The crisis of transcendence and the (im)possibility of teacher education

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Declaration

I declare that all the material which is not my own has, to the best of my ability, been acknowledged. The material in this thesis has not been submitted previously by the author for a degree at this or any other university.

Signed……………………………………………………….

Date………………………………………………………..

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Acknowledgements

Abstract

This thesis assesses the possibility of pedagogical transformation through teacher education. Though this is the substantive focus, it also addresses what is essentially the intellectual question of our age: how are we to respond to the crisis of transcendence which accompanies the twentieth century critique of Enlightenment aspirations? How can it be possible for humanity to transcend the parameters of existing thought and practice when the empirical foundation of that critique has been put into question? With regard to teacher education this is considered through an assessment of models of teacher learning and their meta-theoretical rigour. I assess the validity of teacher education premised upon three major theoretical movements: liberal-pragmatism, poststructuralism and dialectical materialism. These theoretical movements have all influenced my research over the last decade; the intellectual journey I have taken is traceable in the publications presented here and in the reflection that forms the commentary. Ultimately my intellectual search has led me to reject pragmatist and post-structuralist accounts of teacher education and to advance an incipient but nonetheless radical understanding of teacher learning as dialectically transformative.

Doctoral Statement

1. Introduction and proposed basis for the award: post-empiricism and a tale of two pedagogies

Pedagogy 1: the technicist teacher

5)	**Student teacher:**	(*Initiates exchange*) What can you tell me about measurement? … Hannah?
6)	**Hannah[1]:**	(*Responds*) When you build something, you need to measure it.
7)	**Student teacher:**	(*Gives evaluative feedback*) Good … yes … so builders need measuring skills to build houses don't they? If they didn't have them, the houses might fall down. So when we are measuring things we need to be very accurate. What units do we use to measure length? … Charlotte?
8)	**Charlotte:**	Centimetres, millimetres, kilometres/
9)	**Student teacher:**	Good yes. Which is the smallest unit of length? … Alex?
10)	**Alex:**	Um … centimetres?
11)	**Student teacher:**	Mmmm … not quite …
12)	**Alex:**	Um … millimetres?
13)	**Student teacher:**	Millimetres, yes, good. Can anybody show me a millimetre? Can everyone find a millimetre on their rulers? *(Pupils examine their rulers at their desks)* Can you see? It's the smallest unit, smaller than a centimetre. *(Holds up a ruler to demonstrate)* It's marked by little lines at the edge of the ruler, see? What's the next unit of length which is bigger than a millimetre?

This extract is taken from data gathered over nearly a decade of observing student teachers[2] teaching in state-funded primary schools in the north-east region of England. This discourse pattern, where the teacher seems intent upon cueing correct answers, features most strongly in what I have observed during that period. Newman, Griffin and Cole (cited in Wells, 1999, 168) suggest that such interaction - which typically follows the triadic IRF (Initiation-Response-Feedback) discourse pattern first described by Sinclair and Coulthard (1975) - has some benefits. They suggest it is "quite nicely designed … with an in-built repair structure in the teacher's last turn so that correct information can be replaced with right answers". However, there has been criticism of pedagogy based predominantly upon such interaction. Constructivist teacher educators in particular argue that such pedagogy misconceives learning as passive accretion rather than active iterative reconstruction, and they point to its authoritarian tenor where untroubled acquiescence to, rather than questioning of, curriculum content is expected and rewarded (Fosnot, 1989, 1-9). Bruner (1996, 44-65) refers to it as 'folk pedagogy' where facts and principles are merely presented to pupils to be remembered and applied.

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[1] All names are pseudonyms.

[2] The commentary refers to pre-service teachers who are undertaking a one year Postgraduate Certificate in Primary Education (PGCE) as the author's empirical work has been undertaken with these students whilst acting as their teacher educator. However the term 'student teacher' is used throughout because the argument is relevant to both pre-service and in-service teacher education.

Despite these reservations, large studies of teaching in English primary schools suggest that such pedagogy is widespread, (see for example, Alexander et al 1992; Alexander 1997; Bennett et al 1984; DES 1978; Galton and Simon, 1980; Galton, Simon and Croll 1980; Watkins and Mortimore 1999). Wells (1999, 167-208) suggests that its endorsement is associated with a more conventional sanctioning of education as cultural reproduction whereas indictments of such pedagogy are associated with an alternative view of education as human development. Torrance and Pryor (1998, 169) deny its educative legitimacy entirely, arguing that IRF discourse is driven more by a political concern with accountability than an educational concern with learning because the orientation is towards performance goals. Moreover, a review of research on teaching by Shulman (1986, 9-15) links this focus on evidencing outcomes for performance with the 'teaching effectiveness' paradigm, a positivist 1970s research programme which retains legitimacy internationally as education policy becomes increasingly shaped by economic competition and human capital theory (Gerwitz, 2002, 1-24). Here, favourable judgements are awarded to teachers for evidencing an accelerated pace of curriculum transfer and, in a policy climate of measurable performance targets, the *technicist* teacher is contractually accountable for policy implementation; effective teachers demonstrate that pedagogic action is based upon putative relations between teaching *techniques* and accelerated *outcomes* (Day, 2012, 1-11).

Pedagogy 2: the reflective, enquiring teacher

48)	**Student teacher:**	*(After about 15 minutes of groupwork)* Okay….let's just share what we know from the evidence so far. Which family do you think left home when the floods came? *(Hands go up while teacher waits)* Aiden?
49)	**Aiden:**	The Hussains.
50)	**Student teacher:**	The Hussains? Does anyone disagree? … No? Anyone got any reasons why the Hussains left home but the Chowdurys didn't then? Any reasons at all? … Natalie?
51)	**Natalie:**	We thought that the Hussains left because they had cousins they could go and live with …
52)	**Student teacher:**	They had somewhere to go? Okay … any other reasons? … Rebecca?
53)	**Rebecca:**	The Chowdurys didn't move because they lived on higher ground and the Hussains were poor and lived on lower ground so they had to move …
54	**Student teacher:**	Okay … right … so it was to do with whether they were poor or not and whether they lived on high or low ground? Mmm … I don't understand. Why does that make a difference? … David?
55)	**David:**	Miss, the water spread diseases and I think that probably the sewage system was broke and so they couldn't cook anything or grow any food or anything and … the water was polluted so they couldn't drink anything. The sewage got into the water and the floods went on the crops and they were all ruined. They had to go because they would've probably starved.

This extract is also taken from my data but it typifies a less conventional pedagogy. It is less authoritarian than the first example; it may include incidences of the IRF pattern but these sit within a broader expectation of joint responsibility for knowledge appraisal. The dialogue is more intellectually challenging, aiming less at

the uncritical transmission of knowledge and more at initiating pupil investigation and knowledge evaluation; the teacher appears to be interpreting pupils' thinking in order to expose, diagnose and repair any illogic or errors which accompany their search for understanding. The model of teacher development associated with this practice is the *reflective* teacher (Schön, 1983) or the *enquiring* teacher (Stenhouse, 1975) because it is argued that teachers develop through trial and error as they hypothesise, test and revise their pedagogic belief and action in confrontation with pupil responses.

Educating teachers in the post-empiricist world

What is a teacher educator to make of this differentiated pedagogic landscape? Is the aim of teacher education to challenge the status quo by shifting teachers' practice away from 'folk pedagogy'? Certainly, at the outset of the research presented here, this is how I understood my professional duty. Though research has failed to definitively link teaching style to higher attainment, theoretical and empirical studies overwhelmingly endorse pedagogic principles which prioritise high cognitive demand in classroom activity and interaction (Watkins and Mortimore, 1999, 1-19). Broadly, this was my assessment of *what* student teachers should learn.

