

Education in Critical Thinking or in Virtues?: responding to Harvey Siegel

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ABSTRACT – Education in Critical Thinking or in Virtues?: responding to Harvey Siegel. What to choose in education: critical thinking or intellectual virtues? This paper reflects on the central concern of education, given the decline of reasoning and the growing interest in the epistemology of virtue. To this end, the approaches of two iconic references for educational scholarship are analysed: Israel Scheffler and Harvey Siegel. Siegel's approach to the proposed problem is justified and the following reply is put forward: even if virtues cannot take the place of critical thinking in education and even if it is possible to think critically without virtues, would virtues not have something to contribute if we want to continue to advocate critical thinking as an educational desideratum?

Keywords: Educational Philosophy. Moral Education. Principles of Education. Epistemology. Rationality.

RESUMEN – ¿Educación en Pensamiento Crítico o en Virtudes?: réplica a Harvey Siegel. ¿Qué elegir en la educación: pensamiento crítico o virtudes intelectuales? El artículo reflexiona sobre la preocupación central de la educación, dado el decaimiento del raciocinio y el creciente interés por la epistemología de la virtud. Para ello, se analizan los planteamientos de dos referentes icónicos para la erudición educativa: Israel Scheffler y Harvey Siegel. Se justifica cómo aborda Siegel la problemática propuesta y se plantea la siguiente réplica: aunque las virtudes no puedan ocupar el lugar del pensamiento crítico en la educación y aunque sea posible pensar críticamente sin contar con las virtudes, ¿acaso estas no tendrían algo que aportar si queremos continuar abogando por el pensamiento crítico como desiderátum educativo?

Palabras clave: Filosofía de la Educación. Educación Moral. Principios de Educación. Epistemología. Racionalidad.

Introduction

What does it mean to say that someone is a critical thinker? Is it the same as saying that someone is intellectually virtuous? To answer these questions, it would be necessary as a minimum to distinguish between normative and motivational aspects of critical thinking and, within the motivational aspects, between thinking dispositions and intellectual virtues. This article will reflect on this matter in relation to the following dilemma: Is it necessary to choose between an approach that centres on critical thinking and one that centres on intellectual virtues? If so, how can we choose? If not, how can the two be combined? What are the educational implications of each of these alternatives?

Regarding the more general question of whether we must choose between critical thinking and intellectual virtues, the first thing we must do to clarify this is to define what we mean by 'critical thinking'. In the present analysis, this concept will be used in accordance with the foundations of the thought of Israel Scheffler and Harvey Siegel, respectively the pioneer of analytic philosophy of education and his disciple. While Scheffler focussed on 'rationality' from the discourses of the analytic philosophy of education and Siegel on 'critical thinking' from the discourses of the *Critical Thinking Movement*, both essentially shared the same core positions: a) critical thinking as the embodiment of rationality; b) the rational justification for rationality; and c) establishing rationality/critical thinking as a fundamental educational ideal. Taken together, these point towards various important aspects among which the following stand out: epistemic normativity so that we can relate appropriately with the truth (there must be criteria and some universal principles that are subjected to constant revision); fallibilism (the probability of the truth) as opposed to relativism and foundationalism; the requirement for facts to be of moral importance alongside recognition of what the other contributes to the evaluation of reasons and the consideration of alternatives in a Kantian sense; the requirement for a commitment to all of the above, given a relative justification that stands in contrast with operative doctrines and absolute parameters, and others.

Having defined 'critical thinking' as a concept in line with Scheffler and Siegel, the focus will move on to intellectual virtues. This is a matter that forms the terrain of the epistemology of virtue and conflicts directly with critical thinking as embodiment of rationality. So, if we must choose, how will we do so? The solution Siegel reaches is clear. For him, a focus centred on critical thinking would only be necessary in three cases: a) given the dispositional component, critical thinking would *per se* form the focus of intellectual virtues; b) given the component of evaluation of reasons, only critical thinking could guarantee the epistemic excellence to which it is directed; c) while on the other hand, the demands of intellectual virtues would be too ambitious from the educational and philosophical point of view. The present analysis will consider Siegel's position in this regard, taking into account the premise that 'being rational' does not require 'being perfectly rational'. The

following question is then reached: would it not be controversial and paradoxical for the target education should aim at if one could become a critical thinker without exercising intellectual virtue?

