'Knowledge diversity', truth and schooling: in (cautious) defence of realism

Kai Horsthemke

Abstract

One of the chief aims of schooling is learners' general (cognitive, moral and emotional) development, in order to prepare them 'to live in the world'. Cognitive or mental development is characteristically achieved through the acquisition and elicitation of knowledge. In this regard, recent trends have focused on 'knowledge diversity' and 'different ways of knowing', by emphasising understanding and the social and cultural nature of knowledge. In response to these trends, I wish to tighten in this paper the link between knowledge and truth. The educational significance of truth, and of related concepts like facts, reality and objectivity, will assume a central role here. I argue that, ultimately, the only coherent and consistent position is a realist view of the pertinent issues and ideas – indeed, also as an approach to teaching and learning.

Social justice and epistemology: the case of South Africa

What happened elsewhere in the world after the 1960s, as an outgrowth of the civil rights movement in the US, was that predominantly material issues and concerns were increasingly replaced by a focus on culture, diversity and identity matters, especially in politics and education. Understandably, the pertinent debates began flourishing in South Africa only after 1994. While these trends were, and are, clearly to be welcomed, there has been some collateral damage – in South Africa as elsewhere –, the rise of relativism, post-modernism, and constructivism being readily available examples in this regard. With regard to education in particular, epistemology became a prime target, and truth (and related ideas like objectivity, reality and facts) rapidly fell out of favour in educational discourse. The aim of the present paper is to restore these concepts, and to gesture towards realism both as a learning theory (i.e. a theory about how knowledge is acquired) and as a pedagogy (i.e.

a theory of teaching or instruction; Greek: *paidagōgia*).[1] I will suggest, cautiously, that realism has distinct epistemological and ontological benefits and certain educational advantages over competing theories.

"We, the people of South Africa," begins the Preamble to the new Constitution, "[r]ecognise the injustices of our past [and b]elieve that South Africa belongs to all who live in it, united in our diversity" (Republic of South Africa, 1996). Given that everyone has a right to (a basic and to further) education, ensuring effective access to and implementation of this right means "taking into account" not only "equity" but also "the need to redress the results of past racially discriminatory laws and practices" (p.29). Carol Geary Schneider refers to "diversity" as "shorthand for the different ways that human variety [including human knowledge] is socially constructed and also as. . . shorthand for the many forms of assault, and resistance to assault, against stigmatised human difference" (Schneider, 1997, p.113; on the inclusion of knowledge in 'human variety', see pp.126–127).

Responding to Schneider's article, Malegapuru Makgoba emphasises "diversity-focused, diversity-driven curriculum transformation" (Makgoba, 1997, p.138). He writes:

> Educational processes and knowledge in pluralistic democracies are not neutral as they are embedded in values of a society in time and space. . . Knowledge is a human construct that by definition has a human purpose. Knowledge cannot be sterile or neutral in its conception, formulation, interpretation and development. Humans are not generally renowned for their neutrality or sterility in their thoughts. The generation and development of knowledge is thus universal in nature even as its application is contextual (Makgoba, pp.142–143).

'Knowledge diversity' and truth: the postmodernist and indigenous-knowledge turns

The emphasis on 'knowledge diversity' and 'different ways of knowing' (see Green, 2008 and Murphy and McCormick, 2008, respectively) is fairly easy to explain, in South African education as elsewhere, especially when one considers the denigration, suppression and exploitation of so-called traditional

---

[1]   It is apposite to mention the work done in this regard by Johan Muller, Wally Morrow, Michael Young and Heila Lotz-Sisitka (see Muller, 2000 and 2005; Morrow, 2007 and 2009; Young 2007 and 2008; Lotz-Sisitka, 2009; see also Hugo, 2005). By contributing ideas not covered in these texts, the present article will hopefully add momentum to the push towards realism in South African educational thought.

knowledge systems during and even after colonialism. The reclamation project that underlies this renewed focus is not only epistemological but also concerned with legislation and social justice. As Mogobe Ramose has put it:

> The history of epistemicide in South Africa raises fundamental questions of justice such as the question of epistemological equality of all the existing paradigms of the peoples of South Africa. Epistemological equality is a vital ingredient in the construction of a truly representative South African identity expressed, among others, in the new South African philosophy of education (Ramose, 2004, p.156).

Lesley Green focuses on "knowledge diversity" (which refers both to "knowledge practices" and to "knowledge traditions"; Green, 2008, p.149), in a critical response to realist and "universalist" conceptions of knowledge and truth:

> While recognising the flaws in universalism and the need to value knowledge diversity, there is a need to reject the idea of knowledges as mutually exclusive. . . In recognising a wider range of cognitive practices and diverse moral economies of knowledge, scholarship on the commensurability of the sciences and [indigenous peoples'] knowledges [IK] . . . can and will impact on far more than village schoolrooms. . . . The focus on epistemically acceptable practices, rather than universal truths (which can never be satisfactorily demonstrated) suggests that the division of IK and the Sciences is spurious, without resorting to a universalism in Science (Green, 2009, pp.51–52).

She argues that

> diverse epistemologies ought to be evaluated not on their capacity to express a strict realism but on their ability to advance understanding. Such an approach allows for the evaluation of the advancement of understanding without necessarily requiring the expression of the literal truths that divide 'belief' from 'knowledge' (Green, 2008, p.144).