But what does this mean for *how* they learn? Should teacher education be informed by technicist or reflective models of teacher learning? Philosophically, reflective models of teacher development are linked to educational traditions such as liberal-progressivism (Kelly, 1986) and social reconstructionism (Counts, 1932), which reject positivist definitions of accountability. Indeed these traditions (to a degree which varies amongst protagonists) often encourage critical reflection upon the historical, political and social contexts of teachers' work (Bell and Gilbert, 1996, 63-69). In terms of *how* student teachers learn, my work has certainly attributed greater validity to the reflective paradigm than to technicism. Partly this is due to my own research findings which have consistently revealed that pre-service teachers begin training with expectations and values culled from prior experience as pupils. That pre-service teachers bring prior knowledge to their training is acknowledged in research more broadly, a finding which points to a weakness in technicist models where the agency of the teacher is overlooked (Day 2012, 1-11).

Moreover, the idea of the teacher education curriculum as techniques to be transmitted to empty vessels ('disinterested' teachers) has also been discredited by theoretical advance. Shulman's (1986, 4-8) review of research on teaching for example, argues that, as part of the 'effectiveness paradigm', technicism draws upon the psychological framework of behaviourism, the epistemological framework of empiricism, and the sociological perspective of positivism. These are theoretical frameworks which have been subject to extensive and quite devastating critique during the twentieth century (see for example: Matthews, 1980 and Scott, 2010). In

nineteenth century Europe and North America, a spurious Humean distinction between sensation and thoughts-about-sensations greatly influenced the nomothetic research paradigm which informed crude theory-to-practice models of teacher education (Simon, 1974, 44-71). This asserted the possibility of making value-free, law-like statements about correlations between educational phenomena thereby assuming that researchers could produce objective, non-particularistic knowledge formalised as scientific rules which teacher-technicians could then apply (Schön, 1983). Such empiricism is linked philosophically to naïve realism because teachers' interests are displaced entirely by the known (mind-independent reality) (Scott, 2000). Technicism, in other words, is based upon an objectivist epistemology allied with mechanical materialism, a philosophy which fails to acknowledge the knowledge student teachers *bring* to their learning. From the late nineteenth century onwards, there has been increasing doubt about this belief that sensory data merely imprints a representation of reality upon the human brain with the knower's role being merely to generalise from that data through a process of induction (Matthews, 1980). Increasingly, constructivist psychologies and interpretivist sociologies have lent support to reflective models of teacher learning by acknowledging the role of teachers' interestedness and *prior* knowledge in learning. These highlight evidence suggesting that the virgin perception (empiricism's tabula rasa) has fragile validity (Loughran, 2006). Human perception, many now argue, is always framed by the cultural situatedness of consciousness. Teacher educators must therefore start where the student teacher is so that existing frameworks may be elicited and publicly tested, thereby opening the gateway to the reconstruction of faulty beliefs and practice.

However, a major obstacle to progress in teacher education is that constructivist alternatives to technicism remain underdeveloped (Bell and Gilbert, 1999). Indeed, this is the problem lying at the heart of the research presented here. Though reflective models have inspired many university teacher education courses, and though teacher education could now be thought of as operating in a post-empiricist world, there is still no widespread agreement about how teachers learn. Moreover, though it is generally agreed that teaching involves two knowledge domains - teacher cognition and teacher action - the research also shows that the congruence between these varies from very consistent to very inconsistent (see Fang, 1996 for an overview). Certainly, my own empirical work confirms that what student teachers *say* they believe and what they actually *do* is not always aligned.

This is not the only problem. Though technicism (and the effectiveness paradigm to which it is allied) has been discredited it nonetheless demonstrates remarkable resilience; not only did it dominate nineteenth century European education policy but internationally it continues to inform the design of government-endorsed accountability instruments used to evaluate teachers' and teacher educators' work,

and its assumptions continue to saturate schools (albeit to variable degrees – see for example, Darling-Hammond and Lieberman, 2012). Even if empiricism has been discredited in the academic sphere, technicism nonetheless pervades policy and practice.

Without a fully developed constructivist alternative to technicism then, the teacher educator is obliged to ask: is it *possible* for teachers to reconstruct their beliefs and transcend entrenched institutional practices based on 'folk pedagogy'? This thesis offers a contribution to knowledge aimed at providing a satisfactory answer to this question. There is an urgent need to understand whether teachers can reconstruct their practice and, if they can, we need to ascertain what this implies for teacher education. As I will discuss below, scepticism has increasingly cast doubt on this possibility and if we must conclude that teachers are unable to transcend entrenched practice then there is little need for teacher education (and indeed current government policy for state-funded English academies and free schools no longer requires teachers to have a teaching qualification). Though reflective models of teacher learning have appeal, we must ask whether they are valid. There must, after all, be an explanation for why so much pedagogy remains oriented towards curriculum delivery whilst neglecting cognitive challenge. The publications submitted alongside this commentary then, draw upon empirical and theoretical scholarship to evaluate competing accounts of teacher learning and the commentary below provides an overview of the research and its conclusions. Ultimately this leads the thesis to advance a radical, incipient understanding of teacher learning as dialectically transformative. Throughout the commentary publications are referenced with this notation **(1)**.

	Publications submitted in support of this thesis	% contribution
1	Blake A, Edwards G, Newton DP, Newton LD. *Some Student Teachers' Conceptions of Creativity in Primary School History*. International Journal of Historical Learning Teaching and Research 2010, 9(2), 15-24.	12
2	Edwards G, Blake A. *Disciplining the practice of creative inquiry: The suppression of difference in teacher education.* International Journal of Research and Method in Education 2007, 30(1), 33-55.	95
3	Edwards G, Thomas G. *Can Reflective Practice be Taught?* Educational Studies 2010, 36(4), 403-414.	95
4	Edwards G. *The Past and Future Inside the Present: Dialectical Thinking and the Transformation of Teaching*. Journal for Critical Education Policy Studies 2011, 9(2), 43-55.	100
5	Edwards G. *Standpoint Theory, Realism and the Search for Objectivity in the Sociology of Education*. The British Journal of Sociology of Education 2012. E-publication ahead of print. URL: http://dx.doi.org/10.1080/01425692.2012.747588	100
6	Edwards G. *Pre-service teachers' growth as practitioners of developmentally appropriate practice: a Vygotskian analysis of constraints and affordances in the English context*. European Journal of Teacher Education 2013. E-publication ahead of print. URL: http://www.tandfonline.com/doi/full/10.1080/02619768.2013.787592#.Ubl_1vmG1G4	100
	Full publication equivalent	502

