

THE EPISTEMOLOGY OF EDUCATION

LANI WATSON

University of Edinburgh

Abstract: The landscape of contemporary epistemology has significantly diversified in the past thirty years, shaped in large part by two complementary movements; virtue and social epistemology. This diversification provides an apt theoretical context for the epistemology of education. No longer concerned exclusively with the formal analysis of knowledge, epistemologists have turned their attention towards individuals as knowers, and the social contexts in which epistemic goods such as knowledge and understanding are acquired and exchanged. As such the concerns of epistemology have once again aligned with questions lying at the heart of the philosophy of education regarding the nature, aims and practice of education. Employing the conceptual tools and frameworks of the contemporary field, these questions are addressed by both epistemologists and education theorists in the emerging epistemology of education literature.

The epistemology of education raises and addresses epistemological questions concerning the nature, aims and practice of education. These questions have come to the fore in light of a changing epistemological landscape in which the focus and content of epistemological inquiry has significantly diversified in recent decades. The epistemology of education employs the conceptual tools and frameworks of the contemporary field in order to contribute to core debates in the philosophy of education. In order to provide a clear sense of the theoretical terrain in which this emerging field is situated some context-setting is worth doing at the outset.

A number of long-standing debates in the philosophy of education are addressed in the epistemology of education literature. This reveals both the philosophical heritage of the discourse

and the naturally close connection that exists between the domains that it unifies. Questions concerning what education is, what it does, and how it is best realised were debated long before explicit intra-disciplinary boundaries were in place, and philosophical consideration of such questions can, and ideally will, draw on resources available throughout the modern discipline.

Distance between these domains, however, emerged in the latter half of the twentieth century, in part resulting from a narrow and overriding emphasis on the traditional analytical project of defining knowledge which came to dominate epistemology following the publication of Edmund Gettier's famous 1963 challenge to the widely held tripartite definition. Whilst not irrelevant to debates in the philosophy of education, the significance of this formal analytical project extends only so far within a naturally varied and applied field of philosophical inquiry. The relatively rapid post-Gettier diversification of epistemology over the past thirty years has reignited concern amongst education theorists in the epistemological dimensions of their subject matter and likewise brought with it renewed interest from epistemologists in this applied area of the discourse. An explicit re-identification of common philosophical ground is therefore warranted and welcomed by contributors in both sub-disciplines. A recent special issue of the *Journal of the Philosophy of Education*, edited by Ben Kotzee (2013), exemplifies this, aiming explicitly for "greater cooperation between the fields" (p.158) and offering a rich collection of essays from both epistemologists and education theorists.

The diversification of epistemology can be characterised broadly by two complementary, albeit distinct, contemporary movements; virtue and social epistemology. Virtue epistemology first emerged in the 1980s as a novel approach to the project of defining knowledge. Rather than focusing on knowledge itself, virtue epistemologists turned their attention towards the *agent* involved in knowing (see Sosa 1980). Virtue epistemology thereby provides an analysis of knowledge in terms of the cognitive abilities and intellectual virtues of the knower (Zagzebski 1996; Sosa 2007; Greco 2010). Modelling itself on virtue ethics, this virtue-theoretic framework not only offers a new way to approach the analytical project but also highlights the normative dimension of epistemology. A host of contemporary normative investigations concerning the nature of cognitive ability and achievement (Carter, Jarvis and Rubin *forthcoming*; Greco 2007; Pritchard 2010), the individual intellectual virtues (Roberts and Wood 2007; Riggs 2010; Watson 2015), and the value of epistemic goods, including both knowledge and understanding (Grimm 2010; Kvanvig 2003; Pritchard, Millar and Haddock 2010), are all closely tied to the virtue epistemology movement.

Also emerging in the 1980s, the social epistemology movement represents a second, distinct line of diversification in the contemporary field. Similarly concerned with moving beyond the exclusive formal analysis of abstract concepts, social epistemologists advocate a move away from what Goldman (1999) has termed ‘individualistic epistemology’, and examine epistemic goods such as knowledge and understanding in relation to the social world. Social epistemologists thereby examine the relationship between knowledge and the social contexts in which it is acquired, disseminated and controlled (Cohen 1987; Kornblith 1987; Schmitt 1987), as well as the nature and status of knowledge within groups of individuals (Lehrer 1987; Goldman 1987; Fuller 1987). The social epistemology movement is thus at least in part grounded in a concern with the production and regulation of knowledge within society. This focus has given rise to an expansive literature concerning the nature of epistemic interactions such as testimony (Elgin 2002; Fricker, E. 1987; Fricker, M. 2008; Goldberg 2010), and rational disagreement (Christensen 2009; Christensen and Lackey 2013; Sosa 2010). As with virtue epistemology, the social epistemology movement seeks explicitly, as Goldman (1999) asserts it, to “widen epistemology’s vista” (p. vii).