Apart from how – in the absence of such truths – one could make sense of "understanding",[2] a question that remains largely unaddressed is whether the ideas of "diverse moral economies of knowledge", "epistemological equality of all the existing paradigms" and of "diverse epistemologies", and "different ways of knowing", make any sense. The case *against* "indigenous knowledge", and related ideas, is in essence the following: "indigenous knowledge" is conceptually flawed, so it is best to abandon this idea, or at least to reserve it for a considerably more circumscribed application – *especially* in educational contexts (see Horsthemke, 2004, p.43; Horsthemke, 2008, p.305). A central problem appears to be the lack of clarity about the meaning or understanding of 'knowledge', and what it is to 'know' something.

---

[2]   I return to this point later in the paper.

Defenders of these ideas distinguish between 'skills' and 'knowledge' – which suggests, in the absence of any definition, that at least part of the understanding concerns propositional (or theoretical, or factual) knowledge. Insofar as 'knowledge' in this sense includes reference to 'truth', this invites the perception of the latter also being 'diverse'. Bluntly asserting, on more than one occasion during the 2007 ISAPS conference,[3] that "truth is belief", Kwasi Wiredu has asserted that reference to "infallible" truth is not only a bar to dialogue but that "such a claim to knowledge is also a bar to education" (Wiredu, 2004, p.24). Or take Michel Foucault's account:

> Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint. And it includes regular effects of power. Each society has its own regime of truth, its 'general politics of truth': that is, the types of discourse which it accepts and makes function as true . . . (Foucault, 1987, pp.73–74).

This is also the view that Green seems to favour (see Green, 2008, p.154, where she repeats Foucault's dictum that "truth is . . . power"). Arguing that knowledge "is constituted by what is 'true enough'[4] for the task at hand. . ., rather than by access to an absolute truth" (p.147), she notes that "[o]ne cannot simply discard the idea of IK without recognising the issues of power and knowledge that undergird it" (Green, 2008). Elaborating on this last point, Green states:

> The power/knowledge debate applies as much to the sciences as it does to claims to IK . . . Knowledge has always been and will always be instrumentalised . . .[, for example] by powerful lobbies within industry and government. (p.146)

The reference to 'power and knowledge' as a necessary tandem is a postmodernist red herring: it involves a category mistake. The epistemic is *not* the political. When one account is true and another false, or one is adequately justified and another only insufficiently so, it is fairly clear which one ought to be favoured, on epistemic grounds, even though there may be grounds for 'going soft' on the other – like pedagogical reasons, reasons having to do with

---

3   In April 2007, the ISAPS (International Society of African Philosophy and Studies) 15th Annual Conference was hosted by the Rhodes University Philosophy Department in Grahamstown, South Africa.

4   This quantitative or gradational understanding of truth is borrowed from Catherine Elgin (Elgin, 2004). There is a 'threshold' at which belief is strong enough and justification becomes adequate, to qualify as conditions of knowledge. With the notion of 'true enough', Elgin (and, following her, Green) wants to build a similar threshold into the truth condition (p.115). I will discuss this idea later in the paper.

social justice, (former) disenfranchisement, or simply with personal respect, etc. On the view I am defending here, which is in essence a thoroughgoing realism, it is possible *at once* morally to support, to empathise and sympathise with the plight of, indigenous people (and to condemn and lobby against 'Western' denigration, suppression and exploitation) *and* to reject some of the epistemological, metaphysical and ontological foundations of their worldviews.[5]

The following example is a case in point. 'In Palikur astronomy', Green writes,

> . . . the annual movements of specific constellations are related to seasonal rains in a way that describes those constellations as the boats of shamans who bring the rains. The constellations, in other words, are given material form, and cause is attributed to them. If one were to reject as unscientific any explanatory model of the world that does not operate within a strict realism, one could not accept this narrative as knowledge. Yet there is certainly a correlation between the appearance of specific constellations in the hour before dawn, and specific seasons. . . Is this narrative that attributes causal agency to inanimate objects really that different to the immunologist's metaphors of attack and defence that attributes agency to cellular processes as if they are soldiers in a war? In other words, science does not operate within a framework of strict realism in using its own models. Why judge a different knowledge as false where it uses narrative models?' (p.154; see also Green, 2009, pp.47 and 50)

The difference is that an immunologist is fully aware of the function of the 'narrative model', the metaphorical nature of the language employed, whereas the Palikur astronomer actually fully believes that what happen to be inanimate and fictional objects have not only *causal agency* but also a *purposive role* in natural events.[6] Unlike the immunologist's account, the Palikur theory is indifferent to evidence, is not "factually defeasible" (to use Catherine Elgin's words; Elgin, 2004, p.129), and therefore neither scientifically tenable nor epistemically desirable. A theory is factually defeasible if "there is some reasonably determinate, epistemically accessible factual arrangement which, if found to obtain, would discredit the theory"

---

[5] Clearly, the practical ('skill') and familiarity senses of 'indigenous knowledge' should be acknowledged (and I have made this point before; see Horsthemke, 2004). But *what else* is there in *propositional* knowledge, apart from content? To speak, as Green does, of (Palikur astronomy as) "demonstrably valid knowledge" and (as communicating) "verifiable knowledge" (Green, 2009, pp. 43, 46) is to employ tautologies. There could be no knowledge that is *anything but* valid and verifiable.

[6] Elgin may be right when she says that "a theory may be composed of both factual and fictional sentences" (Elgin, 2004, p.128). A scientist, however, can usually tell fact and fiction apart.