2: The problem of educating teachers: the crisis of transcendence

The first task is to state the problem more clearly. Whilst, in a post-empiricist world, technicism is inadequate, reflective accounts of teacher development leave important problems unresolved. Reflective teacher education is linked to social constructivist psychologies of learning and more broadly to social constructionist theory[3] (Bell and Gilbert, 1996, 38-58). However, constructivist and constructionist theory has several variants which are underdeveloped and inconsistent (Suchting, 1992). Though, as Greenwood (1994) and Bhaskar (1978) argue, social constructionism is compatible with realism, irrealist varieties have been highly influential in education. Gergen (1982) and Shotter (1987), for example, deny that knowledge is in any way anchored in the mind-independent world. Moreover, von Glaserfeld (1989) is a principal exponent of radical constructivism which has shaped how many educators view human learning. These varieties are epistemologically subject-centred, asserting that learners interpret the world through existing mental frameworks which may be revised when events contradict expectation. It is this tenet which, as Suchting (1992) argues, leads to a devastating internal contradiction. For it begs the question: upon *what criteria or foundation* are mistaken ideas reconstructed? Traditionally in human enquiry, epistemology has aimed at providing general foundational criteria or a guarantee for human knowledge. But constructionism leaves open the question of what this foundation *is* because it asserts that interpretation-free perception does not exist. To put the problem more starkly: how can a learner (such as a student teacher) know when a *correspondence* between a representation (a belief) and the object (the mind-independent object to which the belief refers) obtains or not, so that they may reconstruct their beliefs in favour of more valid ones? How, for example, can they recognise genuine pupil learning when they see it? Traditional epistemologies rely upon a correspondence theory of truth where a claim is true in virtue of the state of the world. But this suggests that to assess the validity of any knowledge claim we have to *stand aside* from the beliefs which constitute our consciousness to compare these beliefs with reality. And impartiality is exactly what constructivist critique asserts is *impossible*. As Bhaskar summarises:

> **… propositions cannot be compared to states of affairs … (T)here is no way in which we can look at the world and then at a sentence and ask whether they fit. There is just the expression (of the world) in speech (or thought)** (Bhaskar, 1978, p.249).

Constructivism is thus internally contradictory because, for knowledge to be possible, a learner's convictions have to be disturbed by something to which they have no

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[3] Though I discuss constructivism here as if it were one perspective, I acknowledge that there are differences between radical and social construct/ion/iv/isms, though space precludes a discussion of these here. The field nonetheless remains underdeveloped. The significant issue for this thesis is the difference between relativist and realist varieties. Fuller discussion is found in Steffe & Gale (1995) and I return to the issue of relativism versus realism in section 5 of this commentary.

unmediated access. If minds are *constituted* by beliefs, where is the vantage point from which the learner's beliefs are disturbed? How indeed, is learning possible? We are therefore obliged to ask how teachers can critique their own practice – that is, how can they possibly *transcend* the parameters set by existing beliefs and practices, as John Dewey, the inspiration behind reflective practice, envisaged? Can a teacher, who has been schooled into believing that pupils are empty vessels, for example, learn that this view of the learner is mistaken? This possibility presupposes objective knowledge, which consists in an accurate representation of the nature of the object (pupil learning) by the subject (the teacher). But without an epistemology to check whether the teacher's representations stand in some form of correspondence to the object, pedagogic improvement seems impossible. This then, is what I shall refer to as the *crisis of transcendence*.

The crisis of transcendence not only threatens the project of teacher education but also modern education itself. As Simon's (1974) historical research shows, modern education was premised upon the European Enlightenment's belief in the possibility of transcendence. Modern epistemology emerged out of a new reflexivity evident in the deliberations of seventeenth and eighteenth century intellectuals who felt compelled to understand the radical rupture with their feudal past inaugurated by the transition to capitalist industrialisation (Callinicos, 2007, 10-15). The shift from rule by a medieval oligarchy to a modern democracy and the rapid expansion of urban industrial areas produced new problems such as social unrest and imperialist wars. Such troubles, combined with the development of science and technology and expanding empirical knowledge about hitherto unknown non-European societies, prompted a new questioning about 'human nature' and 'society'. Crucially, these developments pointed to the possibility that humanity might *transcend* current problems, prejudices, and superstitions by discovering objective knowledge, transforming itself through education. This Enlightenment aspiration is thus central to the enquiry pursued here because it is concerned with the question of whether student teachers can establish sufficient distance from prevailing practices and beliefs to provide a vantage point for *critique*.

Despite this threat to modern education, enquiries into the epistemological roots of constructivism find no satisfactory answer to the crisis. Certainly the idea that learning is an active process has longstanding support; it was championed by nineteenth century education pioneers who objected to the empty vessel assumptions behind the design of European systems of modern schooling (Simon, 1974). But constructivism's roots go back further to the German idealism of Kant who drew attention to the object-constituting activity of the knowing subject (Suchting 1986, 4-5). Though Kant was critical of rationalism's essentialism (the aim to discover essences of things through intellectual abstraction), his cognitivism remained nonetheless subject-centred. Its tenets thus imply that teachers *create*

knowledge rather than apply it, the validity of educational theory resting upon the teacher's *deliberation* upon practice. For in the final analysis, constructivists are obliged to say that learners are in some way self-authenticating through reason, as in the famous example of the Cartesian *cogito*. But neither rationalism nor constructivism can satisfactorily answer the criticism aimed at empiricism, because of a shortcoming well-known to ancient Greek sceptics. This is that any guarantee of truth (an epistemology) is also itself a claim to truth which requires another criterion to ground it. All reasoning relies upon premises but, since those premises may be mistaken, they also need supporting. If there are no further criteria to support them then we are left with dogmatism because we are forced to accept that some claims require no justification. And if we insist on asking for a further criterion then we are faced with a chain of criteria with no end. This leaves us with scepticism because we end up admitting that there is no foundation for knowledge. The choice, it seems, is between dogmatism and scepticism which both obstruct the possibility of transcending the parameters of existing knowledge (Suchting, 1986, 10). This would suggest then, that the hope of teachers transcending current beliefs and practices is futile.

Rather than descend into pessimism however, in what follows, I traverse three broad responses, in social and educational theory, to the crisis of transcendence. This triadic classification can be linked to three major nineteenth century thinkers[4]. What unites them is their acknowledgement of the interested, framework-dependent nature of human observation, though they deal with it very differently. The first is linked to the pragmatist philosopher John Dewey, the second to the perspectivalist philosopher Friedrich Nietzsche and the third, to the political-economist Karl Marx. Their post-empiricist insight was later underscored throughout the decades of the twentieth century, in the work of sociologists and various philosophers of science. These thinkers feature in the publications upon which this commentary is based and, in what follows, I link their theoretical work to the models of teacher learning which feature in the teacher education literature.

3. The liberal response to the crisis of transcendence: reformulated empiricism and the enquiring teacher

The first response to the crisis of transcendence is inspired by pragmatism, a philosophical tradition which understands truth as rooted in the consequences of action. Pragmatism's influence in English teacher education is visible in the *teacher-as-researcher* model developed in the second half of the twentieth century by Stenhouse (1975). In the United States, it inspired what Schön (1983) called the

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[4] This classification has much in common with the framework developed by Callinicos (2007), though he refers to Emile Durkheim where I refer to John Dewey. It is likely that my extensive reading of Callinicos has influenced my classification here.

reflective practitioner model of professional development. Linked to symbolic interactionism, which sits within the interpretive school of sociology, pragmatic models emphasise teachers' meaning-making and intentional social action (Clandinin and Connelly, 1988; see also **(1)** for my own research on student teachers' interpretations). Pragmatism also influenced the action research movement which stressed the importance of beginning with practitioners' problems so as to help them reflect in and upon their practice in order to change it (Lewin, 1948). As Schön (1983) argues, pragmatism reverses the effectiveness movement's theory-to-practice assumptions by insisting upon *personal* theory emerging *out of* a teacher's practice.

