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Opinion: Reflections on Critical Thinking

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ABSTRACT

This short essay explores a series of conceptual misconceptions surrounding critical thinking, a widely endorsed yet poorly understood concept in educational discourse. Despite its central importance, critical thinking often lacks a clear theoretical foundation, resulting in a series of diverse and sometimes contradictory interpretations. This article aims to spell out what critical thinking is *not*, drawing tentative boundaries that demarcate it from related concepts. Key distinctions are drawn to distinguish critical thinking from radical scepticism, arbitrary thinking, purposeless thinking, unintentional thinking, and logicality. Ultimately the article argues for a richer conceptual understanding of critical thinking—not simply as a static skill but as a dynamic, context-sensitive approach to stress-testing the support of reasons supporting all claims to knowledge.

Delimiting critical thinking

Though critical thinking is often cited as one of the most desirable outcomes in education, it still remains one of the most 'over worked and under analysed' concepts in educational discourse (McPeck, 1981, p.2). Most scholarly work in the field thus far has led many theorists to categorize critical thinking as a sweeping educational ideal, an ideal one ought to instinctively accept without recourse to a sufficiently robust conceptual and theoretical framework. Perhaps this explains why 'critical thinking is one of the defining concepts of the western university which enjoys wide endorsement, yet we have no proper account of it' (Barnett, 1997, p.1). It stands to reason then, that until such time as we formulate a cogent definition of critical thinking, we are 'shooting arrows at a target we cannot see' (Mulnix, 2012, p.464). Such conceptual uncertainty leads to a series of undesirable ramifications for both curricula and pedagogy. What is more, if critical thinking remains an all-encompassing catchword, little progress can be made in the development of critical thinking in higher education. Consequently, at stake here is the formulation of a sufficiently cogent and justified definition of what critical thinking is, as opposed to the arenas in which it is exercised, or the benefits it provides.

Given that critical thinking is such a broad church, I propose to debunk a few misconceptions regarding the myriad of conceptualizations that have become synonymous with it. Accordingly, this short article examines several examples of what critical thinking is not. This helps us to delimit the boundaries of the concept. Since critical thinking must always be more than the sum of its parts, it is often conflated with certain modes of thinking. Bearing in mind this conflation, critical thinking is not:

Radical scepticism

First, the correlation between critical thinking and scepticism needs to be qualified. If critical thinking is to serve a purpose, it must avoid the pitfalls of radical scepticism, if for no other reason than, 'dogmatism and scepticism are both, in a sense, absolute philosophies; one is certain of knowing, the other of not knowing' (Russell). Radical scepticism and dogmatism are of no use in the search for knowledge.

On the other hand, there is healthy scepticism – a 'reflective scepticism' rooted in the probative strength of epistemic reasons governing a person's actions, thoughts or beliefs. Aligning oneself with the strongest epistemic reasons leads to an 'appropriately justified true belief'. The critical thinker is thus akin to an engineer stress-testing the probative strength of appropriate reasons employed by a given agent to justify their beliefs, thoughts or actions. All our knowledge claims live in glass houses in one respect; what the critical thinker does is make an informed judgment as to whether their glass roof (call them our beliefs), can withstand people throwing rocks at it. If someone else discovers a flaw in one of the panes of glass in the roof and targets it, later smashing it - instead of seeing this as destructive, critical thinkers are thankful that the person has exposed this weakest point. They then either choose to fortify this point and protect it from subsequent attacks, or they throw out the pane and start from scratch. There are no certainties about whether the glass will hold, since we cannot account for all the projectiles that may come our way. For this reason, we rely on the robustness of our calculations, knowing that there may be some projectiles whose mass and density we have not accounted for.

Arbitrary thinking

Although it may seem self-evident, critical thinking is not careless, misdirected or disordered thinking. Failure to sufficiently interrogate sources and evidence, in addition to unquestionably relying on the inferences postulated by seemingly irrefutable authorities, is considered anathema to critical thinking. Critical thinking relies on meeting certain epistemic standards, specifically providing clear and cogent justifications in the form of epistemic reasons/evidence for our beliefs or actions. In this way, critical thinkers are committed to making reasoning visible, so that, the reasons any given agent offers in support of their beliefs or actions, are subjected to a series of stress tests to determine if a person has a right to believe or do what they believe or do.

Purposeless thinking

Related to this matter, albeit not equivalent, critical thinking should not be characterized as vague, spurious or idle thinking, since none of the aforementioned qualifies for the adjective 'critical' (McPeck, 1981, p. 3). Instead, critical thinking must be goal-orientated and purposeful. 'Critical' is an addendum we use when a person asks the question: am I, or another person, warranted in believing X and Y? Are the reasons we give sufficiently strong enough to withstand pressure from other reasons? This need not be construed as a destructive endeavour. If one views critical thinking as contributing to critical thought by way of a grand dialectic, then we are all collectively working on adding new connections to our communal plumbing system. Our collective responsibility lies in ensuring each connection is secure, and that we remain vigilant when it comes to isolating and expelling air-locks (bad reasons for beliefs or actions). The water running through the pipes is thought (hard water), mixed in with critical thought (soft water), and like all systems, this eventually leads to a build-up of limescale in the pipework. The critical thinker needs to flush out the system (pipes) to maximize the

efficiency of the radiators. The hotter the radiators, the more optimal the temperature for the successful friction of the molecules of these ideas - and by extension - the greater the chances of philosophical progress.