(Elgin, 2004, p.129). Attempting to make the case for the scientific and epistemological equivalence of Palikur astronomy (representing indigenous knowledge systems, generally), Green contends that "no scientist believes that Scorpius and Orion are literally an arachnid and a human, but the constellations remain known by those names" (Green, 2008, p.156). This is correct. The importance, however, is not constituted by the *naming*, but by the accompanying beliefs, and the extent to which they reflect *what is actually the case*.

"If 'true enough' is valid for the purposes of communicating understanding in the laws of physics", Green suggests,

> the model of the relationship between the stars and the rains is adequate to the task of communicating understanding of the complex movements of stars in relation to the seasons. It is 'true enough' in its context. One might believe in the shamanic guiding of the star boats, or one might accept that these sentences of the model are metaphorical: either way, they do not need to be eliminated in order for the model of the sky to be valid, which is to say that *such models can be taught in school curricula*, and included in the corpus of knowledge promoted by the state in the task of extending citizenship to people who explain the ecosystem with reference to the rains that come at the same time as certain stars. (Green, 2008, p155; emphasis mine)

Again, this analysis misses the point – namely, that some 'models' are false (i.e. they do not even come close to 'true enough') and should not be taught. The star boat narrative should not be taught in astronomy, although it might be taught in cultural studies or classes on the history and function of myth. Similarly, there is no place for creationism or intelligent design in biology classes, although they arguably have a place in dedicated religious instruction.

Even more damagingly, perhaps, I do not think that the quantitative or gradational conception of truth is plausible. Most obviously, unlike the other conditions of knowledge (belief and justification; see Green, 2004; Green, 2008), truth is not a matter of degree. It is not a matter of *more-or-less*, but rather of *either-or*. It is, indeed, the truth criterion so conceptualised that serves as a kind of gate-keeping mechanism for realism. It enables us to say that something is false, and at least to guard against all kinds of superstition and "postmodernist claptrap" (to use Elgin's apt phrase; Elgin, 2004, p.128) being elevated to the status of knowledge. Green, in her concern for the epistemological priority of understanding and of context, requires a 'relaxed' truth criterion for her account. This explains why she wants to substitute 'true enough' for the truth condition of knowledge. Interestingly, this is a step that not even Elgin, the originator of this notion, appears to be wholly willing to take. The dilemma is made manifest in the following telling passage:

> *I am not saying that truth itself is a threshold concept. . .* My point is rather that epistemic acceptability turns not on whether a sentence is true but on whether it is *true enough* – that is, on whether it is close enough to the truth. 'True enough' obviously has threshold. (Elgin, p.115; emphasis added)

On this account, the process of approximating truth is one of justification and/or reliable production of reasons (both of which are, indeed, 'threshold concepts'): 'true enough' would amount to little more than 'adequately justified', or 'as reliable as can be reasonably expected'. Furthermore, if truth is not a threshold concept but 'true enough' is, then the latter cannot do the work of the former. If this is correct, the notion of 'true enough' has been rendered redundant.

Understanding, context-dependence, and the problem of constructivism in education

By the time students have completed their undergraduate teacher training, certainly in South Africa, they have been thoroughly indoctrinated with constructivism. (On the purported significance and relevance of constructivist theory in today's classrooms, see – for example – Delanty, 1997; Duffy and Cunningham, 1996; Potter, 1996; Richardson, 2003; Von Glasersfeld, 2000; Windschitl, 1999 and 2002.) It is generally assumed that it is only constructivism that provides a compelling account of active, student centered teaching and learning, and that rival pedagogies and learning theories err in significant respects. According to Duffy and Cunningham, and also Windschitl (Duffy and Cunningham, 1996, Windschitl, 1999 and 2002), one of the most difficult underpinnings of constructivism for educators to embrace is that *there are no universal truths* and that constructivism by its very nature is *not compatible with more objective forms of knowing*. No wonder, one might respond – since this can only be apprehended as a 'universal truth' itself, or in terms of an 'objective form of knowing', respectively. It would appear then that in an important respect constructivism is self-undermining: either there are universal truths (or objective forms of knowing), except this particular one; or the statement in question does not itself constitute a universal truth, or objective form of knowing.

There is clearly a grain of truth in constructivism. Some facts are socially constructed, the results of human description and designation – like pass grades in tests or exams, codes of ethics, laws, speed limits, standards of etiquette, culinary recipes, etc.: contingent facts that emanate from our social

practices. Constructivism errs, however, in saying that all facts, including historical and scientific facts, are human constructs. As a pedagogy, I suggest, constructivism has two major, related shortcomings. It degrades a fundamental educational task – that of transmission of knowledge. Furthermore, like postmodernism, constructivism is not only misleading but also potentially dangerous, in that it gives people (educators as well as learners) a false sense of empowerment and authority. In fact, neither approach is emancipatory, as their advocates have contended (on this point, see Muller 2000, p.156). On the contrary, both as a pedagogy and as a learning theory, constructivism is likely to be disturbingly disempowering. The failure of outcomes-based education in South Africa, with its devaluation of subject-based knowledge, knowledge developed in the past and of knowledge for its own sake, is testimony to the plausibility of this judgement.[7]

Yet, does constructivism not find its natural home in 'understanding'? After all, the conceptual ambit of the latter includes people's perception of a situation, etc., and agreement among people – which appears to suggest that such perception and agreement involve individuals' construction of facts.