In relation to Siegel's argument, after raising the gap between critical thinking and intellectual virtues, the requirement to combine these two focusses in education will then be considered. This response to his positions will comprise two parts. First, some of the hypothetical reasons that Siegel would offer in this regard will be considered, and so three ideas inherent to his philosophical-educational thinking will be presented: a) why education is a thick epistemic concept; b) why education is an epistemic virtue; and c) why education requires an extrinsic justification with regards to its objectives. Although these aspects underpin the idea of critical thinking as a fundamental educational objective that this article upholds, the discrepancy is found in the need to bridge the gap between this desideratum and education as an epistemic virtue. Therefore, at the end of the article, some reasons will be offered for why this gap seems unbridgeable from an educational point of view. This proposition is so controversial in the field of education that it could undermine the very ideal towards which education must supposedly aim.

Israel Scheffler and Harvey Siegel: a Shared Legacy Ushering in the Future of Critical Thinking and of Education in Critical Thinking

Israel Scheffler was the pioneer of analytic philosophy of education. From the 1960s, he wrote number of influential works at Harvard on epistemology, philosophy of science, philosophy of language and philosophy of education that argued for rationality being the fundamental educational ideal. His influence spread to Great Britain through contact with Richard S. Peters (Scheffler, 2004) and in turn his contact with Paul H. Hirst, thanks to which an analytic tendency developed at the University of London Institute of Education (White, 2002). Although the British line soon took a different path, given a tendency towards 'the moral', the line Scheffler developed in the United States, which centred on 'the rational', made a profound mark on Harvey Siegel, his doctoral student and disciple. So much so that Siegel has focussed on developing a conception of critical thinking whose foundations are drawn from his teacher's positions on this ideal of rationality. Consequently, it would be reductionist –not to say wrong– to fail to recognise and address this influence in the analysis that concerns us.

In contrast with the precedents from analytic philosophy of education that Scheffler offered, most of Siegel's works could be framed within the *Critical Thinking Movement*, a philosophical-educational movement from the USA that argues for critical thinking. There is insufficient space here to discuss the 'major issues' that interest this movement, which fundamentally underpin the relations between rationality, critical thinking, teaching of critical thinking, logic and argumentation. Nonetheless, as Siegel (1988) himself observes, as a minimum it should be noted that it is misleading to conceive of a group of

authors with universally shared outlooks. Therefore, his concept of critical thinking expresses points that are more or less equivalent to and points that are totally incompatible with figures in this movement who came before him, such as Robert H. Ennis, John E. McPeck and Richard W. Paul, among the principal ones. In addition to the particular arguments of Siegel in the discourses of the *Critical Thinking Movement*, the bridge he built towards the analytical philosophy of education by taking the postulates of Scheffler to new heights should be noted.

We will briefly consider the parallels between Scheffler and Siegel with some quotes about the central concepts of their thinking: ‘rationality’ and ‘critical thinking’. For Scheffler “rationality [...] is a matter of reasons, and to take it as a fundamental educational ideal is to make as pervasive as possible the free and critical quest for reasons, in all realms of study” (Scheffler, 2014, p. 62). In this sense, according to Scheffler, “critical thought is of the first importance in the conception and organization of educational activities” (Scheffler, 2014., p. 1). Although Scheffler actually only made allusions to the notion of ‘critical thinking’ and it was Siegel who focussed on it. Siegel approached it as the embodiment of rationality, that is to say, with regards to Scheffler’s thought, distinguishing between two components: a) evaluation of reasons, comprising the thinking skills along with the criteria and standards to evaluate reasons; and b) the critical spirit, comprising attitudes, mental habits, dispositions and character traits constitutive of critical thinking. Consequently, according to Siegel, the critical thinker would be defined thus:

A critical thinker, then, is one who is *appropriately moved by reasons*: she has a propensity or disposition to believe and act in accordance with reasons –[(the *critical spirit* component)]–; and she has the ability properly to assess the force of reasons in the many contexts in which reasons play a role –[(the *reason assessment* component)] – (Siegel, 1988, p. 23).