The diversification of epistemology driven by these contemporary movements provides an apt theoretical context for the epistemology of education. No longer concerned exclusively with the formal, abstract analysis of knowledge, epistemologists have turned their attention towards individuals as knowers, and the social contexts in which epistemic goods are acquired and exchanged. Significantly, while these two movements represent distinct approaches to epistemological inquiry, they are increasingly viewed as complementary within the discourse, standing in contrast to the abstract analytical approach characteristic of post-Gettier epistemology. Thus, while virtue epistemology preserves a more traditional individualistic orientation than that of social epistemology, the intellectual skills and abilities of the knower, central to virtue epistemological debate, are nonetheless intricately bound with the contexts and environments, central to social epistemological debate, in which they come to know. It is this rich and complex contemporary picture that provides a natural setting for a renewed focus on education within epistemology. As such the concerns of epistemology have once again aligned with questions lying at the heart of the philosophy of education. The epistemology of education can be divided into two broad areas, demarcated by distinct but closely related questions; what is education, and what are the aims of education. These questions give rise to a rich set of philosophical concerns which can be fruitfully explored by drawing on the resources of both epistemology and the philosophy of education. Hence, they constitute a central focus for debates in the epistemology of education.

The Nature of Education: Conceptual Analysis in the Epistemology of Education

The analysis of fundamental concepts in the philosophy of education became prevalent in the literature in the 1950s and 1960s, following the rise of the analytic movement in philosophy, inspired by Gottlob Frege, Bertrand Russell, Ludwig Wittgenstein, and others (Curren, Robertson and Hager 2003). Central to this literature are the concepts of teaching, learning, and education itself. Analyses of these key notions in terms of epistemic goods have been relatively prominent and, as such, whilst conducted predominantly by education theorists, this analytical project is naturally of interest to epistemologists in the contemporary field. This is particularly so in light of the emphasis placed by advocates of social epistemology on the analysis of epistemic goods within social contexts and institutions. As Harvey Siegel (2004) writes, “[E]ducation is one important social arena in which knowledge plays a leading role, and in which knowledge-claims are presented, analysed, evaluated and transmitted” (p.129).

Education

What is education and what does it mean to be educated? As the central notion in the philosophy of education, an analysis of the concept of education is, for many, vital in order to make sense of subsequent questions in the field: what does a good education look like, for example, and how can it be achieved, measured and evaluated? Answering these normative questions depends, at least in part, on an analysis of the concept of education. As Robin Barrow and Ronald Woods (2006) maintain in their introductory philosophy of education text, this is “the primary, the crucial question in educational thought” (p.10).

The characterisation of education in epistemological terms can be found throughout the literature. In his influential work, *The Conditions of Knowledge: An Introduction to Epistemology and Education* (1965), Israel Scheffler opens with the claim that, “[T]he development and transmission of knowledge are fundamental tasks of education” (p.1), thereby establishing a deep conceptual connection between education and knowledge which he goes on to develop throughout the work. Likewise, in their seminal text, *The Logic of Education* (1970), Paul Hirst and Richard Peters offer an analysis of education which, alongside the development of “desirable qualities in people” (p.19), “involves the development of knowledge and understanding. Whatever else an educated person is, he is one who has some understanding of something” (p.19). This conceptual connection between education and knowledge can also be found in Downie, Loudfoot and Telfer’s near

contemporaneous work, *Education and Personal Relationships* (1974), which builds on Hirst and Peters by including the notion of knowledge by acquaintance in an analysis of the educated person. More recently, Hugh Sockett comments, in *Knowledge and Virtue in Teaching and Learning* (2012), that, “it is inconceivable to think of a “knowledge-less” education” (p.4). On this basis he argues that familiarity with the central problems of epistemology should form part of standard teacher training. The notion that education is at least partly characterised in epistemological terms is also, moreover, implicitly endorsed by epistemologists contributing to the epistemology of education discourse.

