a focus on individual agents in context, asking "what produces change?" and, as such, can be framed as an intensive approach (Easton, 2010). So, whilst social realist applications focus on mechanisms in relation to knowledge - what Astbury and Leeuw (2010) consider micro level - realist evaluation may look more broadly, taking into account different mechanism forms. A synthesised realist methodological framework, therefore, enacts the basis of practice as well as its focus. Note that here we are not suggesting that social realism is limited to micro-level examination of practice, but rather that it has a place in our synthesis owing to its complementary power in this context.

Seen as emergent in teachers' mentoring practice, accessed through the analysis of their reflective logbooks, is the sense of a specialised discourse, evident in exchanges between mentor and mentee and a raised level of abstraction and semantic complexity in the language used by senior and experienced mentors (Pountney, 2019). With Archer's morphogenetic sequence in mind (see above), the mentoring case study identifies the kinds of events that might be suitable for analysis in a study of teachers' mentoring practice, including periods of stability and change prior to the emergence of new teaching practices. It is important to note that it is in moments of disruption that the underlying structuring principles of the field are often raised to visibility, as the "methodological primacy of the pathological" (Collier, 1994, p. 163). In other words, it is when things don't run smoothly, or when conflict occurs that insight might be gained.

To this end, participating teachers were asked to recall a critical incident (Harrison, 2004) in order that, otherwise fleeting, accounts of their practice, and details of events and decision-making 'in the moment' could be self-examined (Tripp, 1993). In addition to the analysis of particular knowledge practices in teacher mentoring, such as learning to manage the classroom, the analysis reveals a dynamic shift in coding (referred to as modelling) of the knower acquiring specialist knowledge. It also exposes hidden clashes in conflicting understandings of the purpose and role of the teacher in, for example, how the trainee novice teacher misinterprets feedback from the mentor on encountering the realities of the classroom.

These are the points at which tacit beliefs and ideas may become more explicit and structures that were opaque become visible (Bhaskar, 1979, p. 48; Swift, this volume). Here 'critical incident' activity is identified as the likely mechanism through which through which new practices, understandings, and insights, were brought to light. However, it is in this phase that the underlying organising principles of practice are exposed to analysis. For example, the otherwise reductive question 'How

does a particular bureaucratic process cause a particular kind of mentoring practice to exist?' can be developed into a more generalisable (critical realist) question 'How is this practice possible? And this itself can produce the question 'How are different practices possible?'

Contexts for mentoring practices

Context is identifiable in a realist evaluation approach as the material substantiation of the empirical events that are actually observed. While the notions of the interpersonal play out in features such as the trainee's teacher engagement and motivation, and the support of the mentor and senior leaders in school, it is framed by contexts which affect outcomes including macro changes in the system (for example the Teacher Standards), and the meso-level of the inter-organisational relationships and processes (as in the partnership between the university as awarding body and the school).

However, PDL is also an intervention in knowledge practices and discourse at the micro level, where recontextualisation provides a theory of change. At this point, a social realist view of mentoring practices, makes visible the epistemic context as variation in abstraction or closeness to context, and the relative complexity of meanings (Maton, 2014) (see Pountney 2019 for a fuller discussion of this). For example, the notion of 'progress', as a common theme in mentor-trainee exchanges, is dense and abstracted because it references not only the pupils' learning but has inferences of monitoring and testing of their work by the teacher. This suggests the need for an analysis of mentoring practice as a system of meanings, in which semantic differences and shifts indicate a professional discourse which is elaborated and specialised language and knowledge base for teacher mentors.

Teachers' engagement with mentoring texts (readings, cases, and critical reflections) instigates a mechanism in relation to teachers' own contexts, but this is the focus of practice, not its basis, or indeed the warrant for changes in practice. Wheelahan (2009, p. 237) discusses the causal powers of knowledge and knowledge structure, warning against the downplaying, in professional learning contexts, "the importance of knowledge as a causal mechanism by emphasising skill as demonstrated through observable outcomes." For example, the teacher's classroom management is recognised by the mentor as the control of the behaviour of children (a working environment) rather than the efficacy of teaching itself, because "such knowledge does not easily translate to demonstrable and observable outcomes that can be measured and specified" (Wheelahan, 2009, p. 237). Here, the enduring mechanism is knowledge discourse and knowledge structure itself, in which the symbolic field of knowledge recontextualisation (Bernstein, 2000) is 'underlaboured' by the ontological web of causal processes, providing epistemic access to practice in order to build a framework that can be used analytically, as well as contextually, to inform outcomes. While we hesitate to name this as a clearly defined epistemology of practice it has potential to combat what Schon (2001) refers to as a crisis in professional learning.