Pragmatism however, as Novack's (1975) argument makes clear, ultimately fails to transcend the limitations of traditional empiricism. Indeed it suffers from the same contradiction discussed above in relation to constructivism. This is because, although pragmatism acknowledges the interest-laden nature of human observation, it merely *reformulates* empiricism by collapsing the known into the knower, replacing the subject-object dualism with a single 'gestalt' process of 'meaning-making' as learners respond to the consequences of their actions. Teaching, on this view, is the solving of practical problems. Though for Dewey (1957), objectivity is sought through a social process leading to 'warranted assertability', truth is nonetheless experiential - 'what works' for teachers, rather than what corresponds to a mind-independent reality. Significantly, the object of enquiry shifts from the *world to be known* towards the *various human interpretations of it*. The emphasis is on emergence and intersubjectivity; teachers are always interacting with the meanings of others as they adjust their actions in the shifting context of human action (Crotty, 1998, 72-74). As the neopragmatist philosopher Rorty (1998, 290-306) points out, we can see in this 'interpretive turn' an overlap between American pragmatism and Continental phenomenology rooted in philosophical idealism. Indeed these philosophies have inspired symbolic interactionist, ethnomethodological and phenomenological sociologies. Whilst an exploration of their differences is beyond the scope of this commentary, what unites these is their ontology - or rather their lack of it. Pragmatist accounts of professional learning doubt the existence of theory as a mind-independent social *object* and instead they prioritise tacit practical knowledge developing in conjunction with reflections on practice (Fish, 1989). This is to say that (to paraphrase the pragmatist Fish) we should expect teachers to 'do what comes naturally' (that is, act in accord with the practice into which they have been socialised) since any hope of transcendence beyond their cultural situatedness is futile. It would seem that, as long as teachers are solving problems, it matters little what their problems are; there is no reason to object, for example, to a student teacher solving the problem of low attainment in their class by teaching to the test because that is the problem as they see it. Hence, though saturated with the rhetoric of innovation, pragmatism appears to implicitly sanction stasis because it can offer

no solution to the problem of how a mind can know the world *beyond* it and thereby denies itself any source for critique.

It has been argued that this 'ontological flight' in theory reflects a liberal impulse to reconcile competing values in a plural modern society – a move which Callinicos (2007, 56) suggests ultimately collapses into political and intellectual conservatism. This happens because, as the sociologist Weber (1930) argued, modern capitalism is a system which privileges a search for the best means to achieve the *fixed* end of maximum profit. Thus when we consider that state schooling was initially established in response to capital's requirement for an educated workforce, we can see that the basis of such logic is means-end rationality. Such instrumentalism necessarily becomes an 'iron cage' because it cannot acknowledge the *diversity of ends* within a democratic populace. The liberal-pragmatist solution - encapsulated so well in Schön's (1983) reflective practitioner movement - is reform through *rational negotiation* of means and ends. But this only leads to contradiction in social policy; in the case of teacher education in England, for example, Blake et al (2000) point to contradictory policy demands for pedagogic innovation within an education system firmly tethered to non-negotiable, normative test scores, which thereby subjugates any espoused commitment to value diversity. It is therefore difficult to see how the liberal-progressives' view of transcendence as redeemable through a reformulated empiricism is coherent.

Noting this incoherence, in **(2)** and **(3)** I turn to the possibility that pedagogical change lies less in problem-solving and more in the *plurality* of competing circulating ideologies of education. The search for the possibility of teacher education then, now takes us to a consideration of poststructuralist thinkers, who take a more sceptical exit from the crisis of transcendence.

4.   The Nietzschian exit from the crisis of transcendence: perspectivalism and the rhetorical teacher

At first glance, poststructuralists[5] appear to argue that the framework-dependent nature of human observation means that persons are prisoners of their conceptual frameworks. Knowing is culturally situated. Therefore, rational negotiation is not a solution to social pluralism because disputes in knowledge can be settled only through the exercise of power. In terms of teacher education, this view thus implies that student teachers ought to be equipped with the *rhetorical* capacity to defend their practice against competing practices (see Parker, 1997 and Moore, 2004). This perspective is critical; the claim is that there are not one but many rationalities inside

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[5] Poststructuralism here refers to the academic, interdisciplinary movement originating in 1960s France which rejects any representational role for language, whereas the term postmodernism is used here to refer to the wider cultural movement of which poststructuralism is part.

various sociohistorical contexts from which a person's consciousness is constituted and persons with the greatest access to resources can and do impose their rationality on the rest. Indeed, modernity's pretensions of transcendence can be viewed as mistaken; postmodernism views the modern world - just like all other epochs preceding it - as riven with inescapable conflict. The Nietzschian worldview is that knowledge embodies a 'will to power'. The idea that truth might set humanity free is mistaken because there is not *one* Truth but rather *many* truths (Sarup, 1988).

Poststructuralists reject liberal-pragmatism in their assertion that only the clash of rationalities can explain social change (Rorty, 1998, 2-12). Pragmatists view beliefs as arising out of the consequences of action but poststructuralists point out that the knower still has to *interpret* the consequences of action, leading poststructuralists to argue that it must be *interpretations* (not experience) which change interpretations (a point I explore in **(2)**). Poststructuralist teacher educators conclude that pragmatism, and the reflective models of teaching inspired by it, collapse into an incoherent rationalism because these must in the end view Reason as the foundation for practice (see Brown and Jones, 2001, 18). This is the famous 'Ryle's regress' in reference to Gilbert Ryle's attack on cognitivism:

> **According to the legend, whenever an agent does anything intelligently, his act is preceded and steered by another internal act of considering a regulative proposition appropriate to his practical problem. (...) Must we then say that for the hero's reflections on how to act to be intelligent he must first reflect how best to reflect how to act?** (Ryle, 1949, p. 31).

Though the pragmatist account of enquiry aimed to go beyond Cartesian dualism by describing learning as an interaction between thought and experience (rather than thought and a mind-independent world), according to poststructuralist teacher educators the absence of unmediated perception leads to its impossibility (Brown and Jones, 2001, 5). A cognising subject, such as a teacher, cannot stand outside their own mental constructions (ergo, their own history) to critique these from an *unmediated* perspective. The poststructuralist critique therefore brings into question reflective models of teacher education which claim to move beyond positivist technicism. The point being advanced by the poststructuralists is that, in the final analysis, these models implicitly assume unmediated access to empirical data as a catalyst for cognitive dissonance and reconstruction.

However, poststructuralist teacher educators are not necessarily pessimistic about the possibility of transcending existing practices. As teacher educator Britzman (2003) argues, perspectivalism merely suggests that it is *practice* which changes practice. Post-structuralist teacher educators reject the idea of an essential teacher-subject, and seek instead to explore circulating discourses (Britzman, 2003; Brown and Jones, 2001; Parker, 1997). The focus here is upon collapsing the thought-world dichotomy into text or 'discourse', seeking possibilities for rupturing pedagogic stasis through creative disruptions within and between discourses.

In **(2)**, I consider the possibility that the marginal status of enquiry-based pedagogy might be understood as a consequence of competing discourses. Then, as now, English teacher education policy discourse was saturated with assumptions rooted in the effectiveness paradigm. Discourses of psychological behaviourism and sociological positivism, rooted in ancient Democritean reductionism, assert the possibility of measuring observable, quantifiable and separable attributes (such as teacher skills) against pre-determined 'standards'. Publication **(2)** notes technicism in the students' discourse, coupled with an equally powerful rationalist discourse which seemed to incline them to distrust their own creative potential to enact eclectic pedagogic responses to classroom problems.

The focus of publication **(2)** is discourse rather than any extra-discursive world students might inhabit, drawing primarily upon data taken from student teacher interviews. Though in later research I use stimulated recall and other process tracking methods (Shavelson et al, 1986), here I rely entirely on oral accounts. Moreover, the publication includes a section which reflexively draws attention to the authors' persuasive intent, signalling my ontological commitment at that time. A key theme is that the Enlightenment has encouraged us to view scientific theory as accomplished facts, abstracted from the experiences they index such that the struggles involved in their production remain hidden. Though I would later come to reject this argument, in this paper I suggest that the discursive practices of technicism and rationalism compete with others to curtail student teachers' creativity as they negotiate their identity within discursive space. I seem to be very concerned here that my desire to expunge transmission-based 'folk pedagogy' is perhaps a 'totalizing' impulse to be resisted; maybe teacher educators should celebrate the struggle rather than seek closure in a settled, victorious (reflective?) practice.