In addition to its conceptual ties to epistemological notions, the claim that education is a normative concept can also be identified in the literature. An early normative account of education is offered in Peters’, *The Concept of Education* (1967), in which he argues that “‘education’...is inseparable from judgements of value” (p.2), a view which is endorsed in contemporary discussions of Peters’ work (Barrow 2010; Katz 2010). This normative account of education has been likewise adopted in the epistemology of education literature. Siegel (2008), for example, holds that education is both fundamentally epistemic and normative, drawing on the widely employed thick/thin distinction, originally proposed by Bernard Williams (1985). This distinction allows Siegel to capture the sense in which education is an intrinsically normative (thick) notion, as opposed to a merely descriptive (thin) notion used to pick out a set of educative practices. This view is supported by Kotzee (2011) who similarly employs the thick/thin distinction and explores the implications of this normative conception of education for virtue epistemology. If, he argues, both epistemology and education are viewed in normative, as opposed to merely descriptive terms, then the significant common ground they share becomes increasingly exposed. In particular, Kotzee maintains, “the role that education plays in fostering the epistemic virtues ensures it a place in epistemology” (p.558).

Further to this, the analysis of education in both epistemic and normative terms can be fruitfully viewed in light of the recent trend in epistemological discourse towards epistemic value. This trend, characterised by Wayne Riggs (2008) as a ‘value turn’ in epistemology, can be observed most prominently in debates concerning the value of knowledge and understanding, increasingly considered central to epistemological discourse. Jonathan Kvanvig (2003), for example, a chief proponent of value-driven epistemology, argues that an account of the value of knowledge is as central to any adequate theory of knowledge as the question of its nature. Our strong instinct to assign value to knowledge, he maintains, indicates that a theory of knowledge which lacks a satisfactory account of this is necessarily inadequate (pp. ix-x). In contrast to the post-Gettier analytical project, concerned predominantly with determining necessary and sufficient conditions

for knowledge, contemporary epistemological projects are more explicitly rooted in normative questions concerning the nature, acquisition, and transmission of epistemic goods. These normative concerns bring contemporary conceptions of knowledge and understanding more naturally in line with the central concepts of education discourse and draw attention to the role of epistemological analysis in education theory. Further analysis of the concept of education in the context of value-driven epistemology may thereby bring new resources to bear on the examination of this central notion. This sheds further light on the relevance of contemporary epistemological debate to the philosophy of education.

Teaching and Learning

Conceptual analysis in the philosophy of education naturally extends beyond the central concept of education itself. Christopher Winch and John Gingell's glossary, *Key Concepts in the Philosophy of Education* (1999), lists over 150 core concepts that arise in the discipline. Of these, both teaching and learning have received significant attention in the literature and, like education, both are understood by many contributors in relation to key epistemological notions.

In his influential account of teaching, Hirst (1973) maintains that “there is no such thing as teaching without the intention to bring about learning” (p.9), thus highlighting the close conceptual relationship between teaching and learning. This relationship is also prominently identified by Scheffler (1973) who asserts that, “teaching may be characterised as an activity aimed at the achievement of learning” (p.67). Following this, as D.C. Phillips (2003) observes of the recent literature, “[M]any contemporary authors see teaching...as being parasitic on some theory of learning” (p.232). These contemporary analyses can trace much of their modern heritage to the work of John Dewey (1916, 1929, 1933), perhaps the most influential educational theorist of the twentieth century. Dewey contends that teaching should be responsive to the active inquiries of learners and that these inquiries should, to some extent, be driven by the interests of the students themselves. The teacher's role is as facilitator rather than authoritarian. This Deweyan position has been taken up, and at times modified, by the progressive education movement of the late twentieth century (Cremin 1959, Dearden 1967, Schulman 1987). Likewise, Dewey's contention that intrinsic motivation is a key factor in successful learning, has been highly influential in the development of constructivist theories of teaching and learning (Montessori 1972, Piaget 1980, von Glasersfeld 1984. See Phillips 1995 for a comprehensive overview of constructivism in education).

A significant point of intersect between accounts of teaching and learning in the philosophy of education and contemporary epistemology arises in relation to the social-epistemological debate concerning testimony. A substantial literature regarding the nature of testimony, and the role or function that it plays in the epistemic community, has been generated over the past fifty years and the implications of this in relation to education have, more recently, been identified in the epistemology of education literature. Of particular significance is the now well-known debate between reductionists and anti-reductionists, regarding the epistemic status of testimony, first identified by Cecil Coady in 1973. While reductionists maintain that a hearer cannot acquire sufficient justification for belief on the basis of testimony alone, anti-reductionists argue that the social role of testimony provides the hearer with such justification, thereby placing a much lighter burden on their part in testimonial exchange. In essence, this debate concerns the conditions under which we should believe what others tell us.