If Scheffler and Siegel’s contributions have provided the future of critical thinking and of education in critical thinking, this is because of the rationale that both have offered in various matters. These include objectivity, impartiality and normativity – with regards to fallibilism (the probability of truth) contrasting with relativism (‘absolute subjectivity’) and foundationalism (‘certainty’) – and the conjunction of epistemology and ethics – with regards to ‘the moral’ and ‘the epistemic’ of reasoning, of the treatment of others, of the consideration for autonomy, of the appreciation of the alternatives (Scheffler, 1965, 2014; Siegel, 1988, 2013). Taken together, these foundations lead to two assumptions: a) rationality cannot be conceived instrumentally, that is to say, with calculating ends, following the rules of formal logic, marginalising emotion and intuition, decontextualising the analytic from what surrounds it and makes it possible, non-critically dominating our being (Castillo, 2023); b) critical thinking would be the embodiment of rationality, in other words, its principles are those of rationality *eo ipso* –what we require to justify rationality rationally (Siegel, 1989).

The antecedents presented relating to Scheffler and Siegel's thinking have the following consequence: for both authors the fundamental educational desideratum could be nothing other than critical thinking as the embodiment of rationality. So, if the aim of education were to illuminate instead of to serve, philosophy and education would have to feed off one another. Accordingly, we would first reject the idea that education should be moved by the tyranny of practice, considering instrumental ends (Siegel, 2023a). And secondly, if this were so, we would conceive of interdependent relations between philosophy and the field of education, which, despite not being idiosyncratic, would lead their respective dilemmas and those that are of overarching concern to new heights. Only in this way could the justification these authors present for thinking critically about teaching-learning processes and their practical repercussions be provided: namely, to take decisions, select content, detect learning difficulties etc. Specifically, according to Scheffler (1960, 1965), this would be a relative justification that could neither be limited to absolute terms nor reduced to operative doctrines of learning. Furthermore, it would have to go hand in hand with commitment; it would require us to commit ourselves to search for truth, considering the available evidence, valuing epistemic criteria, evaluating the quality of the contending reasons and possible alternatives... With regards to this justification, Scheffler (1954) also noted that it would have to comprehend the margins of desirability as it is sustained by maximums instead of minimums.

In short, we could conclude with at least two fundamental aspects from which the attempted analysis will start: 1) we cannot consider a person to be thinking critically only if she considers solid proofs and arguments; moreover, she would have to align good reasons with her actions –taking into account the dispositions that comprise the spirit of being critical according to Siegel-; 2) we cannot conceive the work of teachers as being limited to teaching something to someone; the work of teachers must be reinforced by the quality of their effort to provide an education in critical thinking. It is in this dual tendency towards maximums that 'the confusion' between thinking dispositions and intellectual virtues is found.

Harvey Siegel's Thesis regarding 'Confusion' between Thinking Dispositions and Intellectual Virtues. Can One Be a Non-Critical Thinker with an Open Mind? Can One Be a Critical Thinker with a Closed Mind?

On the basis of Siegel's conception of critical thinking, described above, and considering Scheffler's influence regarding the ideal of rationality, the first question in the title should be answered in the positive and the second in the negative: yes, one can be a non-critical thinker with an open mind, and no, one cannot be a critical thinker with a closed mind. Specifically, Siegel's thesis states two assumptions that clarify the above: a) "open-mindedness is a necessary (but not sufficient) condition of critical thinking"; b) "critical thinking is a sufficient (but not necessary) condition of open-mindedness" (Siegel, 2009,

p. 31). Both assumptions justify why mental openness would have to be a disposition instead of a virtue which, in turn, illustrates the differences between dispositions and virtues.