Discussion – towards a methodology

In this chapter our aim has been to elaborate a conceptual/theoretical model that is transferable to other PDL contexts. Critical realism has offered the ontological basis for this by proposing that there is a reality that may not be possible to know, or know completely, and which is differentiated, structured, and stratified. Social realism has enabled examination of the sociological implications of critical realism for PDL in education and the ways in which "the sociology of knowledge in the sociology of education can have as an 'object' the socially organised ways in which such knowledge is systematically produced and transformed (rather than simply 'constructed' and reproduced)"

(Moore, 2013, p. 339). This methodological insight is important in examining the underlying basis of PDL.

Considering a realist analysis of mentoring practice, critical realism allows for the possibility that things that 'emerge' have a degree of autonomy from the things they originate from, and cannot be reduced to them (Bhaskar, 1979, p. 104). In terms of the case in this chapter, the focus becomes how the forms of regulation of mentoring practice (how it is legitimated) emerge and how this is realised in practice (how mentoring comes into being and is pedagogised). These reasons, underpinning the pedagogising, can be responsible for producing a change ('the actualisation of the real') and these reasons can be embedded in practice and practice discourse. Discourse in this context, therefore, has the "analytical dualism that characterises critical realist approaches in that it subsumes 'both linguistic/semiotic elements of social events and linguistic/semiotic facets of social structures" (Fairclough, 2005, p. 916). Furthermore, an analytically dualist position with regard to discourse is one that "distinguishes 'social process' and 'social structure' as ontologically distinct through interconnected facets of the social and focuses research on the relationship between them" (Fairclough, 2005, p. 935).

In this sense the events involved in mentoring processes can be considered to be textual in the way that they are produced through semiotic structures and systems. For example, the 'observation report' produced by a mentor for the mentee, is the semiotic facet (a text) of an event. It has a level of abstraction that is a proxy for the articulation of the mentee's planning and teaching, which in itself is a form of explanation. However, from a critically realist perspective, mentoring documentation has emergent properties that cannot be reduced to either the structures or the agents that produced it; rather it is a condition of the existence of social products that there are causal agents, whose reasons are autonomous (i.e. non-deterministic) (Bhaskar, 1993, p. 51).

From a social practice perspective, it can be argued that mentoring is a set of knowledge practices: a "complex form of socially established cooperative human activity" and a "set of skills and habits put to the service of a variety of practices" (MacIntyre and Dunne, 2002, p. 5). Teacher mentoring is a formal process within these practices, in which strong professional identity distinguishes the expertise of teachers (Bernstein, 1990; Beck and Young, 2005). The underlying structure of this context is that mentoring practices are stratified and that meta-practices, such as the mentor's 'approval' of the mentee's practice, are subject to a 'meta-expertise' (Collins, 2010). Furthermore, the basis of what counts as important knowledge in mentoring can be seen to be broad and genericised forms of knowledge (such as classroom management) rather than those that are essentially discipline based (theoretical knowledge of the teacher's subject for example) (Wheelahan, 2010; Shalem & Allais, this volume; Shay, 2012; Swift, this volume).

The work of a teacher mentor can be examined as competency constructed for those who are being mentored, as a form of regulation (Jones & Moore, 1993). This is translated into specific forms such as descriptions of the practice being mentored (schemes of work and lesson plans). This approach legitimates itself by denying context, or rendering it secondary, in order that the mentee's practice can be approved by the 'expert system' that is constituted by the mentor: "... it removes (de-locates) a discourse from its substantive practice and context and relocates that discourse according to its own principle of selective reordering and focusing" (Bernstein, 1990, p. 183). In this sense teacher expertise (what is 'good teaching') is recontextualised into teacher development and its hybrid, professional development (Clegg, 2009) as sub-fields of education.

Returning to the case of teacher mentoring above, we can elaborate connecting propositions (Shearn et al., 2017) to develop rough programme theories. The theory of change adopted by the

programme maker, in this case a developmental model of mentoring (Furlong and Maynard, 1995), encounters the theory of implementation, devised by the programme leaders, and is filtered through participants' theories-in-use (Argyris and Schön, 1974). The enduring patterns that create change are seen to be central to the establishing the purpose of evaluation in this context, rather than the evaluation itself. Here the realist framework for the empirical study of mentoring practices is an explanatory one that examines the possibilities for new mentoring practice and how the structuring of professional development (mentoring) knowledge provides the bases for the possibilities that emerge.