Given that testimony is prevalent in the classroom context, with much teaching conducted via testimonial exchange, the reductionism/anti-reductionism debate has implications within the epistemology of education regarding the nature and practice of teaching and learning. Teachers frequently assert that which they intend students to learn. Moreover, as Goldman writes (1999), “teachers commonly expect students to accept at least some statements that they do not support with evidence” (p.364). If reductionism holds, however, it becomes less clear how learning can take place on the basis of teacher testimony given that there are few, if any, testimony-independent reasons for students to believe what they are told. This is particularly salient in the case of very young students who would seem to rely significantly on teacher testimony in order to learn. If students cannot come to know directly via testimony, then the questions arise, how do they learn, and how can this be translated into effective pedagogy? The extent to which teaching and learning can and should take place via testimony can be scrutinised on this basis. Moreover, reductionism opens up a conceptual space between analyses of teaching, learning, and education more broadly, implying, for example, that learning may largely take place without formal teaching, or that it is divorced from education entirely. As such, philosophers of education inclined towards reductionism will be faced with providing potentially radically different accounts of these central notions. Paul Hager (2005), for example, has challenged the centrality of propositional knowledge in the characterisation of learning, thereby bringing into question the significance of testimony in the classroom. He argues that dominant accounts of learning suggest “that the most valuable form of learning is focused on thinking (what minds do), rather than on action in the world (what bodies do...)” (p.651) and challenges this dominant account contending that an alternative, pluralistic

account is required in order to capture the features of learning that are distinctively non-propositional. This represents a revisionary account of learning in the literature arising from reflections on the role of testimony in education.

Contrastingly, if testimony is taken to play a central role in educational practice this may give epistemologists committed to reductionism pause for thought. If the reductionist stance has substantial, perhaps counter-intuitive, implications for the analysis of teaching and learning, this plausibly serves in itself as a mark against the view. Epistemologists of education must thereby consider these questions in light of one another. Both epistemologists and education theorists stand to benefit from collaborative work on the subject of testimony. David Bakhurst (2013) is one author who highlights this arguing that “reflecting on testimony can initiate inquiries that uncover some of the depths and complexities of the ways we learn from others” (p.201). In particular, he maintains that insights from this debate provide us with a clearer view of the extent to which students depend on teachers for knowledge. Thus, the social-epistemological debate regarding testimony is an area of contemporary interest and significance in the epistemology of education. As Siegel (2004) writes, “the epistemology of testimony, in all its social glory, addresses the epistemology of education head on” (p.131).

This issue, moreover, draws attention to closely related concerns regarding the roles of trust and epistemic authority in an epistemic community. Does a student need to trust the epistemic authority of their teacher in order to learn and, if so, what reasons do they have for doing so? Questions of trust and authority are considered by authors in the contemporary epistemological field arising both from the testimony debate and from virtue-theoretical considerations of the nature of trust and truthfulness as intellectual virtues (Faulkner 2007; Elgin 2008; Zagzebski 2012). Linda Zagzebski (2012), for example, maintains that “the self-reflective person is committed to belief on authority” (p.3). As well as ramifications in a variety of contemporary epistemological debates, this view has potentially controversial implications for the nature and practice of teaching with respect to both its appropriate methods and content. If belief based on epistemic authority is necessary in the classroom then questions concerning the nature and source of epistemic responsibility must be raised. What, for example, qualifies a teacher as an epistemic authority on a given subject matter, and what manner of epistemic responsibility, if any, do teachers acquire in this capacity? Questions such as these are pertinent for education theorists concerned with the design and delivery of teacher training, as well as effective pedagogy. Furthermore, the distinction between teaching and practices such as indoctrination becomes especially salient in light of

considerations concerning epistemic authority and responsibility. Public debate regarding the teaching of creationism as opposed to evolution theory in schools offers an illuminating example of the significance of these contemporary epistemic notions for education policy and practice. How is the epistemic responsibility of the teacher towards her students determined in this case, and how can this be realised in light of conflicting underlying commitments? Here again, contemporary epistemological discourse finds a natural home within significant and central educational debate.