Understanding

What exactly *is* 'understanding', and what is its relation to truth? The short answer would be that understanding is a mental process that is directed towards truth, or aims at the way things are/the way the world is. (Note: 'understanding' does not necessarily mean actually 'grasping the truth'. Our perception of a situation may be incomplete, insufficiently informed, indeed mistaken, as may agreement among people.) This becomes even clearer when understanding is discussed in relation to 'misunderstanding', and when we reflect on the meaning of the latter. Misunderstanding consists in "getting

---

[7]   This is not the place for a detailed critique of these approaches. My sketchy remarks here are unlikely to persuade anyone that constructivism, for example, should be rejected. They merely serve to underline my misgivings about bestowing special status in education on a theoretical orientation that is deeply problematic. (See also Benson and Stangroom, 2006; Boghossian, 2006a and Boghossian, 2006b, for comprehensive and elegantly argued critiques.) As Lotz-Sisitka claims, "education has a critical role to play in preparing children *to live in the world*" (Lotz-Sisitka, 2009, p.71; emphasis added). This arguably requires that those who so prepare children live there, too. Frankly, I cannot see constructivism making a substantial contribution to this preparation process.

things wrong", in perceiving[8] things/the world as they are not. However, this does not mean (as Elgin suggests it does; Elgin, 2004, p.120) that "divergences from truth, even if unavoidable, are always cognitive defects". There is a distinct cognitive value that attaches to imagination, musings, and fantasies. Nor does this mean that whenever things or the world are perceived as they are not, they are misunderstood. The point is, plainly, that it is important to be able to distinguish between fact and fiction, not to mistake one's imaginings for the way the world is (see also footnote 11 below). Yet, even making mistakes – getting things wrong – is not necessarily a 'cognitive defect', other things being equal. It is a natural part of the process of learning. Learning to recognise one's mistakes and to avoid error is a vital component of understanding and, indeed, of getting closer to what the truth happens to be. It underlies all scientific progress. However, I disagree with Elgin over whether such approximation is a substitute for the truth criterion as such.

Realism, unlike postmodernism and constructivism, emphasises a reality or "objectivity outside the discourse in which it is articulated" (Delanty, 1997, p.130). The question that remains to be answered is whether all learning processes are identical, whether we all operate under identical epistemic conditions. The answer is an emphatic 'no' – and this is an answer that is also available to realism, as I will argue below.

The importance of context

Can a non-constructivist, non-relativist account be given of the pedagogical and educational significance of context? When the terms 'knowledge' and 'knowing' are employed in everyday language a distinction is generally made between three different kinds of knowledge: acquaintance- or familiarity-type knowledge (knowledge of a person, place, or thing), practical or skill-type knowledge (knowledge *how*), and propositional (also called factual or declarative) knowledge (knowledge *that*). When I say *I know Mary Metcalfe*, this involves a different kind of knowledge-claim from that involved in saying that *I know how to bake bread*. Asserting *I know that the Taliban is not a rap*

---

[8]   The German word for perception, *Wahrnehmung*, is even more appropriate. *Wahrnehmen* (*wahr/nehmen*), to perceive, literally means 'to take to be true'.

group[9] in turn involves a kind of knowledge-claim different from the first two. There may often be an overlap between the different kinds of knowledge. Nevertheless, the distinction is generally thought to be useful.

Whereas the first two types are fairly uncontroversial, it is the third type of knowledge that is more complex. Belief is the subjective component of (propositional/theoretical/factual) knowledge, while truth constitutes its objective anchor. While beliefs may vary from individual to individual, society to society, culture to culture – and indeed in terms of strength and duration –, truth does not so vary. Truth refers to what is the case, independently of what individuals believe, think or feel may be the case – independently of their interests and preferences, and even of public and general consensus.

The third component, justification, has a kind of bridging role between the subjective and the objective, between belief and truth. Thus, what counts as *suitable* justification is determined by degree, kind and context of justification. As far as the requisite *degree* of justification is concerned, minimal justification is clearly not enough, while conclusive justification is usually not available. Normally (other than in mathematics and in deductive logic) we accept justification that is less than conclusive, i.e. reasons that are nonetheless compelling. Different *kinds* of justification include observation, sense experience, introspection, memory, oral and written testimony, and different (deductive and non-deductive) kinds of reasoning.

Considerations of *context* bear on the attribution of knowledge insofar as it concerns not only self- but also (and especially) other-ascription, the framing question being: 'Under what circumstances can I/others be said to know?' Attribution of knowledge is context-sensitive – which exemplifies what might be called the 'social component' of knowledge. What does this mean? What is considered *suitable* justification in the case of a small child may not be what is deemed suitable in the case of an older person or adult. The notion of

---

[9]   This example is inspired by a favourite Bush-ism. When he was asked, during his 2000 presidential election campaign, about his take on the Taliban, George W. Bush is reported to have responded, 'Oh, I don't follow rap music'.

suitability'[10] Israel Scheffler argues, "involves standards, which are normally applied more strictly in some cases, more approximately in others, thus giving rise to multiple interpretations of *knowing*" (Scheffler, 1965, p.96; it should be noted that he refers to "multiple *interpretations* of knowing" – *not* to "multiple *ways* of knowing" or to "multiple *knowledges*"). He suggests a subtle shift from examining beliefs to examining the *contexts* in which beliefs are advanced as knowledge-claims. In other words, he suggests that we distinguish the question concerning justificational suitability (of a belief) from the "question of *appraisal of the believer*" (Scheffler, p.102). "To speak of the right to be sure is, in the present context, to appraise the *credentials* of belief from the vantage point of our own standards; it is to spell out the attitude of these standards toward specific *credentials* offered for a belief", Scheffler contends (p.102).