To clarify Siegel's assumptions, which are the matter that concerns us here, an example can be given that is similar to the one he used on the justification for 'whether or not to eat meat' (Siegel, 2023b) while adding new nuances. Imagine that Paula is a young university student who has never recycled plastic waste in her lifetime. There has recently been a campaign to raise awareness of the environmental problems that the accumulation of rubbish was causing in the mouths of rivers. Since then, Paula has started recycling. The question to ask would be: why does Paula recycle? The only possible option is: Paula recycles for love of nature and of epistemic goods; this would require mental openness to change her habits according to the latest tendencies and policies. So, would Paula's actions be justified? It would seem that this is not entirely so. Paula could have the minimal capability to be virtuous in caring for the environment but be deficient from the point of view of rationality. For Paula to comply with the requirements for critical thinking, she would have to consider the solid arguments about caring for the environment and its deterioration. Of course, if this were so, if Paula were to align her actions with good reasons, then her love for nature would not be needed – nor would the exigencies of intellectual virtues. The consequence of this is that, in effect, her will could be bent. In principle, the only way for Paula not to abandon her aim – at least in the form in which it has been manifested here – is for her to perpetuate her love for nature. And in truth, would this not be too ambitious?

In view of the proposed case, it seems that the coincidence between critical thinking and mental openness – or any other thinking disposition – is problematic. In this regard, following the positions of Siegel (2009, 2023b), someone who does not have an open mind will lack a critical spirit, but not having an open mind does not guarantee that a person's thinking and beliefs will comply with the relevant standards of epistemic quality. Therefore, if we were to abandon the component of evaluation of reasons or of the critical spirit, there would be no space for critical thinking. This explains why Siegel (2009) disagreed with William Hare's thesis that an open mind is the fundamental aim of education (Hare, 1999) and with Eamonn Callan and Dylan Arena in their view that rigidity was a characteristic of the indoctrinated mind (Callan; Arena, 2009). Both situations would be inconsistent in considering that mental openness *per se* does not need the component of evaluation of reason. So, for Siegel (2009), it is not a closed mind that leads to indoctrination, but rather a non-evidential style of beliefs, in other words, one that makes students believe irrationally and fosters laziness and credulity. Therefore, it seems clear that no thinking disposition could in itself be aimed at the fundamental educational desideratum, as rationality or critical thinking require two components: thinking dispositions and skills/capacities. So, what happens with virtues?

At this point, the statement that 'one can be a non-critical thinker with an open mind' and the denial that 'one can be a critical thinker

with a closed mind' results in the dichotomy between critical thinking and intellectual virtues. Such discussions form the domain of epistemology of virtue in the field of education, something of recent interest and of which Jason Baehr was one of the pioneers. Nonetheless, Siegel (2016, 2023b) along with other authors such as Kotzee *et al.* (2019) disagreed with Baehr's focus (2013, 2016, 2019, 2023), arguing that disposition and virtue cannot be confused with each other and that while critical thinking/rationality is one thing, virtuous thinking is another very different one. According to Siegel, "the rational person [is not] *eo ipso* intellectually virtuous" and "the intellectually virtuous person [is not] *eo ipso* rational" (Siegel, 2023b, p. 204, 220).

In view of the above, it is vital to consider the difference between virtue and thinking disposition in more depth. For Siegel, virtues are more complex than dispositions from the philosophical and educational perspective, as they require dispositions as well as "motivation, affect, competence, and judgment" (Siegel, 2016, p. 102). Unlike virtues, dispositions can be weak or strong, they might or might not be revealed and they are manifested in various forms depending on the context (Siegel, 1999). That said, such dispositions would have to reflect a tendency or propensity to think in a 'particular way' in 'particular circumstances' because otherwise 'everything would be critical thinking' and 'nothing would be'. Consequently, on the one hand, dispositions could not be 'separated' from following the formal rules and the procedures of thinking, contrasting with the positions of Burbules (1995); on the other hand, critical thinking could not be based on intellectual virtues, contrasting with the positions of Baehr (among others) and of the very conception of critical thinking of Paul (1992) and Paul and Elder (2020). There would essentially be two reasons inherent to Siegel's thinking for the foregoing: a) we can only fail with the habits, dispositions and character traits of the critical spirit; and b) the exigencies of intellectual virtues would be too ambitious from the philosophical and educational point of view.