The analysis of educational concepts has been conducted predominantly by philosophers of education over the past fifty years. This extensive body of work provides much rich content for the epistemology of education. Given the prominence of epistemological notions in the discourse and the emergence of rich normative characterisations of these, contemporary epistemology has much to contribute to the analytical project. Moreover, current debates concerning the nature of testimony, epistemic authority, and epistemic responsibility, bring new conceptual resources to bear on debates in education and will, in turn, be enriched by close examination of their implications in educational discourse. The common philosophical ground uncovered in this regard provides a clear impetus for ongoing collaborative conceptual analysis within the epistemology of education.

The Aims Of Education: How and Why Should we Educate

Questions concerning the actual or proper aims of education have featured in educational theorising since its earliest origins in the Classical Tradition. As such, whilst closely tied to conceptual analysis in the discipline, the identification of educational aims may be considered, from an historical perspective, the more foundational task within the philosophy of education. Plato examines the aims and practices of education prominently in several major works, including the *Republic* (esp. books V-VIII) and the *Laws* (books II and VII). The founding of his famed Academy in 387 BCE similarly demonstrates the centrality of Plato's concern with education, its formal organisation and purpose, both for the individual and for the state. The founding of Isocrates' rival school of rhetoric in 393 BCE, just several years prior to Plato's Academy, further demonstrates this ancient concern with the formalised aims and practices of education. These two schools diverge perhaps most notably on their conceptions of the aims of education. As Henri Marrou (1956) writes in *A History of Education in Antiquity*:

“Opposing the Sophists because they were too exclusively concerned with immediate practical results, Plato built his system of education on a fundamental belief in truth, and on the conquest of truth by rational knowledge” (p.66).

This opposition reveals the long history of the debate concerning the proper aims of education. Moreover, it highlights the central role assigned to epistemological notions in this debate from its earliest occurrence in philosophical discourse.

The debate continues to feature centrally within contemporary philosophy of education and has generated an expansive literature drawing on a broad cross-section of disciplines including sociology, political theory, and psychology. Correspondingly, it has arisen as a key debate in the epistemology of education. Three dominant and divergent schools of thought can be identified in the contemporary discourse. For the purposes of exposition I will label these the *goods-based*, *skills-based*, and *character-based* accounts of the aims of education. Whilst these need not be viewed as necessarily or even generally in conflict with one another, they nonetheless denote broadly distinct lines of thinking with respect to primary educational objectives.

Goods-Based Accounts

Perhaps the most traditional account of the aim of education suggests that its proper ends are epistemic goods such as truth, knowledge and understanding. As Kotzee (2013) observes, “once it would have been commonplace to understand education mainly in terms of what it contributes to ‘the growth of knowledge’” (p.157). This is to some degree reflected in the Platonic concern with truth noted above. On this account, the transmission and acquisition of epistemic goods are viewed as the ultimate, or at least primary, aims of teaching and learning. Conceptual analyses of education, teaching, and learning, in epistemological terms, are thus intertwined with a traditional goods-based account of educational aims.

A conventional version of the goods-based account maintains that the dominant aims of teaching and learning respectively are the transmission and acquisition of *truth* and *knowledge*. Alvin Goldman (1999) is a key proponent of this account in the epistemology of education literature, arguing that, “[T]he fundamental aim of education, like that of science, is the promotion of knowledge” (p.349). Goldman labels this a veritistic model for education, emphasising the centrality of truth, and maintains that, despite longstanding criticism, “the veritistic model is still the best available”

(p.349). Significantly, he concedes that “knowledge and knowledge-dedicated skills are not the sole educational goals” but contends that “propositional knowledge is, nonetheless, education's most pervasive and characteristic goal” (p.349). Emily Robertson (2009) likewise contends that, while not its exclusive goal, “[I]t seems reasonable to assume that acquiring propositional knowledge is a major aim of education” (p.12). Robertson goes on to explicate the significance of determining what precise knowledge or bodies of knowledge should be taught, and by what methods, with reference to the social contexts in which knowledge production takes place. Also defending this view, Jonathan Adler (2003) argues that “the knowledge-aim offers educational guidance, justifies central educational practices, and exposes complexities in the educational policies it supports” (p.285). A somewhat divergent account is offered by Frederick Schmitt (2005) who maintains that the primary aim of education should be viewed as justified belief. The acquisition of knowledge and truth (or in Schmitt's case justified belief) is thus advocated in the contemporary debate as both a central and valuable educational aim. These comments demonstrate a general openness in the discourse to a plurality of educational aims while, at the same time, illustrating the sense in which contributors to the debate are typically inclined to place a greater emphasis on one or another of these. For goods-based theorists the emphasis is placed on the transmission and acquisition of epistemic goods as education's most ‘characteristic’ goal.