It is plausible to maintain that someone (e.g. a six-year-old) has good reasons if, given her reasoning ability, it is (epistemically) permissible for her to believe that something is the case. In other words, it makes excellent (epistemic as well as educational) sense to apply standards of suitability (of justification) more leniently in the case of the six-year-old and more strictly in the case of the sixteen-year-old. The important point for educators is that what counts, for example, as a good reason depends on who is giving the reason and in what context. One of the responsibilities of an educator is to assess learners' knowledge in a way that is sensitive both to their level of understanding and to the context of assessment.

When is an educator entitled to say that a learner knows something (in the sense of *knowing that*) or has adequate justification for making a knowledge-claim? To put the question more formally: Under what conditions may an educator attribute knowledge to a learner? When we judge that someone has suitable justification, we are judging that he has a rational/justificational case that he can understand, according to Scheffler: "In saying he knows, we are not merely ascribing true belief but asserting that he has proper credentials for such belief, the *force* of which he himself *appreciates*" (Scheffler, p.112).

Scheffler's arguments imply that even if a learner has subjectively good

---

[10]
    Scheffler initially employs the notion of '(evidential) adequacy', only to substitute it later with the more general notion of 'good reasons'. I take 'suitable justification' to encompass both 'adequate evidence' and 'good reasons' and, therefore, to cover a wider range of applications than each of these two notions on their own. To possess suitable justification is (in a phrase Scheffler borrowed from A.J. Ayer) to have "the right to be sure".

reasons for believing something to be true, she does not have knowledge unless she also has *intersubjectively good reasons* (and, of course, unless her belief is true). One of the tasks of an educator will be to assist learners in acquiring the relevant concepts and intersubjective standards of justification. I am not talking about *perfect* reasons; I am (with Scheffler) talking about *good* (or *compelling*) reasons. An important feature of what constitutes *good* reasons is that they are *reliably produced*. If reasons are unreliably produced, they cannot function as justification for one's belief/s. What does 'reliably produced' mean? For one thing, one's sense experiences must be reliably connected with the world, one's sense organs must be intact, etc. For another, one's reasoning must be of a requisite standard[11] – sufficiently critical, rigorous, adequately and appropriately informed, and so on.

This analysis of good reasons indicates why reference to them is context-sensitive. Neither our reasoning nor our sense-experiences are infallible. Nonetheless, if they are generally reliable sources of justification, the reasons they produce might be called *intersubjectively certain*. If reference to good reasons is context-sensitive, does this mean that the criteria for knowledge-ascription change with the respective social group? Is knowledge itself relative? In Plato's cave parable, whatever the enlightened person knows about 'reality' stands in stark contrast to the (majority) view that what the prisoners in the cave claim to know is reality. Does this indicate that *knowledge* is ambiguous between various concepts, each based on a different standard? Is this knowledge context-dependent? Scheffler's arguments suggest that it may be better to say that attributions of knowledge are *context-sensitive*. This is because the term 'context-sensitive' does not offer an open invitation to epistemological relativism – indeed, not even to 'knowledge diversity'. The 'diversity' in question pertains to reasons and to justification.

Regarding the different knowledge claims one is likely to encounter in one's own teaching practice, these usually include moral, scientific, and emotional knowledge claims, amongst many others. Thus, one might encounter different claims about the goodness or badness of certain practices; different levels of

---

[11]   This is where the notion of 'true enough' may seem to gain a foothold. While it certainly makes sense to speak of *correct* deductive reasoning, I would suggest that this descriptor even applies to non-deductive reasoning. The latter can be *correct*, given the parameters of these (inductive, analogical and abductive) kinds of reasoning, without being *conclusive*. (It should also be noted that deductive reasoning may be correct, i.e. display correct logical form, without yielding a true conclusion. In fact, all component propositions may be false.) Just as there are different levels of reasoning, and reasoning ability, there will be different standards of correctness.

mathematical reasoning, different (more and less sophisticated) claims about, e.g., pollution; and examples of introspection – 'This poem makes me feel sad' – and literary analysis – 'This poem is meant to evoke feelings of sadness in the reader, by means of the following. . .'. It is important to note that a small child's claims are accepted as 'knowledge' only if they are true, and the same – obviously – goes for the claims of older persons. Truth does not vary according to particular individuals, social groups or societies. This serves to indicate why, as educators, we are more lenient in some cases than in others – but also why our leniency does not extend to condoning untruths or falsehoods.

Reality, facts, truth, knowledge - and education: the realist rejoinder

The present section considers the relationship between some of the key cognitive and educational concepts from a broadly realist perspective. Realism is the view that there are facts, a reality, a world that exists independently of me, the researcher, the subject of inquiry – i.e. independently of the discourses in which these facts etc. are articulated.

Realism, reality and objectivity refer to what is the case independently of the individual's personal or social constructs and designations, and the procedures for understanding that reality (see Pring, 2004; Willaschek, 2005). Different cultural descriptions come up against the hard facts of reality, of what actually is the case. The viability of these differences depends on features of reality/the world that makes them possible. The present government usually offers a clear example of social construction, and many people are employed to construct that reality to suit the purposes of the politicians. 'Inclusive education', 'investment in education' and 'expansion of provision', like the former US government's slogan 'No child left behind', are constantly being 'reconstructed'. But every so often a hard-nosed realist will ask, "What about the over-crowded classrooms?" or "Where is the teacher?", and point out that children have *really* not had anything to eat or have been violated (see Pring, 2004, p.212). Realism in this sense enables the distinction between subjective and objective accounts: the latter involve examination of the evidence, logical inquiry and the like. Of course, to be objective or to proceed objectively is not the same as being right. Objectivity (like subjectivity) refers to the way I go about my inquiry.