Taken together, the cases mentioned above point towards the idea that epistemic excellence could not be governed by the implicit 'guarantees' of intellectual virtues nor by their characterological states of nature such as love and pleasure in truth. In response to this, what we need from the epistemological point of view is failure, error, the probability of truth – instead of certainty –, evaluation of reasons based on the best available evidence, vices that are virtues, epistemic normativity... Such matters, in effect, justify why the thesis of Siegel that is analysed here leads to the position that "being rational does not require being perfectly rational" (Siegel, 2016, p. 106). This is a question of a fallibilist nature that becomes vital for the theory of rationality *per se*, as his teacher Scheffler explained (1965, 1982). The fact is that, according to Scheffler and Siegel, the Siegelian vision of rejection of intellectual virtues could be problematic for the fundamental educational desideratum of rationality/critical thinking. Ultimately, would it not be controversial and paradoxical for the target education should aim at if one

could become a critical thinker without exercising intellectual virtue? This assumption must, in principle, be examined.

A Reply to Harvey Siegel. How Can the Gap Between the Fundamental Educational Desideratum and Education as Epistemic Virtue Be Bridged?

To reflect on this question, it is worth returning to some earlier ideas. The question was previously raised of why mental openness as a disposition of the critical spirit is a matter of degree for Siegel, as is critical thinking itself based on the theory of rationality that Scheffler developed. To reach this point, some of the central positions of Scheffler and Siegel have been set out, which could be synthesised as follows: 1) on the one hand, there is no thinking disposition, intellectual virtue or practical or theoretical motive that could replace the ultimate aim or ideal at which education should aim: rationality/critical thinking; 2) on the other hand, credulity, laziness, simple scepticism or the act of evading the component of evaluation of reason in any of its forms through a non-evidential beliefs style would be imminent dangers for critical thinking and, ultimately, for an education in critical thinking. Accordingly, it has been clarified that the contributions by these two authors form fundamental axes of reference for the philosophy of education and philosophy in general.

In view of these precedents, a possible response to Siegel's positions will be attempted below, considering the gap between the fundamental educational desideratum of rationality/critical thinking and the thesis that education is an epistemic virtue, which the author himself backed (Siegel, 2008). Based on the previous target that education should aim at, for Siegel (*ibid.*), 'being educated' had to be "a thick epistemic concept", in other words, 'more and more' epistemology was needed. However, 'being educated' is also according to Siegel an epistemic virtue because, despite its emphasis on epistemology, it goes beyond it, transcending it. The dilemma then does not come from raising the close link between epistemology and ethics in education, something that both Scheffler and Siegel highlighted in relation to respect in a Kantian sense, from autonomy, honesty, achieving comprehension... The fundamental problem resides in conceiving that education goes beyond the story of rationality. Ultimately, would it not be somewhat paradoxical if the target or goal that education should aim at –rationality/critical thinking– did not consider what is, *eo ipso*, an epistemic virtue that goes beyond epistemology?

In light of this response, Siegel could indicate that similar inconsistencies to the ones he identified in Robin Barrow's conception are produced. Influenced by Richard S. Peters, Barrow proposed the equivalence of three questions: "what should the aims of education be?"; "what is it to be educated?"; "what do we take education, the practice, to be?" (Siegel, 2014, p. 66). For Siegel, in contrast, such questions were interdependent but not equivalent; in other words, the justification for the ideal of rationality/critical thinking would be necessary to provide

an adequate explanation for educational targets, but this would not depend on analysis of the concept of 'education' or of conceiving 'what it is to be educated' (Siegel, 2014). So, unlike Barrow and Peters's intrinsic justification, Siegel offered an extrinsic justification regarding educational objectives *eo ipso* – considering the reasons that support this fundamental educational desideratum. One of the consequences of this extrinsic justification is that “education is not a necessary condition of knowledge or justified belief” (Siegel, 2008, p. 460); which would be a necessary and fundamental condition of education as an 'epistemic virtue' and as “a thick epistemic concept” (*ibid.*). In this way, Siegel seems to bridge the gap between the fundamental educational desideratum and education as epistemic virtue that interests us here: only critical thinking would make it possible to substantiate both.