A somewhat distinct version of the goods-based account can also be found in the literature which advocates *understanding*, rather than truth or knowledge, as the ultimate aim of education. This approach maintains a primary emphasis on the goods acquired as a result of education but suggests that something over and above the mere transmission of truth or knowledge is required in order to satisfy the proper aims of teaching and learning. This view has emerged within epistemological discourse in line with increased interest in the nature and value of understanding. Significantly, a number of epistemologists argue that understanding itself requires something over and above truth or knowledge (Zagzebski 2001; Kvanvig 2003; Elgin 2007). In particular, contributors identify the grasping of connections within a body of information as a necessary component of understanding. Crucially, this grasping is primarily taken to be non-propositional in nature. As such, if understanding is the proper aim of education and moreover, consists, at least in part, in non-propositional grasping, then education must also be said to aim, at least in part, at non-propositional features of reality. This aspect of the understanding oriented version of the goods-based account differentiates it significantly from the more conventional truth or knowledge oriented version. This version is advanced by Pritchard (2013) who argues, on virtue-theoretic grounds, that cognitive achievement, as opposed to mere cognitive success, is the proper aim of

education. Pritchard aligns cognitive success with knowledge and cognitive achievement with understanding, thus promoting the understanding oriented version of the goods-based account. Interestingly, this position finds support in the most recent iteration of the United States' *Common Core State Standards* which identifies key learning objectives for students educated up to high school graduation in the US. The new standards highlight 'conceptual understanding' as a key educational goal signifying a shift towards this epistemic good in high-level education policy decision-making.¹ The understanding oriented version of the goods-based account demonstrates a divergence of perspectives even among supporters of this approach, in relation to the goods themselves at which education does or should aim.

Skills-Based Accounts

In contrast to goods-based accounts, a second prominent line of thinking in the aims of education debate identifies the skills of the learner, as opposed to the epistemic goods they acquire, as the primary educational objective. This approach represents a distinctive reorientation of educational thought with diverse implications for both theory and practice. Paulo Freire, in his influential work *Pedagogy of the Oppressed* (1970), argues that "[L]iberating education consists in acts of cognition, not transferrals of information" (p.61), thereby explicitly juxtaposing skills-based education with the more traditional acquisition and transmission of epistemic goods. The argument for this skills-based approach to education has been made, in distinct guises, by a number of prominent philosophers of education over the past fifty years (Ennis 1962; Freire 1970; McPeck 1984; Siegel 1988; Paul 1990; Lipman 1991).

Advocacy of skills-based education has been prominently undertaken through the critical thinking movement, first emerging in the 1970s and now well-established in the philosophy of education (Ennis 1962; McPeck 1984; Siegel 1988; Paul 1990). This movement is unified by an emphasis on the value of rationality and independent thinking in education. A report commissioned by the *American Philosophical Association*, compiled by Peter Facione in 1990 provides a comprehensive overview of the critical thinking movement as it developed throughout the 1980s. This offers a detailed statement of the nature of critical thinking and identifies six key cognitive skills - interpretation, analysis, evaluation, inference, explanation, and self-regulation - as the core skills of critical thinking. This report represents a distinctive consensus among contributors concerning the nature of critical thinking.

¹ Thanks to an anonymous referee for highlighting this.

Beyond this, however, prominent critical thinking advocates diverge with respect to various aspects of both theory and practice. Issues relevant to the epistemology of education in particular include the nature of reason itself and the distinctively epistemic value of rationality (Halpern 2014; McPeck 1984; Siegel 1988). Is the value of critical thinking derived exclusively from the epistemic goods that it leads towards, or do critical thinking skills and abilities have intrinsic value? Questions such as this coincide with questions of epistemic value more generally and intersect with the normative concerns of contemporary epistemology discussed above. Moreover, the emphasis on skills and abilities advocated by the critical thinking movement aligns it with the contemporary epistemological debate concerning knowledge-how (Ryle 1971 [1946]; Ginet 1975; Stanley and Williamson 2001; Noë 2005). This debate pivots centrally on the question of whether knowledge of how to do something can be reduced to propositional knowledge, or knowledge-that. Gilbert Ryle (1971 [1946]) is prominently cited as a key advocate of the anti-intellectualist view that knowledge-how, or ability knowledge, is a distinct kind of knowledge, not reducible to propositions. This anti-intellectualist position may be viewed as providing support for proponents of critical thinking education, and skills-based education more generally, raising further questions regarding the significance of propositional knowledge, and testimony-based teaching practices in the classroom. A final question that has received notable attention within the critical thinking debate concerns the extent to which critical thinking is culturally or politically neutral (Alston 1995; Bailin 1995; Wheary and Ennis 1995). This issue intersects closely with debates in contemporary feminist epistemology where issues concerning epistemic injustice, in particular, play a central and pertinent role (Anderson 1995a, 1995b; Code 1991; Fricker 1998, 2007).