Truth refers to what 'is' the case; what is in agreement with fact or reality. Consider the following claims:

'There is no such thing as (universal) truth.'
'What is true for you is not necessarily what is true for me.'
.

As I have indicated earlier, *contra* constructivism, it makes good sense to take issue with these statements. It makes sense to deny what is said here – and to do this is to concede that what has been said might be wrong, and that its negation would be correct. Otherwise, what is the point of disagreeing or arguing? Or what is the point of asserting a point of view? This leads to the unavoidable position that statements (insofar as they are meaningful) are either true or false.

Without being able to elaborate on the matter, and to critique rival conceptions of truth (coherence, consensus, pragmatism, redundancy, etc.), I am suggesting here that the commonsense account of truth assumes that there is *at least some* correspondence between the statements I utter and the world as it exists, i.e. independently of me. (Pring, p.213; but see also Delanty, who states: "Constructivists and realists are both united in the rejection of correspondence theories of truth", yet fails to defend this claim; Delanty, 1997, p.132.) The central element of correspondence theories of truth is that, other things being equal, the truth/falsity of what is said has something to do with a reality that is *independent* of the statements made about it. I might legitimately for different purposes describe the world in many different ways. But for those descriptions and distinctions to stick, there must be features of the world that enable them to be made. One cannot get away from reality – and from the truth/falsity of statements that give an account of it.[12]

My contention is that realism offers a more coherent account than rival theories of the relationship, including the differences, between cognitive and educational concepts. How, then, are the cognitive notions of *knowing* and *believing* related to the educational notions of *learning* and *teaching* (Scheffler, 1965, p.7)? *Learning that* seems to imply *believing that*, but not *knowing that*. Successful teaching involves the learner coming to believe

---

[12]   It is important to distinguish between what actually took place and the subjective feel of one's experiences, memories, reflections, etc. (Take the Truth & Reconciliation Commission hearings, for example, and the misleading accounts of 'different truths' that have been produced. Reconciliation is a social construct; truth is not. Truth necessarily precedes reconciliation: there can, strictly speaking, be no reconciliation without truth.)

something. The converse does not apply: one may come to learn something without having been taught. What makes teaching 'successful' is not merely that the learner believes what the educator takes to be true, but that the subject matter is true. As I have indicated earlier (and previously: Horsthemke, 2004), *knowing* has not only a propositional/factual but also a practical/skill sense (*knowing that*, *knowing how*). *Believing*, on the other hand, is only propositional (*believing that*). According to Scheffler, *knowing* thus has a larger range than *believing*, and "*learning* and *teaching* are at least as large in range as *knowing*" (Scheffler 1965, p.17). Both also have practical/skill sense (teaching *how*, learning *how*), in addition to being used propositionally (teaching *that*, learning *that*), unlike believing. (As the following table indicates, the acquaintance/familiarity sense of *knowing* is neither shared by *believing* nor by the educational concepts in question – which accounts for its educational irrelevance.)

	knowing	believing	teaching	learning
acquaintance/ familiarity	√	x	x	x
practical/skill	√	x	√	√
propositional/factual/ theoretical	√	√	√	√

Yet, the range of education also goes beyond that of knowledge: we also employ these concepts in terms of *learning to* and *teaching to*, unlike knowing. The same goes for learning and teaching, but not knowing, with regard to appreciation of music and/or development of understanding. It is important to note that *teaching/learning how* arguably involve *knowing how* – whereas *teaching/learning that* do not necessarily involve *knowing that*. *Teaching that* does not even imply *believing that*, although *learning that* seems to. This serves to explain, *inter alia*, how indoctrination takes place.

Unlike indoctrination, and arguably also unlike constructivism, realism as a pedagogy involves a special type of rational persuasion the aim of which is to

convince or persuade others of a truth. Teaching in this sense engages both the guidelines for the validity and soundness of arguments (the conclusion should follow from the premises; arguments should consist entirely of true propositions) as well as the understanding of propositional knowledge characterised above. In other words, educative discourse should consist only of statements of sincere belief that are true and suitably justified – other things being equal.[13] Whether an educator's audience comprises learners, their parents or her own colleagues, the aim is to get them to accept what is true rather than to achieve consensus. If *consensus* were the sole aim of successful teaching, then it would be permissible "to suppress evidence in the interest of consensus" (Goldman, 1992, p.189). Think of a creationist biology teacher, in this regard, and historical, anthropological and paleontological evidence for the evolution of humankind. It would be undesirable, further, to introduce evidence that would threaten to undermine (pre-existing) consensus (Goldman, 1992). Again, in a strongly religious school context, scientific evidence for the origin and development of humankind is unlikely to be covered. Finally, it would be legitimate to secure consensus through artificial means, even by (latent threat of) force (Goldman, 1992). This, of course, characterises any totalitarian society or system whose continued existence crucially depends on suppression of dissent/dissensus and critical interrogation of the status quo. Not only may what everyone (or the majority) agrees on be false (think of a flat-earth society in this regard), but the above implications also render the sole focus on consensus both epistemically and pedagogically undesirable.