So, having reached this point, Siegel seems to be clear that we do not have to choose between a focus on critical thinking and a focus on intellectual virtues in the field of education. Although the two are neither incompatible nor equivalent according to the author, only the critical thinking focus would include the components of evaluation of reasons and of the thinking dispositions inherent to the epistemic aim of education. Therefore, the focus on intellectual virtues would be included in the critical thinking focus with regards to dispositional aspects; while in everything else, Siegel asks: “what do they add?” (Siegel, 2023b, p. 218). The question remains open, unanswered, and the author only says: “how do you get [...] full blown [intellectual virtues], including the motivational, affective, and behavioral/psychological components'? I don't see how” (Siegel, 2023b, p. 219).

For his part, Siegel focussed on analysing the importance of critical thinking, although, as he himself recognised, “I have never said much about how to teach for it”¹ (Siegel, 2023b, p. 219). In general, his conception does not point to any particular educational method, but to the necessary justification for education to target critical thinking in general. Empirical questions play a fundamental role in this process, as does the priority of theory when faced with the tyranny of practice (Siegel, 2023a). However, considering the author's arguments regarding the relationship between the philosophy of education and educational practice, the possibility remains open that a choice must be made between a critical thinking focus and a focus on intellectual virtues in education.

So, the gap presented here does not appear to be resolved by the following: could we think critically while totally disregarding virtue? Siegel holds that it would indeed be possible. Indeed, as he observes, some eminent intellectuals have been truly objectionable or horrible people but their intellectual achievements are not tainted by these character traits (Siegel, 1993) – even though others of these traits, those of a critical spirit, would have been crucial. The foregoing seems to provide a fundamental impediment to critical thinking being the essential educational desideratum and to education being an epistemic virtue. Ultimately, if we as teachers or students falter in our love for the truth, intellectual humility, mental openness and in many other virtues, I fear

that critical thinking as an ultimate purpose or aim of education will remain out of reach even if, as Siegel (2013) argues, we are willing to weigh the relevant evidence, to consider all of this evidence and to judge in accordance with it. The gap then seems unbridgeable.

Conclusions: Critical Thinking and/or Intellectual Virtues?

The problematic concurrence between critical thinking and intellectual virtue has been analysed here. Our starting point was the position that the fundamental ideal of education is critical thinking as an embodiment of rationality, something that underlies the postulates of Scheffler and Siegel. Having substantiated this point, a gap opened up between this educational desideratum and education as an epistemic virtue. Therefore, in essence, three of Siegel's arguments have been examined: a) that a person's love of epistemic goods might be lacking in reasons; b) that 'being rational' does not require the demands of intellectual virtues; c) that 'being educated' is an epistemic virtue that goes beyond epistemology. Despite there being no objections to these arguments, indeed they are considered to be pertinent and of great relevance for articulating the notion of 'critical thinking', there has been discussion of how to bridge this gap that underlies the author's positions. The reason for this response is that while for Siegel 'what education is' necessarily differs from 'what its target is', and even though one can think critically while foregoing virtue, pointing to a proposition like this from the field of education itself seems difficult.

The article has revolved around the following central argument: while only having virtues does not seem plausible, because if this were so, according to Siegel, we would relinquish epistemic excellence in education, how can we ensure this excellence if we only have critical thinking in education? This question is connected to the one Siegel leaves open about 'virtues': what do they add? (Siegel, 2023b) –referring to the fact they add nothing to 'critical thinking'-. Indeed, in light of the foregoing, it seems plausible to state the contrary: they do add something. All things considered, it might be that we could think critically without love for and pleasure in truth –to give some examples– as it has already been demonstrated that according to Siegel other conditions are required: evaluation of reasons and critical spirit. There is no discrepancy with regards to consideration of these components. Moreover, it is essential to reclaim them here to avoid the conceptual stumbling blocks about 'what critical thinking is' and 'how to educate for critical thinking', something that has become pressing at the present time. There is very little educational research that does not mention critical thinking or some of its variants, although despite this much of it forgoes the foundations of rationality described here, that is to say, the criteria for evaluating reasons and what it means to be critical. This is why it is so important to distinguish between what is and is not 'critical thinking', a process in which the bases of the analytic philosophy of education and of the *Critical Thinking Movement* that Scheffler and Siegel developed are crucial. The fact is that in opposition to Siegel's

particular positions on intellectual virtues, the prospect of dispensing with some of them would be so controversial for the field of education that viewing critical thinking as a fundamental education ideal could be undermined.