In addition, the advent of virtue epistemology also has implications for the critical thinking movement. Ryan Bevan (2009), for example, criticises the latter, arguing that it contributes to the production of ‘human capital learning’, enshrining an existing value system, driven predominantly by economic factors, rather than opening this up for critical consideration. Drawing directly on the virtue epistemology movement he contends that the cultivation of intellectual virtues offers a promising alternative to critical thinking, commenting:

“[V]irtue epistemology recognizes the combined importance of epistemological *and* dispositional components that motivate expanded knowledge concerning a problem, while nonvirtue approaches traditionally ignore the latter” (p.172, emphasis original).

A more radical version of this challenge is presented by Emery Hyslop-Margison (2003) who maintains that the emphasis on cognitive skills as an educational objective is wholly misguided. Instead practitioners should focus on cultivating intellectual virtues that promote desirable moral dispositions. Notably, Siegel's (1988) version of critical thinking education can be seen to accommodate this challenge given the inclusion of a dispositional component in his conception of critical thinking, which he labels 'critical spirit'. Arguably, this allows Siegel to avoid the worry highlighted by both Bevan and Hyslop-Margison. This conception, moreover, leads to the third distinct line of thinking prominent in both the aims of education debate and the epistemology of education literature.

Character-Based Accounts

Character-based accounts suggest that the proper aim of education is the nurture and cultivation of particular character traits or virtues in the learner. As with skills-based education, character-based accounts take the learner as the educational focus, as opposed to the goods they acquire. In contrast to the skills-based account, however, traditional character education has advocated the cultivation of moral and/or civic character traits such as kindness, justice and honesty (Kilpatrick 1951; Gutmann 1987; Curren 2000; Kristjánsson 2007). This perspective arises from a longstanding discourse in the history of education theory, the origins of which can once again be identified in the Platonic dialogues. Advocates of this account maintain that the primary goal or purpose of education is to produce good members of society, and that educational practices must reflect this. In an early contemporary defence of this view, William Kilpatrick (1951) asserts that, "[E]ducation must primarily seek character and behaviour, all-round character of a kind to lead to proper behaviour" (p.226, quoted in Adler 2003, p.285). In a similar vein, Amy Gutmann (1987), a key proponent of civic education, argues that society "must educate all educable children to be capable of participating in collectively shaping their society" (p.14). Character education theorists maintain that the acquisition and transmission of epistemic goods such as knowledge and understanding are secondary to the proper aims of education. These aims should instead be construed as those of producing good people or good citizens. For proponents of character education, whilst truth, knowledge, and understanding may all be considered central, perhaps even vital to the delivery of a proper education, they are nonetheless instrumental to the ultimate aim of cultivating the learner's character.

Significantly, within the epistemology of education and in line with the emergence of the virtue epistemology movement, a distinct version of the character-based account has arisen in recent literature. This places an emphasis on the learner's *intellectual*, rather than moral or civic character. Virtue epistemologists have argued for a focus in education on intellectual virtues such as open-mindedness, inquisitiveness and rigour (Riggs 2010; Baehr 2011; Kotzee 2013; Pritchard 2013; Watson *forthcoming*). The aim of education on this view can be construed as that of producing good thinkers or learners. This approach contrasts with the goods-based accounts as well as the traditional character-based account. Pritchard (2013), for example, asserts, "education is to be distinguished from the mere transmission of information to passive minds" (p.237), marking a distinction between the acquisition of epistemic goods and the cultivation of intellectual character. Similarly, Kotzee (2012) recognises this distinction, highlighting some of the benefits of the intellectual character approach:

"One might say that this formation of intellectual character not only creates the sort of people that one can trust, but, provides for the very possibility of...cooperation" (2012, unpublished conference paper).