These possibilities are explored further in **(3)**. Weber's contradiction between value *plurality* within *fixed* ends is a key theme here. Escaping oppressive instrumentalism in teaching inspired the 'reflective practitioner' movement because means and ends are supposedly reconstructed in practice, but here I analyse the contrary reality whereby (despite Schön's message) reflective practice collapses into technical-rationality. This new technicism is evident, for example, in the development of assessment systems purporting to measure a student teacher's 'reflective capacities'. This leads me to an exploration of a Nietzschian revisionist reading of Schön's work whereby disputes between competing rationalities or practices are understood as exercises of power. This is to say with Britzman that:

> " … the sources of theory are in practice, in the lived lives of teachers, in the values, beliefs, and deep convictions enacted in practice, in the social context that encloses such practice, and in the social relationships that enliven the teaching and learning encounter" (Britzman, 2003 p.64-65).

Nonetheless, it must be acknowledged that my ontology here is radical. It is therefore reasonable to ask: can a teacher educator really conclude that the mind-independent, extra-linguistic world exerts *no* influence on the beliefs and practices of a teacher? Such a drastic conclusion surely demands further reflexive scrutiny.

It is perhaps not insignificant that the research undertaken for publications **(2)** and **(3)** was conducted during a period which coincided with poststructuralism's rise to academic respectability. The academic mood was increasingly anti-theoretical and my disillusion with Enlightenment pretension was perhaps not unrelated to the political backdrop. Postmodern scepticism, far from being radically novel as Lyotard (1984) suggests, is a recurring pessimistic response to political contradictions which can be traced through Nietzsche back to the Sophists in antiquity. Indeed, Callinicos (2007, 320) argues that its particular twentieth century expression is a form of political disillusionment in response to the collapse of communist states in 1989 and the perceived emergence of capitalism's triumph with the publication of Fukuyama's (1989) 'end of history'. On this view, whilst the Enlightenment had initially promised emancipation for humanity through scientific theory, its means-end rationality had yielded only totalitarian 'metanarratives', two world wars and capitalist imperialism. In the West in particular, authoritarian capitalism has given way to laissez-faire capitalism and some intellectuals have come to associate all social *science* – particularly Marxism - with totalitarian Stalinism.

Therefore what is at stake is not just educational but also political. Though this thesis examines teacher education, its central question also resonates with the key intellectual question of our age. In answer to the question about transcendence generally (Is it possible for social theory to establish sufficient distance from prevailing belief to provide a vantage point for criticism?), the pragmatist response is negative since pragmatism is tied to the metaphor of modern societies as 'moving mosaics'; competing interests must be managed pragmatically if society is not to fragment. As Rorty (1998, 4) argues, the consequence of pluralism is that we can no longer aim at absolute progress for humanity through social critique because we can invoke no universal criteria to judge whether capitalist liberal democracy is any more aligned with human nature than any other type of society. The liberal view is that modernity and its Enlightenment hopes of transcendence are flawed and only redeemable through a practical 'muddling through'. Poststructuralist illiberals meanwhile, are more exacting. Since there are no context-independent standards available allowing persons to judge the merit of different 'truths', modernity's hope of transcendence is not redeemable but rather is fundamentally mistaken. We must accept instead that the knowing subject is dissolved in an impersonal flux of power relations and it is merely the dissonance between, and rhetorical power of, prevailing competing discourses which provokes shift in belief, rather than any correspondence to the way the world is. Ultimately then, this rejection of transcendence is fatal to

the project of educating teachers. In a world where eclecticism is desirable, teachers should just seek 'what works' or 'what triumphs' rather than any supposed 'Truth' about teaching and learning.

Yet these conclusions are deeply troubling for the teacher educator. 'Whatever triumphs' implies that learning is nothing more than training for employment which Contu et al (2003) argue normalises a neo-liberal view of education. In many ways, it merely reaffirms the effectiveness paradigm. Whilst poststructuralists might reject educational instrumentalism, they also implicitly undermine the idea of education as public enlightenment because their *celebration* of difference renounces the possibility of contesting the application of diverse pedagogic tools to (fixed) economic ends. Change is, after all, no more than another creative disruption within an unstable set of discursive relations. In short, the argument seems to suggest that there is little hope of transcending the problems which beset the teaching world through the application of human rationality because the pursuit of Truth is no more than a dangerous totalising impulse.

However, such pessimism may not be warranted because there are at least two objections to the post-structuralist position. The first is that it undermines itself (Rikowski, 2002, 21). It could be argued that it is inconsistent to proffer the ontological assertion that 'there are only discourses' without recognising that this is itself a foundational truth claim. The antifoundationalist Fish (1989, 30) answers this well-known objection by asserting that the thesis of antifoundationalism applies to antifoundationalism itself – that is, antifoundationalism admits that it holds court only so long as objections against it are unsuccessful; whatever meets the 'prevailing rules for truth' can be considered true. However, antifoundationalism thereby remains dogmatic since this constitutes an *ontological* freezing which allows no further critique. It simply collapses the known into the knower.

The second objection is that there is no reason why our understanding of human rationality cannot be *reformulated* rather than rationality rejected per se. Poststructuralists overlook the possibility that modernity might be dialectical[6] and - given that the world includes mental processes - human rationality might also be dialectical (Callinicos, 2006, 209). Indeed, it could be argued that a powerful blow is delivered to poststructuralism's credibility following the 2007 global economic crisis which hints at a dialectic at work in economic contradictions which have asserted themselves in history (Harvey, 2010, 342). If this possibility is to be taken seriously however, it requires a thorough evaluation of its meta-theoretical grounding. The argument for human rationality as dialectical is located in the metaphysical naturalisms of dialectical materialism and critical realism (Callinicos, 2006, 155-216).

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[6] What I mean by the term 'dialectical' is explored more fully in (4).

Roy Bhaskar's critical realism (1978), for example, makes a compelling naturalist argument for the unity of the natural and social world. Going beyond traditional idealism and realism, Bhaskar posits social structures as emergent properties of human interaction which, even if contingent upon the intentional behaviour of human beings, nonetheless have tendencies not dissimilar to physical mechanisms which interact within a moving, transformative totality. The relation between mind and world here may thus not be representational as in naïve realism. A revised account of human rationality may be possible which preserves the correspondence theory of truth in *dialectical* form.

A reformulated human rationality could rescue the possibility of teachers having a vantage point from which to critique the parameters of existing beliefs and practices, and, as publications **(4)**, **(5)** and **(6)** demonstrate, it thus became important for my research to explore a third response to the crisis of transcendence.

5. A tale of *three* pedagogies? The dialectical response to the crisis of transcendence: critical realism and transformative teacher education

In the foregoing sections, I noted that rationalism and empiricism fail to explain how it is possible for teachers to learn. Traditional epistemologies imagine a knowing subject (the teacher) confronting a mind-independent reality, each constituted independently of the other with truth being a correspondence between them. Teacher transcendence (the ability to critique pedagogy) is dependent upon the identification of error (a mismatch between beliefs and reality) yet the ground for such correspondence remains elusive (interpretation-free perception is unavailable). Moreover, we have seen how education systems based on these epistemologies can support repressive political ideologies. Crude empiricism neglects agency, the denial of which has historically supported coercive social technologies (Simon, 1974, 44-50). Poststructuralism posits an ontology of competing discourses which reduces the world to power whereas pragmatism proffers epistemological provisionality – truth is merely that currently justified by our beliefs. The problem with these is that we are unable to assert with the realist that, no matter how well supported by existing beliefs, a theory may turn out to be false by virtue of *the way the world is.* Consequently we are unable to explain how it is possible for a teacher to transcend existing practices.