Following Alvin Goldman, in terms of good epistemic practice in teaching, like rational persuasion, an educator (the 'epistemic exemplar') should

● assert a conclusion only if she believes it;
● assert a premise only if she believes it;
● assert a premise only if she thinks she has suitable justification for believing it; and

---

13 The *ceteris paribus* clause is significant here: as I have indicated above, there is a distinct cognitive value that attaches to imagination, musings, and fantasies. Far from advocating a Platonic curriculum that permits only certain kinds of art, music and poetry (and only in the early stages of the curriculum) and assigns to these at best instrumental value, I am suggesting here merely that (for example) creativity and aesthetic appreciation ought to be guided by the ability to distinguish between fiction and fact, between fantasy and the way the world is.

- affirm a conclusion on the basis of stated premises only if (a) those premises, together with unstated premises justifiably believed by the person, strongly support the conclusion, (b) she believes that they strongly support it, and (c) she is justified in believing that they strongly support it (Goldman, 1994, pp.33, 34, 36).

Of course, there ought to be room for trying on an argument for size, or for playing devil's advocate (Goldman, 1994, p.33). For pedagogical reasons, however, the practitioner's intentions should arguably be transparent. For such argumentation to have any educational value, the educator's strategy should be clearly discernible to the intended audience. A related instance of exemplifying good epistemic practice is provided by W.V. Quine and J.S. Ullian, in their discussion of rational persuasion:

> What may occasionally happen is that our challenge [of another person's beliefs] is met by so able a defense that we find ourselves persuaded. In this event we are led to give up the very belief that we originally sought to propagate. This is the best outcome of all, if we like surprises and are bent on learning things (Quine and Ullian, 1978, p.132).

Epistemology, education and the 'real world'

A *context-sensitive* realist account acknowledges that people do not have the same cognitive resources, skills and opportunities. They do not all act or operate in the absence of time constraints. Their situations are characterised by different levels of expertise, by different opportunities to access and gather information, by different levels of cognitive maturity and training and by considerable differences in time constraints. As Goldman has cautioned, a "social epistemology for the real world needs to take these constraints into account" (Goldman, 1992, p.223).

What I propose in the present paper, then, is that we revisit realism both as a pedagogy (in that it is able to delve into specific delivery mechanisms – in terms of non-indoctrinative instruction in critical and creative thinking and correct reasoning) and as a learning theory (in that its ontological and epistemological presuppositions are less problematic than those of competing learning theories). Obviously, more work needs to be done, especially in terms of the psychology of teaching and learning – which explains the present, 'cautious' defence of realism.

Postscript

The following is a pertinent excerpt from a play by Bertolt Brecht:

Der Lehrer: Si Fu, nenne uns die Hauptfragen der Philosophie!
Si Fu: Sind die Dinge außer uns, für sich, auch ohne uns, oder sind die Dinge in uns,
für uns, nicht ohne uns?
Der Lehrer: Welche Meinung ist die richtige?
Si Fu: Es ist keine Entscheidung gefallen.
Der Lehrer: Zu welcher Meinung neigte zuletzt die Mehrheit unserer Philosophen?
Si Fu: Die Dinge sind außer uns, für sich, auch ohne uns.
Der Lehrer: Warum blieb die Frage ungelöst?
Si Fu: Der Kongress, der die Entscheidung bringen sollte, fand, wie seit zweihundert
Jahren, im Kloster Mi Sang statt, welches am Ufer des Gelben Flusses liegt. Die
Frage hieß: Ist der Gelbe Fluss wirklich, oder existiert er nur in den Köpfen?
Während des Kongresses aber gab es eine Schneeschmelze im Gebirge, und der
Gelbe Fluss stieg über seine Ufer und schwemmte das Kloster Mi Sang mit allen
Kongressteilnehmern weg. So ist der Beweis, dass die Dinge außer uns, für sich,
auch ohne uns sind, noch nicht erbracht worden.[14]

(Bertolt Brecht, *Turandot oder Der Kongress der Weißwäscher*, Stücke, Band 14, p.36)

---

[14]   'The teacher: Si Fu, name the central questions of philosophy!
Si Fu: Are things outside of us, for themselves, also without us, or are the things within
us, for ourselves, not without us?
The teacher: Which opinion is the correct one?
Si Fu: No verdict has been reached yet.
The teacher: What was the latest tendency among the majority of our philosophers?
Si Fu: The things are outside of us, for themselves, also without us.
The teacher: Why did the question remain unsolved?
Si Fu: The congress that was supposed to yield the final verdict took place, as it has done
for the past two hundred years, in the monastery Mi Sang, on the banks of the Yellow
River. The question was: Is the Yellow River real, or does it exist only in people's heads?
During the congress, however, there was a melting of snow in the mountains, and the
Yellow River rose above its banks and swept away the monastery Mi Sang and all
congress participants. The proof that the things are outside of us, for themselves, also
without us, therefore, has not been furnished.' (Bertolt Brecht, *Turandot or The Congress
of Whitewashers*; my translation)

References

Benson, O. and Stangroom, J. 2006. *Why truth matters*. London/New York: Continuum.

Boghossian, P. 2006a. *Fear of knowledge: against relativism and constructivism*. Oxford: Clarendon Press.

Boghossian, P. 2006b. Behaviorism, constructivism, and Socratic pedagogy. *Educational Philosophy and Theory,* 38(6): pp.713–722.

Delanty, G. 1997. *Social science: beyond constructivism and realism*. Buckingham: Open University Press.