So, taking these arguments as reference, the article opens up the discussion to consider the question of whether education would be possible without virtuous critical thinking. The possible attempts to answer this will allow us to progress in our understanding of pressing educational problems, as these depend on the very foundation of education; and the limits around the concepts that the article analyses play a crucial role in education.

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Note

- 1 In the sentence 'I have never said much about how to teach for it', Siegel only referred to thinking dispositions, although this could in truth be extrapolated to critical thinking in general, as alluded to in the present article.

References

- BAEHR, Jason. Educating for Intellectual Virtues: From Theory to Practice. **Journal of Philosophy of Education**, v. 47, n. 2, p. 248-262, 2013. Disponible en: <https://doi.org/10.1111/1467-9752.12023>. Consultado el: 11 Jun. 2024.
- BAEHR, Jason (Ed.). **Intellectual Virtues and Education: Essays in Applied Virtue Epistemology**. New York: Routledge, 2016.
- BAEHR, Jason. Intellectual Virtues, Critical Thinking, and the Aims of Education. In: FRICKER, Miranda; GRAHAM, Peter J.; HENDERSON, David; PEDERSEN, Nikolaj J. L. L. (Ed.). **The Routledge Handbook of Social Epistemology**. New York: Routledge, 2019. p. 104-121.
- BAEHR, Jason. Educating for Good Thinking: Virtues, Skills, or Both? **Informal Logic**, v. 43, n. 2, p. 173-203, 2023. Disponible en: <https://doi.org/10.22329/il.v43i2.8008>. Consultado el: 11 Jun. 2024
- BURBULES, Nicholas C. Reasonable Doubt: Towards a Postmodern Defense of Reason as an Educational Aim. In: KOHLI, Wendy (Ed.). **Critical Conversations in Philosophy of Education**. New York: Routledge, 1995. p. 82-102.
- CALLAN, Eamonn; ARENA, Dylan. Indoctrination. In: SIEGEL, Harvey (Ed.). **The Oxford Handbook of Philosophy of Education**. New York: Oxford University Press, 2009. p. 104-121.
- CASTILLO, Paloma. Does There Exist a Need for a 'New' Educational Ideal of Rationality? The Crossroads between Transhumanism and Israel Scheffler's Conception of Critical Thinking. **Encyclopaideia: Journal of Phenomenology and Education**, v. 27, n. 66, p. 49-61, 2023. Disponible en: <https://doi.org/10.6092/issn.1825-8670/16490>. Consultado el: 10 dic. 2024.
- HARE, William. Critical Thinking as an Aim of Education. In: MARPLES, Roger (Ed.). **The Aims of Education**. London: Routledge, 1999. p. 85-99.