The thesis advanced in the publications presented here is that contestation over teacher education is rooted in this failure to establish a satisfactory meta-theoretical account of human knowing. It is therefore important to explore another thinker who grappled with meta-theory - the political-economist Karl Marx (see Suchting, 1986 for an overview of Marx's meta-theory). According to Suchting (1986), Marx was

particularly critical of idealist and subjectivist philosophies because he felt that they overlook their own hypostatisation. Poststructuralist and pragmatist arguments are attempts to move beyond these but, as discussed above, both end up collapsing into versions of them because discussion is conducted at an entirely philosophical level which aims at closure about what exists *in advance of* practical action ('discourse' or 'meaning' respectively). Such ontological closure led Marx to disparage varieties of subjectivism as purely 'scholastic' (Suchting, 1986, 9). A priori projects fail because they imply a desire "to know *before* we know" which is "just as absurd as the wise resolution of that Scholastic to learn to *swim before he ventured into the water*" (Hegel, cited in Suchting, 1986, 106, original emphasis). Marx's novel solution was to avoid freezing either consciousness or the world and instead to see epistemology and ontology as mutually constituting over time in dialectical relation (Callinicos 2007, 82; Molyneux, 2012, 94). It was Marx's insight that, though Enlightenment science has given us knowledge, we may have *misunderstood the process by which it does so*. Instead of using philosophical speculation to arrive at ontological closure therefore, we should keep meta-theoretical enquiry open by developing epistemology and ontology *in conjunction with* the results of the empirical sciences.

Marx's work contains only an outline of an epistemological research programme which has been subsequently developed by others. In evaluating dialectical materialism, classical Marxists have noted its affinity with the more recent critical realist movement (Banfield, 2004; Callinicos, 2006, 155-181). They avoid conflating these however; critical realism (though inspired by Marx's analysis) examines social structures in general rather than capitalist society in particular – see for example Bhaskar (1978). Dialectical materialism can be considered a *variant* of critical realism inasmuch as attention is paid to the *particular* historical form taken by the social structure (Callinicos, 2006, 199-202).

The meta-theoretical insights these movements provide have far reaching consequences for how we understand teacher education and learning **(4, 5, 6)**. Marx offers a powerful critique of the determinism-voluntarism dichotomy associated with rationalist and empiricist epistemologies by highlighting what these neglect – *dialectics* **(4)**. This is the movement and change characterising the interpenetration of subject and object at the centre of enquiry - and by extension the educational process. On this view, transcendence is not only possible, it constitutes human history. Learning is the transformative relation involved in productive labour; consciousness emerges out of labour, though this is not merely a reflection *of* reality but rather a reflection *upon* reality (Molyneux, 2012, 94). Over history, learners transform the world in accord with human intention. Intentionality is inevitable because persons are born into a culture not of their own making; humans confront the world from a standpoint rather than being disinterested. But that objective world, which includes social structures (policies, cultural artefacts and linguistic

tools) as well as natural forces, *also acts back upon the learner.* Learners must therefore develop new capacities with which to deal with the transformed environment. This is the realist aspect of knowing which also underscores the illusion of individualist conceptions of learning because consciousness and human capacity are always already *socially* formed. Consequently, in any analysis, attention should be paid to the organisation of production because when that changes over history, social relations are necessarily transformed. This means then, as Hill's work (2004, 2007) argues, capitalist structural relations constitute the current context within which teachers work and such relations must be central to any analysis of teacher development.

This suggests that it *is* possible for teachers to critique pedagogy and transcend existing practice (as part of broader social transformation **(5, 6)**). The dialectical relation between subject and object however, means that pedagogical theory cannot yield predictive laws for practice, as the effectiveness paradigm assumes. This is because knowledge is not held to be a representation of the world's objects but is more about *theoretical success.* For critical realists, the truth of a theory is *not* a function of its ability to copy reality (Greenwood, 1994, 30). Just as 'weight' or 'gravitational mass' are not references to essential objects but rather are abstractions naming efficacious forces shaping human experience in its practical relation to the world, pedagogical theory (such as Vygotsky's 'zone of proximal development' for example) similarly refers to *real* psycho-pedagogical tendencies shaping teacher judgement. This is just to say that social science operates not by establishing theoretical laws at the empirical level (thereby assuming closed systems and denying human intentionality), but rather produces theoretical *models* of mechanisms and the ways in which these *might* be exercised within open systems to *contingently* disclose phenomena empirically available to human beings which are then interpreted within human frameworks of knowing. This is to say that theoretical models make claims about postulated entities *additional to* the empirical laws they purport to explain (Greenwood, 1994, 30).

Bhaskar's (1978) layered model of reality makes this clearer. He identifies three interacting levels of reality: the *empirical* domain (phenomena available to human perception), the *actual* domain (events available to perception but not necessarily perceived at any point in time) and the *real* domain (causative forces underlying the empirical). Objects in the real domain may provoke empirically observed conflicts which intrude so as to bring into question existing theory about how the world works. Theoretical error can be noticed during activity because objects autonomously exert forces upon other objects (including the knower's consciousness) so that empirical phenomena may intrude in ways *not* explainable in terms of the existing theoretical model. A teacher or researcher may notice, for example, that the behaviourist account of learning cannot explain certain happenings

in their classroom. Perhaps, for example, it fails to explain why all pupils do not respond in a predictable manner to the same stimulus. New theoretical research projects may then emerge aimed at developing a better explanation for these phenomena. This would suggest that theory is necessary to the education of teachers though this should not be a matter of prescribing techniques based on empirical correlations as in the theory-to-practice model of teacher education; rather it would suggest that theoretical models should be part of a theory-practice *dialectic* involving teachers' critical engagement. The assessment of theory must operate in conjunction with hypotheses about normative patterns of intentional human behaviour in any classroom context. We cannot, in other words, entirely eliminate teacher judgement from the process.

This is perhaps surprising to many since Marx is often caricatured as a determinist. Likewise, the social reconstructionist tradition in education is often presented as doctrinaire, with these educators caricatured as ideologues (see Schiro, 2012, for example). Yet Marx's critical realist analysis appears to be more a theoretical system analysing tendencies in the social order whose actualisation is a *contingent* not determined matter (Matthews, 1980, 178-180). Furthermore, it did not emerge from philosophical speculation but was triggered by findings in the natural sciences. Science continues to add weight to the evidence for a dialectic of nature (for example, in evolutionary biology, in cosmology and complexity theory - see Callinicos, 2006, 213-214, for an overview). Indeed, the philosopher of science Lakatos recognised that science always assumes a metaphysical 'hard core' which directs scientists' gaze to relevant variables (Matthews, 1980, 58-75) but which can be overturned by empirically perceived inconsistencies which violate expectations. This is not a contest between theory and nature but rather involves a triad of nature and at least two *rival* theories. The empiricism of Newtonian metaphysics for example, (to which the education effectiveness paradigm is linked) claims that it is unmediated perception which refutes theories yet Galileo's law of inertia would be impossible if mere empirical observation (something moves because pushed) were all that there was to scientific rationality. Copernicus' recognition - that what we 'see' as the movement of planets is actually a result of *their* movement and *our* movement - necessitated an overthrow of the mechanical metaphysics within which physics had hitherto been embedded (Polanyi, 1962). Empiricism cannot explain the emergence of competing theoretical explanations of the same phenomena such as this, which suggests that the natural and social sciences seek theories of mechanisms *beyond immediate appearances*.