Duffy, T.M. and Cunningham, D. 1996. Constructivism: implications for the design and delivery of instruction. In Jonnasen, D. (Ed.) *Handbook of research for educational communications and technology*. Mahwah/N.J.: Lawrence Erlbaum Associates, pp.170–198.

Elgin, C.Z. 2004. True enough. In Sosa, E. and Villanueva, E. (Eds), *Epistemology*. Boston: Blackwell, pp.113–131.

Foucault, M. 1987. Truth and power. In Rabinow, P. (Ed.) *The Foucault reader*. New York: Pantheon.

Goldman, A.I. 1992. *Liaisons: philosophy meets the cognitive and social sciences*. Cambridge, Mass.: MIT Press.

Goldman, A.I. 1994. Argumentation and social epistemology. *Journal of Philosophy,* 91(1): pp.27–49.

Green, L.J.F. 2008. 'Indigenous knowledge' and 'science': reframing the debate on knowledge diversity. *Archaeologies,* 4(1): pp.144–163.

Green, L.J.F. 2009. Challenging epistemologies: exploring knowledge practices in Palikur astronomy. *Futures,* 41: pp.41–52.

Horsthemke, K. 2004. 'Indigenous knowledge' – conceptions and misconceptions. *Journal of Education,* 32: pp.31–48.

Horsthemke, K. 2008. Scientific knowledge and higher education in the 21st century: The case against 'indigenous science'. *South African Journal of Higher Education,* 22(2): pp.295–309.

Hugo, W. 2005. New conservative or new radical: the case of Johan Muller. *Journal of Education,* 36: pp.19–36.

Lotz-Sisitka, H. 2009. Epistemological access as an open question in education. *Journal of Education,* 46: pp.57–59.

Makgoba, M.W. 1997. A novel approach to identity, knowledge production and curricular transformation. In Cloete, N., Muller, J., Makgoba, M.W. and Ekong, D. (Eds), *Knowledge, identity and curriculum transformation in Africa*. Cape Town: Maskew Miller Longman, pp.138–146.

Morrow, W. 2007. *Learning to teach in South Africa*. Cape Town: HSRC Press.

Morrow, W. 2009. *Bounds of democracy: epistemological access in higher education*. Cape Town: HSRC Press.

Muller, J. 2000. *Reclaiming knowledge: social theory, curriculum and education policy*. London & New York: RoutledgeFalmer.

Muller, J. 2005. The world is not enough: knowledge in question. *South African Journal of Higher Education,* 19(3): pp.497–511.

Murphy, P. and McCormick, R. 2008. Introduction. In Murphy, P. and McCormick, R. (Eds), *Knowledge and practice: representations and identities*. London: Sage/The Open University, pp.ix–xv.

Potter, J. 1996. *Representing reality: discourse, rhetoric and social construction*. London: Sage.

Pring, R. 2004. Truth, knowledge and power. In Pring, R. *Philosophy of education: aims, theory, common sense and research*. London/New York: Continuum, pp.209–227.

Quine, W.V. and Ullian, J.S. *The web of belief.*

Ramose, M. 2004. In search of an African philosophy of education. *South African Journal of Higher Education,* 18(3), pp.138–160.

Republic of South Africa. 1996. *The Constitution*. Pretoria: Government Printer.

Richardson, V. 2003. Constructivist pedagogy. *Teachers College Record* 105(9): pp.1623–1640.

Scheffler, I. 1965. *Conditions of knowledge: an introduction to epistemology and education*. Chicago: Scott, Foresman & Company.

Schneider, C.G. 1997. From diversity to engaging difference: a framework for the higher education curriculum. In Cloete, N., Muller, J., Makgoba, M.W. and Ekong, D. (Eds), *Knowledge, identity and curriculum transformation in Africa*. Cape Town: Maskew Miller Longman, pp.101–132.

Von Glasersfeld, E. 2000. Problems in constructivism. In Steffe, L.P. and Thompson, P.W. (Eds), *Radical constructivism in action building on the pioneering work of Ernst Von Glasersfeld*. New York: Routledge Falmer, pp.3–9.

Willaschek, M. 2005. Realismus – die vermittelte Unmittelbarkeit unseres Zugangs zur Welt. In *Wirklichkeit: Wege in die Realität/Sonderheft Merkur*. Stuttgart: Klett-Cotta (September/October), pp.762–772.

Windschitl, M. 1999. A vision educators can put in to practice: portraying the constructivist classroom as a cultural system. *School Science and Mathematics*, 4: pp.189–196.

Windschitl, M. 2002. Framing constructivism in practice as the negotiation of dilemmas: an analysis of the conceptual, pedagogical, cultural, and political challenges facing teachers. *Review of Educational Research,* 72(2): pp.131–175.

Wiredu, K. 2004. Prologomena to an African philosophy of education. *South African Journal of Higher Education,* 18(3): pp.17–26.

Wiredu, K. 2007. *Social philosophy in postcolonial Africa: some preliminaries*. Plenary lecture presented at the International Society for African Philosophy and Studies 15th Annual Conference. Rhodes University, Grahamstown, 3 April.

Young, M. 2007. What are schools for? In Daniels, H., Lauder, H. and Porter, J. (Eds), *The Routledge companion to education*. London: Routledge, pp.10–18.

Young, M. 2008. *Bringing knowledge back in: from social constructivism to social realism in the sociology of education*. Abingdon, Oxon: Routledge.

Kai Horsthemke
Wits School of Education
University of the Witwatersrand

Kai.Horsthemke@wits.ac.za