Accidental or unintentional thinking

Consistent with the anti-luck and ability platitudes in epistemology, all interrogations of knowledge claims, along with the subsequent epistemic position adopted on foot of these interrogations, must be arrived at via the cognitive faculties of the agent. To arrive inadvertently, unintentionally or surreptitiously at an appropriately justified knowledge-claim (putative or otherwise), is insufficient for critical thinking. The gambler playing roulette who bets on red and wins, can never claim they knew the ball would land on red. Only the gambler who has rigged the table beforehand to make sure the ball lands on red (by means of a magnetic pulse or otherwise), can justifiably say they knew the outcome of their bet.

Logicality

Further to this, critical thinking should not be conceived as the mindless application of a set of logical principles in order to bring about some desired goal or purpose. This view effectively reduces critical thinking to the realm of formal and informal logic, and positions it as nothing other than, the skill of 'acquiring, developing, and exercising the skill of being able to grasp inferential connections between statements' (Mulnix, pp.464-465). As is the case with all the other qualifications however, while critical thinking may utilize the principles of logical reasoning and argumentation, this does not necessarily entail that it is governed exclusively by these principles.

Given that logicality stems from the inferences of inductive and deductive reasoning, critical thinking remains focused on acquiring reflexive knowledge – a knowledge that attends to the fact that even inductive and deductive methods can be highly problematic when dealing with epistemic certainties (Hume, 1975; Popper, 1977; Skyrms, 2014). After all, following rules is not always required [for reasoned thinking], since 'one task of rational assessment is to determine which rules should be followed in a particular situation...mindlessly applying rules just because they are logically correct is foolish' (Brown, 1995, p. 744). In keeping with this principle, critical thinking must demonstrate some kind of metacognitive awareness as well. Effectively this means we pledge ourselves to always think critically about or own thinking.

Rational thinking

Although closely connected, rational thinking and critical thinking are not identical concepts. Critical thinking is a facet of what it means to be 'rational' (McPeck, 1981, p. 12). This means that whilst critical thinking must be grounded in the principles of rationality and reasons, it is vital that it also attend to the fact that rationality too has its limits in relation to enquiry and knowledge. Newcomb's Paradox is an example of this in action. Other examples include the tricky business of actual and mathematical infinities in Hilbert's Hotel. There is also the thorny problem of effective altruism and demandingness in applied ethics. The list could go on. For thinking to be appropriately characterized as 'critical' therefore, it must remain committed to exposing the frontiers of all unjustified knowledge claims, regardless of the framework from which they originate.

Good thinking

Critical thinking can be exemplified in 'good' thinking, but the relationship is asymmetrical: 'not all instances of good thinking are examples of critical thinking. The concepts are not equivalent' (Davies, 2015, p. 46). Good thinking is also a vague term; it can apply to deductive reasoning where the truth of the premises is assumed. It can apply to eliminative inductive inferences, Bayesian models, causal

inferences, enumerative induction, or inference to the best explanation. But there still may be flaws in any of these approaches.

For this reason, critical thinking must always position itself outside good thinking and conduct itself according to the principle: 'good may be good, but may also not be good enough'. Critical thinkers ought to think about how we can make 'good' thinking 'better', by means of fortifying the rationally convicting force of reasons we use to convince people of our beliefs, values and actions.

Problem solving

While sometimes used interchangeably, critical thinking and problem solving are not equivalent either (Davies, 2015). Not all examples of critical thinking necessarily involve solving problems. But why is this the case? Firstly, problem solving involves making judgments to complete set pre-established tasks. Such judgments, may, or may not, meet the intellectual standards of critical thinking. Therefore, in solving a given problem, one may engage, or indeed, fail to engage, in critical thinking. Hence, problem-solving and critical thinking are not equivalent.

The second key distinction worth noting here is that although critical thinking is goal-orientated, sometimes the best it can achieve under the circumstances, (the putative optimum), in light of the lack of data at its disposal, is simply clarifying, or shedding some more light on a complex problem, rather than solving it. In this way, critical thinking can be sometimes more about problem clarification than problem solution.

Conclusion

Critical thinking is one of the most widely used and poorly understood concepts in educational discourse. Part of the problem stems from trying to understand it purely in terms of a noun, rather than as a verb. To be sure, critical thinking as a noun deserves a cogent definition, otherwise any framework we adopt to operationalize it - or dare I say - test for it, are doomed to fail from the outset. Conceptually, critical thinking has regrettably become conflated with a constellation of modes of thinking and reasoning. This has rendered it a nebulous concept for philosophers and educationalists, rendering it even more complex to unpack, both theoretically and pragmatically. The purpose of this short article is to delimit the concept and dispel some of the mischaracterizations that populate some of the literature on the topic.

Notes on contributor

Gerry Dunne is a lecturer in philosophy of education at Marino Institute of Education. He is also a research fellow in Trinity College Dublin. Most of his research focuses on epistemological matters in education. He has published internationally in the area of critical thinking, empathy, decolonisation, exemplarism; initial teacher education, epistemic injustice and epistemic exploitation. He welcomes collaborations with like-minded scholars.

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