Conclusion

This chapter has aimed to demonstrate the value of bringing together different realist approaches to the study of professional learning – realist evaluation and social realism. Firstly, the approach involves a clear focus on causation, aiming to understand how and why social processes - including professional learning processes - can influence outcomes. However, these approaches avoid simplistic 'process-product' conceptualisations (Opfer and Pedder, 2010). By understanding causal processes as operating in specific contextual arrangements to produce emergent outcomes, realist approaches conceptualise the world as complex. Secondly, the synthesised realist perspective we develop - in common with other realist positions that share an underpinning critical realist philosophy - foregrounds causal mechanisms, and lays these out in detail. The particular value of the synthesised position is that it brings together (i) extensive, often meso and macro level perspectives on PDL that foreground wider societal processes and contexts with (ii) the intensive, micro level focus on knowledge practices of social realism, thus incorporating the strengths and addressing limitations of each. Finally, this synthesis has wider applicability within education beyond PDL to the study of the wider practices of teachers.

In concluding our thoughts on the possible synthesis of realist evaluation and social realism as a methodology, we acknowledge that a degree of symbolic violence will have been exacted above to the critical realism and social realism corpora, not least in our pragmatic rendering of them as single entities rather than the diverse and contested fields that they undoubtedly are. However, it became clear to us while writing this chapter, that the critical realist project to falsify or confirm (Pawson, 1996) can be seen to be held in tension by Bernstein's pedagogic device (Bernstein, 1990) and knowledge discourse and structure and their casual properties. Furthermore, it is our proposition that coupling the search for patterns that produce change in a realist evaluation, with a social realist examination of professional knowledge and discourse contributes to theory building for researching practice, and for revealing its epistemic generative capacity.

[7403 words]

References

Archer, M. S. (1988) *Culture and agency: The place of culture in social theory*. Cambridge University Press

Archer, M. S. (1995). *Realist Social Theory: The morphogenetic approach*. Cambridge University Press

Argyris, M. and Schön, D.A. (1974). *Theory in Practice. Increasing professional effectiveness*. Jossey-Bass

Ashwin, P. (2008). Accounting for structure and agency in 'close-up' research on teaching, learning and assessment in higher education. *International Journal of Educational Research*, *47*(3), 151–158.

Aspfors, J., & Fransson, G. (2015). Research on mentor education for mentors of newly qualified teachers: A qualitative meta-synthesis. *Teaching and Teacher Education*, 48, 75-86.

Astbury, B., & Leeuw, F. L. (2010). Unpacking black boxes: mechanisms and theory building in evaluation. *American journal of evaluation*, *31*(3), 363-381.

Balkin, J.M. 1998. *Cultural Software: A Theory of Ideology*. Yale University Press.

Barrett, B. (2024). *Basil Bernstein: Code Theory and Beyond*. Springer International Publishing.

Beck, J. and Young, M.F.D. (2005). The assault on the professions and the restructuring of academic and professional identities: a Bernsteinian analysis. *British Journal of Sociology of Education*, 26:2, 183–197

Bernstein, B. (1990). *Class, Codes and Control, Vol. IV: The structuring of pedagogic discourse*. Routledge

Bernstein, B. (2000). *Pedagogy, symbolic control and identity: Theory, research, critique*. Rowman and Littlefield.

Bhaskar, R. (1979) *The Possibility of Naturalism.* Harvester Wheatsheaf.

Bhaskar, R. (1993) *Dialectic: The Pulse of Freedom*. Verso.

Bhaskar, R. (2009) *Scientific realism and human emancipation*. Routledge

Bhaskar R., Frank C., Høyer KG., Næss P., and Parker J. (2010). *Interdisciplinarity and Climate Change: Transforming Knowledge and Practice for our Global Future*. Routledge

Boylan, M., Coldwell, M., Maxwell, B., & Jordan, J. (2018). Rethinking models of professional learning as tools: a conceptual analysis to inform research and practice. *Professional development in education,* 44(1), 120-139.

Clarke, D., & Hollingsworth, H. (2002). Elaborating a model of teacher professional growth. *Teaching and Teacher Education*, 18(8), 947-967.

Clegg, S. (2005). Evidence-based practice in educational research: A critical realist critique of systematic review. *British Journal of Sociology of Education*, *26*(3): 415–428.

Clegg, S. (2009) Forms of knowing and academic development practice. *Studies in Higher Education* Vol. 34, No. 4, June 2009, 403–416

Coldwell, M. (2017). Exploring the influence of professional development on teacher careers: A path model approach. *Teaching and teacher education*, 61, 189-198.

Coldwell, M. (2019). Reconsidering context: Six underlying features of context to improve learning from evaluation. *Evaluation*, 25(1), 99-117.