This therefore casts doubt on the validity of the pragmatists' reflective accounts of teacher learning. For, contra pragmatism, concepts and theories are not merely true if they satisfy instrumental needs (solve the student teacher's problem). As Suchting's (1986, 22-23) analysis shows, Marx distinguishes the sphere of scientific

knowledge from the sphere of its technical application because the aim of the sciences remains to discover reality's generative tendencies and relations. Whilst utility always enters in to the selection of problems which science pursues, there is a *dialectical* relation between these spheres of activity because science's search for new theories begins when relations within or between activities based in human needs yield troubling contradictions. Theoretical knowledge also acts back upon everyday practices, a point which strongly supports the argument for the teacher education curriculum to include not just practical training but also the study of education as a social *science* so as to allow teachers not just to solve pedagogical problems but also (if necessary) revise their understanding of what learning or education *is*.

This suggests that learning to teach is *not* merely common sense. Indeed, the theory-practice dialectic resolves the longstanding debate between the progressives (for whom the curriculum is based on relevant experience) and the traditionalists (for whom the curriculum is reified knowledge) **(5)**. Learners do not understand the world merely through experience since things are not as they immediately appear to the senses. Critical realism rather suggests that student teachers should *test* theory in practice to pursue scientific understanding of what learning *is* and *how* it occurs. It is in this (rather than the pragmatist) sense that teachers are researchers. On this view, theory is not merely a teacher's *personal* creation since it is the *world* which alerts teachers to theoretical error. Human consciousness is fashioned *by* practice but it is also judged *in* practice. Teacher learning is perhaps better understood as a dialectical relationship between 'common sense' knowledge (which teachers bring to the activity of teaching) and the products of theoretical practice (which derive from scientific enquiry). This suggests that, rather than being a 'view from nowhere', teacher transcendence is *immanent* because it is contradiction (the dialectic) which can lead to a reformulation of teaching **(6)**. Though mental, social and natural strata of reality are distinguishable, within a critical realist framework these interact with each other and critique *emerges* at the intersection between these strata of reality. Indeed, this explains the documented tension student teachers feel when negotiating the theory-practice dialectic between university and school (see Fang (1996), and **(6)** for my own findings on this). On this view, there *should* be tension if authentic learning is occurring. Indeed, Marx's view of rationality was influenced by Hegel's insight that the conflict is not "a kind of abnormality" but rather is "the root of all movement and life" (Hegel, cited in Callinicos, 2007, p.41). Teachers can improve on their productive practices because they possess powers of critical reflection. They can stand back from what they are doing, and compare it with other ways of achieving the same end and can even imagine new ends to pursue.

There are educators currently developing transformative scholarship in teacher education (for example, Hill, 2004, 2007 and Edwards, 2010), though it is perhaps the

Marxist Soviet psychologist Lev Vygotsky who first advanced a thoroughgoing dialectical understanding of human psychology **(6)**. Vygotsky's key ideas point to a critical-historical pedagogy (Sawchuck et al, 2006) which goes beyond the effectiveness and reflective models **(6)**. Though he did not write directly about teacher learning, Vygotsky's account of the relation between a learner's 'spontaneous concepts' and 'scientific concepts' draws upon the distinction discussed above between utilitarian and scientific spheres of activity. For Vygotsky, understanding the world depends upon critical consciousness, which in turn depends upon relating common-sense concepts to scientific concepts (Daniels, 2001). For Vygotsky, the thinking involved in instrumental activity is not consciousness. Consciousness does not mean merely thinking but rather "an act of consciousness whose *object is the activity of consciousness itself*" (Vygotsky, 1987, 190, my emphasis). To be educated means to *transcend* – to be able to think not just *with* but also *about* cultural thought-objects and their conditioning effects **(5)**. This enables a meta-analysis of the 'supra-empirical' relations between one's own consciousness and one's society. The systematised nature of abstract thought allows the learner to make connections between utilitarian practices and the wider social system. It is abstract theorising which allows critical consciousness to develop by helping the learner theorise *beyond appearances* to the system-wide relations lying *behind* them. Vygotsky's framework thus accepts an ontologically autonomous domain operating beyond, and often in conflict with, immediate appearances in everyday practice and it is this which makes transcendence – the ability to go beyond existing beliefs and practices – possible **(5)**. Abstract theory is never tested against uninterpreted reality but rather is tested *in relation to* everyday spontaneous concepts grounded in concrete activity. Where contradictions occur thinking can be transformed and new relations consciously recognised. This is *critical* consciousness because it includes relations between oneself and the world thus affording the possibility of new potentials for *acting* differently.

Nonetheless, critical realism reminds us that the possibility for individual student teachers to challenge institutionalised pedagogy is contingent. Indeed there is empirical evidence which suggests that inconsistency between teacher belief and practice is related to structural constraint as well as a teacher's perception of those constraints (Davis, in Fang, 1996). Critical realism sheds light on this because it conceives of the world as a plurality of interacting mechanisms including human agency. Mutual interference can affect the operation of these tendencies at any point in time and this suggests that there is no predictable outcome. Understanding any *particular* teacher's pedagogy requires an analysis of their agency in *relation* to the current structural formation at a particular point in time **(6)**.

The work of critical realist educator Wilmott (2002) underscores this point. As he explains, critical realism does not deny that economic, social and theoretical systems

are *constructed* by agents but asserts that these systems nonetheless, once created, have ontological autonomy from those agents; they constitute enduring forces which are distinct from, and irreducible to, the human agency which created them. This utilises the concept of *emergence* where agency and structure are understood as separable domains out of phase with each other over time. As Marx insisted, structure pre-exists the actions of the agents who reproduce or transform it but the structure also post-dates the agents' actions which constructed it (Harvey, 2010, 147-149). What this means in concrete terms is that how any student teacher frames their classroom activity must depend on the state of their psycho-pedagogic knowledge at the time but also upon mind-independent, extra-individual obligations given by the structural role they occupy. Structural forces do not *determine* pedagogic action, but they do *frame* it. The teacher role has objective properties constituted by an autonomous social system of obligations which pre-exists those occupying it. An external force is exerted upon teachers regardless of their awareness of it and regardless of their psycho-pedagogical knowledge. Failure to meet structural obligations carries objective penalties which are not merely dependent upon the subjective interpretation of any student teacher. Wilmott's study (2002) for example, shows how teachers can be required by national policy to accelerate pupils' test achievements to the detriment of pupils' deeper understanding. Failure to do so may incur penalties such as withdrawal of material resources (through job loss, pay cut or demotion for example). Hence, in trying to understand the complexity of pedagogic conservatism, analysis must factor in the structure-agency relation **(6)**.

Of course, this all serves to highlight a problem with transformative rationality. This is that its challenge to normative practices may incite resistance from those who have a vested interest in those practices' continuation. Societies are distinguished by particular forces and relations of production which give rise to different social and legal structures (Molyneux, 2012, 66). If, in liberal capitalism, structural relations are primarily class-based whereby relations of ownership to productive forces are antagonistic (between those who must sell their labour and those who have control over productive resources), there will develop contradictions between productive forces and social relations, and conflicts will arise (Harvey, 2010, 319; Callinicos, 2007, 93).