- KOTZEE, Ben; CARTER, J. Adam; SIEGEL, Harvey. Educating for Intellectual Virtue: A Critique from Action Guidance. *Episteme*, v. 18, n. 2, p. 177-199, 2019. Disponible en: <https://doi.org/10.1017/epi.2019.10>. Consultado el: 11 Jun. 2024
- PAUL, Richard. **Critical thinking: What Every Person Needs to Survive in a Rapidly Changing World** [second edition]. Santa Rosa: Foundation for Critical Thinking, 1992.
- PAUL, Richard; ELDER, Linda. **The Miniature Guide to Critical Thinking Concepts and Tools** [eighth edition]. London: Rowman & Littlefield, 2020.
- SCHIFFLER, Israel. On Justification and Commitment. *The Journal of Philosophy*, v. 51, n. 6, p. 180-190, 1954. Disponible en: <https://doi.org/10.2307/2021776>. Consultado el: 10 dic. 2024.
- SCHIFFLER, Israel. **El lenguaje de la educación** [PÉREZ RIVAS, Marcelo (Trans.)]. Buenos Aires: El Ateneo, 1960.
- SCHIFFLER, Israel. **Conditions of Knowledge: An Introduction to Epistemology and Education**. Illinois: Scott, Foresman and Company, 1965.
- SCHIFFLER, Israel. **Educating Reason: Rationality, Critical Thinking, and Education** [first edition]. New York: Routledge, 1988.
- SCHIFFLER, Israel. **Gallery of Scholars: A Philosopher's Recollections** (volume 13). Netherlands: Kluwer Academic Publishers, 2004.
- SCHIFFLER, Israel. **Reason and Teaching**. Indianapolis: Routledge Revivals, 2014.
- SCHIFFLER, Israel. **Science and Subjectivity** [second edition]. Indianapolis: Hackett Publishing Company, 1982.
- SIEGEL, Harvey. **Why be Rational?: On Thinking Critically about Critical Thinking**. Institute for Critical Thinking Resource Publication: 1989. Available at: <https://files.eric.ed.gov/fulltext/ED352333.pdf>. Accessed: 5 July, 2024.
- SIEGEL, Harvey. Not by Skill Alone: The Centrality of Character to Critical Thinking. *Informal Logic*, v. 15, n. 3, p. 163-177, 1993. Disponible en: <https://doi.org/10.22329/il.v15i3.2484>. Consultado el: 10 dic. 2024.
- SIEGEL, Harvey. What (good) are thinking dispositions? *Educational Theory*, v. 49, n. 2, p. 207-221, 1999. Disponible en: <https://doi.org/10.1111/j.1741-5446.1999.00207.x>. Consultado el: 10 dic. 2024
- SIEGEL, Harvey. Is 'Education' a Thick Epistemic Concept? *Philosophical Papers*, v. 37, n. 3, p. 455-469, 2008. Disponible en: <http://dx.doi.org/10.1080/05568640809485231>. Consultado el: 10 dic. 2024
- SIEGEL, Harvey. Open-mindedness, Critical Thinking, and Indoctrination: Homage to William Hare. *Paideusis*, v. 18, n. 1, p. 26-34, 2009. Disponible en: <https://doi.org/10.7202/1072336ar>. Consultado el: 10 dic. 2024.
- SIEGEL, Harvey. El pensamiento crítico como un ideal educacional [HAMMER, Lilian; CORTEZ BUROTTO, Marco (Trans.)]. *Logos: Revista de Lingüística, Filosofía y Literatura*, v. 23, n. 2, p. 272-292, 2013. Disponible en: <http://revistas.use-rena.cl/index.php/logos/article/view/368>. Consultado el: 10 dic. 2024
- SIEGEL, Harvey. Robin Barrow on the Aims of Education. In: GINGELL, John (Ed.). **Education and the Common Good: Essays in Honor of Robin Barrow**. New York: Routledge, 2014. p. 64-74.

SIEGEL, Harvey. Critical Thinking and the Intellectual Virtues. In: BAEHR, Jason (Ed.). **Intellectual Virtues and Education: Essays in Applied Virtue Epistemology**. New York: Routledge, 2016. p. 95-112.

SIEGEL, Harvey. La filosofía de la educación y la tiranía de la práctica [CASTILLO, Paloma (Trans.)]. **Revista Internacional de Teoría e Investigación Educativa**, v. 1, p. 1-9, 2023a. Disponible en: <https://doi.org/10.5209/ritie.88542>. Consultado el: 10 dic. 2024.

SIEGEL, Harvey. Rational Thinking and Intellectually Virtuous Thinking: Identical, Extensionally Equivalent, or Substantively Different? **Informal Logic**, v. 43, n. 1, p. 204-223, 2023b. Disponible en: <https://doi.org/10.22329/il.v43i2.8007>. Consultado el: 10 dic. 2024.

WHITE, John. R.S. Peters, 1919-. In: BRESLER, Liora; COOPER, David; PALMER, Joy (Ed.). **Fifty Modern Thinkers on Education: From Piaget to the Present**. London: Routledge, 2001/2002. p. 118-121.

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Availability of research data: the dataset supporting the results of this study is published in the article itself.

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