Coldwell, M., & Maxwell, B. (2018). Using evidence-informed logic models to bridge methods in educational evaluation. *Review of Education*, *6*(3), 267-300.

Coldwell, M., & Simkins, T. (2011). Level models of continuing professional development evaluation: A grounded review and critique. Professional development in education, 37(1), 143-157.

Collier, A. (1994). *Critical realism: an introduction to Roy Bhaskar's philosophy*. Verso.

Collins HM (2010) *Tacit and Explicit Knowledge*. University of Chicago Press.

De Souza, D. E. (2013). Elaborating the Context-Mechanism-Outcome configuration (CMOc) in realist evaluation: A critical realist perspective. *Evaluation*, *19*(2), 141-154.

Department for Education (2011) *Training Our Next Generation of Outstanding Teachers*. The Stationery Office.

Department for Education (DfE) (2016) *National Standards for school-based initial teacher training (ITT) mentors*. Online: http://data.parliament.uk/DepositedPapers/Files/DEP2016-0620/Mentor_Standards_Report.docx

Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational researcher*, 38(3), 181-199.

Easton, G. (2010). Critical realism in case study research. *Industrial marketing management*, *39*(1), 118-128.

Elder-Vass, D. (2005) 'Emergence and the Realist Account of Cause'. Journal of Critical Realism 4:2, 315-38

Fairclough, N. (2005) Peripheral Vision Discourse Analysis in Organization Studies: The Case for Critical Realism. *Organization Studies*, 26(6), 915–939

Fairclough, N., Jessop, B., and Sayer, A. (2002). 2 Critical realism and semiosis. *Realism Discourse and Deconstruction*, *10*, 23

Furlong, J., & Maynard, T. (2012). *Mentoring student teachers: The growth of professional knowledge*. Routledge.

Guskey, T. R. (2002). Professional development and teacher change. *Teachers and teaching*, 8(3), 381-391.

Harrison, J., Lawson, T., & Wortley, A. (2005). Facilitating the professional learning of new teachers through critical reflection on practice during mentoring meetings. *European Journal of Teacher Education*, 28(3), 267-292.

Hobson, A. J. (2016). Judgementoring and how to avert it: introducing ONSIDE mentoring for beginning teachers. *International Journal of Mentoring and Coaching in Education*, 5(2), 87-110.

Jones, L., and Moore, R. (1993). Education, competence and the control of expertise. *British Journal of Sociology of Education*, 14(4), 385–397.

Lord, P., Atkinson, M., & Mitchell, H. (2008). *Mentoring and coaching for professionals: a study of the research evidence*. NFER

MacIntyre, A., and Dunne, J. (2002) Alasdair MacIntyre on education: in dialogue with Joseph Dunne. *Journal of Philosophy of Education*, 36(1), 1–19

Malderez, A. (2001). New ELT professionals. *English Teaching Professional*, 19, 57–58.

Maton, K. (2004) *The Field of Higher Education: a sociology of reproduction, transformation, change and the conditions of emergence for cultural studies*, Unpublished PhD thesis, University of Cambridge

Maton, K. (2008) Critical realism, social realism and the epistemic device. *Critical Realism and Education: An international conference*, Institute of Education, University of London, July

Maton, K. (2014) *Knowledge and Knowers: Towards a realist sociology of education*. Routledge.

Maton, K., & Moore, R. (Eds.) (2010). *Social Realism, Knowledge and the Sociology of Education: Coalitions of the mind*. Continuum.

May C., & Finch T. (2009). Implementing, embedding, and integrating practices: An outline of normalization process theory. *Sociology*, 43, 535–554

McLean, M. (2006) *Pedagogy and the university: Critical theory and practice*. Continuum International Publishing Group.

McPhail, G. (2017). Rethinking what it means to be a progressive teacher: Key ideas from social realism. *Pacific-Asian Education Journal*, *29*(1).

McPhail, G., & Lourie, M. (2017). Getting Real: Is Realism a Blind Spot in Research Methodology? *New Zealand Journal of Educational Studies*, 52(2), 285-299. doi:10.1007/s40841-017-0087-y

Moore, R. (2013) Social Realism and the problem of the problem of knowledge in the sociology of education. *British Journal of Sociology of Education*, 34:3, 333–353

Moore, R. and Maton, K. (2001) Founding the sociology of knowledge: Basil Bernstein, intellectual fields and the epistemic device. In A. Morais, I. Neves, B. Davies and H. Daniels (Eds.), *Towards a Sociology of Pedagogy: The Contribution of Basil Bernstein to Research* (pp. 153–182). Peter Lang.