This explains the existence of pedagogical conflict throughout modernity's history **(4)**. In-depth historical analyses of education by Simon (1974) and Green (1990, 26-75) show how the working class have direct experience of systemic contradiction through their proximity to its material effects (such as unemployment and poverty) whereas the ruling class's distance from these phenomena incline them to dogmatism as they are able to expand their ontological core of propositions without having these brought up against recalcitrant data. Simon (1974, 72-125) shows how

these different structural locations lead to conflicts of interest which in turn lead to contestation over schooling and pedagogy. The politically turbulent period in Europe leading up to universal education, for example, saw the industrial middle classes embrace an Enlightenment desire for understanding. The harsh labouring conditions of the working classes similarly prompted self-conscious examination through the rise of populist education movements such as the Corresponding Societies and Chartists. There formed a fragile educational alliance between them based upon a shared desire for knowledge and self-determination. However, such enquiry threatened industrial practices when it began to point to *limits* on capital accumulation. The political-economist Ricardo's analysis pointed to a labour-capital structural contradiction which occurs because the interests of the capitalist class (seeking profit) were in tension with the labouring class (seeking higher wages and better conditions). This conflict led to the eventual construction of authoritarian elementary schooling for the labouring class because an increasingly prosperous industrial class required an accommodation of labour to the hardship of industrial production (Simon, 1974, 126-176). Factory-like institutions became the monitorial schools for the majority in England (Doddington and Hilton, 2007), a system which complimented the then popular empiricist idea of learners as empty vessels didactically shaped by the state. It would appear this pedagogic legacy may still be with us **(4)**.

A fuller historical analysis is beyond the scope of this commentary but the foregoing does suggest that student teachers require more than initiation into the craft of teaching if wholesale pedagogic change is to occur. Even then, it seems that a student teacher's professional judgement is neither predictable nor capricious; the possibilities must depend in each situation where capital and labour intersect - that is, on events in the political sphere.

Conclusion: transcendence reformulated and the future of teacher education

It is perhaps not surprising that the research journey documented here mirrors the trajectory of Western scholarship over the last two centuries. It has become clear to me that the crisis of rationality inspiring scepticism towards Enlightenment transcendence is symptomatic of an internal conflict in society, a conflict which is political and economic as well as educational. Modern society appears to be divided against itself and perhaps we should expect division between those who see the transformative potential of teachers and those for whom learning to teach is merely the mimetic reproduction of the existing social order.

Currently, teacher education policy in England seems increasingly inclined more towards the latter with school-led teacher training being rolled out as part of quasi-

market reform (Gove, 2012). Moreover, as Hill et al (2002) argue, some critical academic work seems complicit in its abandonment of any hope of transcending existing parameters of practice and belief, focusing less on structural transformation and more on the micro-politics of identity. Social reconstructionist educators have begun to develop the conceptual tools to challenge this but perhaps they have still to overcome the scepticism prompted by the political events of 1989.

At the very least, engagement with Marx's dialectical analysis would appear necessary because the current economic crisis may underline its ontological actuality. My research leads me to conclude that the postmodern rejection of transcendence mirrors the ontological flight of the post-war progressive movement, primarily because of a tendency to see transformation as ideological rather than a feature of structural contradiction. This fails to appreciate that (notwithstanding their beliefs) agents' capacities are shaped by their ontologically real relations to production. Postmodern analysis cannot adequately explain teachers' learning because it conflates agency downwards into a 'structure of discourse' rather than viewing these as distinct mechanisms which interact over time and space.

The liberal-progressive position also seems flawed. It appears to conflate structure upwards into agency to view the former as the unintended outcome of an aggregate of individuals' intentional activity. This seems (in a meta-theoretical sense) little different to the positivist effectiveness movement it rejects. It inclines policy-makers to treat education as a marketplace with teachers, parents and students as consumers making 'choices'. Rational-choice theory tends to underpin these laissez-faire, neoliberal policies deriving from the Austrian School of economics, popularised through the work of Friedrich Hayek. Where this inspires education policy, teachers and learners are regarded as customers engaging in exchange relations with other rational agents in order to advance their economic self-interest. Meta-theoretically speaking, this is a form of methodological individualism whereby it is assumed a person can, if they so choose, escape their class position by becoming prosperous and entering the capitalist class (thus gaining more control over the means of production). Whilst this is possible, as Cohen (1983, 263) points out, it neglects the fact that a person can become free *only* on condition that others do *not* exercise that same freedom. Such a move is belied by the fact that there are insufficient exits from the labouring class to go around. According to critical realism, such movement is structurally *relational*. Conceiving of student teachers as atomised subjects in meritocratic competition for pedagogic credentials seems incoherent. Structurally speaking, teachers must sell their labour power to survive. Perhaps we should expect that they will sometimes act in the interests of capital by treating education as a private commodity (even when this conflicts with their educational beliefs) and sometimes act more in the interests of a labouring class with whom their real

interests lie. Perhaps pedagogy will continue to vacillate as long as the structural contradiction remains.

But I am acutely conscious of the incompleteness of this thesis. It seems urgent that future scholarship should attend to how real and perceived structural constraints operate in tandem with student teachers' psycho-pedagogic beliefs. There is also a need to better understand learning as dialectical so that constructivist psychology and social constructionist sociology do not remain under-theorised. Those who are developing the work of Vygotsky seem important here (Daniels, 2010; Duarte, 2006; Edwards, 2010) along with those developing critical realist accounts of human enquiry and psychology (Bhaskar, 1978; Greenwood, 1994) and those who have developed principles for transformative teacher education (Hill, 2007). Moreover, the work of those who revive the question of what education is *for* seems essential; as Ainley and Allen (2007) argue, the encroaching privatisation of education may be shifting institutionalised learning away from enlightenment towards merely a means of maintaining ignorance and social control.

It would also seem important to have wider recognition in teacher education that theoretical modelling of learning is distinct from the empirical phenomena (such as pupil behaviour) these are employed to explain, so that the role of theory in teaching can be properly clarified. Theorisation should also help expose the dangers of assuming that educational and economic alignment is mere (impartial) expediency. The neoliberal claim that economics and 'edu-business' are pragmatically apolitical because the market is purely a 'hidden hand' becomes ideology rather than knowledge if it prevents interrogation of the meta-theoretical assumptions behind it. Empirical contradictions must be given *theoretical* not just pragmatic treatment.

Such work would support a call for teachers to be more than trained. Modern education is highly complex and contested; teachers need to be involved in the critical search for, and appraisal of, knowledge. Intelligent action depends on the extent to which teachers have a reflexive awareness of their positioning in the social order. This echoes Vygotsky's account of critical consciousness whereby learners should lay bare society, understand how it works, and consider how it might be changed to better serve human needs. Such scholarship may throw into question the viability of organisations and institutions as well as the socio-economic foundations upon which these are based. Rather than require performative teacher 'learning' as an organisation's agent, it provokes the sort of questioning of society and humanity which is resolutely not permitted in the workplace, thus making it incompatible with reductionist teacher training (Contu et al 2003; Gerwitz 2002).

Such controversy does not make educating teachers a straightforward matter. This thesis began life as a teacher educator's predicament and it would be helpful if it could now offer reassuring prescriptions for my own practice. However, since it is

impossible to predict world events, there is little point in extracting judgements from theoretical propositions. Nonetheless, as I have argued, it is still that case that:

> **"(A) suitably rich and realistic critical theory can help to map out the objective context and specify the normative principles that together determine the space within which such judgements move"** (Callinicos, 2006, p.257).

It is hoped that this thesis has contributed some small part to that end.

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