Moore, R., and Muller, J. (2002) The growth of knowledge and the discursive gap. *British Journal of Sociology of Education*, 23(4), 627–637

Muller, J. (2000) Reclaiming Knowledge: Social theory, Curriculum and Education Policy. Routledge/Falmer.

Öğütle, V. S. (2023). Reasons and Causes: A Critical-Realist Phenomenological Analysis of Agency. *Journal of the British Society for Phenomenology*, *54*(4), 343-359.

Opfer, V. D., & Pedder, D. (2010). Benefits, status and effectiveness of continuous professional development for teachers in England. *The Curriculum Journal*, 21(4), 413-431.

Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of Educational Research*, 81(3), 376-407.

Pawson, R. (1996). Theorizing the interview. *British Journal of Sociology*, 295-314.

Pawson, R. (2013). *The Science of Evaluation: a Realist Manifesto*. Sage.

Pawson, R. and Tilley, N. (1997). *Realistic Evaluation*, London: Sage.

Pawson, R., Boaz, A., & Sullivan, F. (2004). Mentoring relationships: an explanatory review. London: ESRC UK Centre for Evidence based policy and Practice.

Pountney, R. (2019) Seeing and framing mentoring through the lens of knowledge practices *CollectivEd* 7, Carnegie School of Education, Leeds Beckett University

Pountney, R. and Grasmeder, A. (2018) Building bridges: enhancing mentoring skills, knowledge and practice through an online course, *CollectivEd* 3: 50–56, Carnegie School of Education, Leeds Beckett University

Pountney, R., & McPhail, G. (2017). Researching the interdisciplinary curriculum: the need for 'translation devices'. *British Educational Research Journal*, 43(6), 1068-1082. doi:10.1002/berj.3299

Pountney, R., & McPhail, G. (2019). Crossing boundaries: Exploring the theory, practice and possibility of a 'Future 3' curriculum. *British Educational Research Journal*. doi:10.1002/berj.3508

Priestley, M. (2011) Whatever happened to curriculum theory? Critical realism and curriculum change. *Pedagogy, Culture and Society*, *19*(2): 221–237

Ridder, H. G. (2017). The theory contribution of case study research designs. *Business research*, 10, 281-305.

Sayer, A. (2000) *Realism and Social Science*, Sage

Schön, D. (2001). Chapter 13: The crisis of professional knowledge and the pursuit of an epistemology of practice. *Counterpoints*, *166*, 183-207.

Schraw, G. (2013). Conceptual integration and measurement of epistemological and ontological beliefs in educational research. *ISRN Education*, *2013*.

Shay, S. (2012): Educational development as a field: are we there yet? *Higher Education Research and Development*, 31(3): 311–323

Shearn, K., Allmark, P., Piercy, H., & Hirst, J. (2017). Building realist program theory for large complex and messy interventions. *International Journal of Qualitative Methods, 16*(1), 1609406917741796.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14.

Sims, S., Fletcher-Wood, H., O'Mara-Eves, A., Cottingham, S., Stansfield, C., Van Herwegen, J., & Anders, J. (2021). *What Are the Characteristics of Effective Teacher Professional Development? A Systematic Review and Meta-Analysis. Education Endowment Foundation*.

Stake, R. E. (1995). *The Art of Case Study Research*. Sage.

Tripp, D. (2011). *Critical incidents in Teaching (classic edition): Developing Professional Judgemen*t. Routledge.

Westhorp, G. (2012). Using complexity-consistent theory for evaluating complex systems. *Evaluation*, *18*(4), 405-420.

Wheelahan, L. (2009) The problem with CBT (and why constructivism makes things worse), *Journal of Education and Work*, 22:3,227 — 242

Wheelahan, L. (2010) *Why Knowledge Matters in Curriculum: A Social Realist Argument*. Routledge

Wheelahan, L. (2023) Realism and theorizing curriculum—the role of knowledge, in Robert J Tierney, Fazal Rizvi, Kadriye Ercikan (Eds.) *International Encyclopedia of Education* (Fourth Edition), Elsevier, Pages 85-95, ISBN 9780128186299, https://doi.org/10.1016/B978-0-12-818630-5.03012-8.

Young, M. (2008) *Bringing Knowledge Back In: From Social Constructivism to Social Realism in the Sociology of Education*. Routledge

Young, M., & Muller, J. (2016). Towards the Sociology of professional knowledge, in M. Young and J. Muller (Eds.) *Curriculum and the Specialization of Knowledge* (Vol. 237). Routledge.

---

[i] See Barrett 2024 for a comprehensive overview of this – we cover here the key ideas associated with this chapter.