Here the distinctively epistemic advantages of intellectual character education in terms of its role in cultivating trust and honesty within our epistemic communities are brought to the fore. This highlights the further question of which intellectual virtues should be cultivated in the context of intellectual character education. The virtues of intellectual humility and open-mindedness have received notable attention in the discourse in this regard (Adler 2004; Carter and Gordon 2014; Kidd *forthcoming*; Spiegel 2012). Likewise, Watson (*forthcoming*) argues that inquisitiveness is a primary intellectual virtue to educate for.

Baehr (2013), another prominent contemporary advocate of intellectual character education, also draws attention to its distinctive advantages, arguing that, "fostering growth in intellectual virtues should be a central educational aim" (p.249). Baehr offers a substantive defence of this view along with pedagogical recommendations for putting the theory into practice. In particular, Baehr argues that the project of educating for intellectual virtues provides substance to common platitudes concerning the aims of education such as the notion that education should foster a lifelong 'love of learning'. The project of educating for intellectual character, as opposed to moral or civic character, or indeed for the acquisition of epistemic goods, provides a basis for understanding and achieving this broad and distinctively intellectual aim. Furthermore, Baehr maintains that educating

for intellectual virtues gives both teachers and learners a better understanding and appreciation of the value of education. In addition, and perhaps most contentiously, Baehr maintains that educating for intellectual virtues may also be conducive to fostering the moral or civic virtues central to the traditional character-based account. He contends, “good thinking is often a precondition for morally responsible action, which in turn is critical to living well or flourishing as a human being” (2013, p.254). This latter suggestion illustrates the sense in which the educational aim of cultivating intellectual virtue may be considered primary or prior to the aim of producing morally good people. This once again demonstrates divergence within the character education literature at the same time as indicating the compatibility of a plurality of educational aims.

These three distinct approaches to the aims of education debate represent the rich and varied nature of the discourse within the epistemology of education. Furthermore, answers to a wide range of pedagogical questions concerning the scope and content of the curriculum, the nature, value, and frequency of assessment, the rules and regulations of the classroom, and many others, will depend significantly on which of these approaches one adopts. As such, the debate is still very much a live one and insights from both the philosophy of education and contemporary epistemology continue to play a crucial role, demonstrating the value of collaboration between epistemologists and education theorists on issues of central educational import.

Summary: The epistemology of education draws on a rich and long-standing tradition of educational discourse. At its heart are the questions of the nature and aims of education. While these questions have naturally been addressed predominantly by philosophers of education, contemporary epistemology, guided by the diverse and compelling normative concerns of virtue and social epistemology, has much to offer. As such, continued collaboration between epistemologists and philosophers of education should be welcomed and encouraged: each stands to benefit significantly from the conceptual resources of the other. In addition, as a distinctive area of philosophical inquiry, the epistemology of education also promises to be of value to the wider philosophical community. Philosophers of science, for example, may find useful parallels between discussions of the epistemic aims of education and those of scientific inquiry. Similarly, the prominence of discussions concerning the intellectual virtues may be of interest to virtue theorists in the moral domain. The combination of theoretical discussion and practical applications, moreover, identifies the epistemology of education as an apt arena for meta-analysis concerning philosophical methodology. The collaborative, diverse and applied nature of the discourse marks it out as an exciting and valuable area of contemporary philosophical inquiry.

WORKS CITED:

Adler, Jonathan. 'Knowledge, Truth and Learning'. *A Companion to the Philosophy of Education*. Ed. Randall Curren. Oxford: Blackwell, 2003. 285-304.

---. 'Reconciling open-mindedness and belief'. *Theory and Research in Education* 2004. 2(2): 127–42.

Anderson, Elizabeth. 'Feminist Epistemology: An Interpretation and Defense'. *Hypatia*, 1995a. 10: 50-84.

---. 'Knowledge, Human Interests, and Objectivity in Feminist Epistemology'. *Philosophical Topics*, 1995b. 23: 27-58.

Baehr, Jason. *The Inquiring Mind*. Oxford: Oxford University Press, 2011.

---. 'The Cognitive Demands of Intellectual Virtue.' *Knowledge, Virtue and Action: Putting Epistemic Virtues to Work*. Eds. Tim Henning and David Schweikard. New York: Routledge, 2013. 99-118.

David Bakhurst. 'Learning From Others'. *Journal of Philosophy of Education*, 2013. 47(2): 187-203.

Barrow, Robin. 'Was Peters Nearly Right About Education?' *Journal of Philosophy of Education*, 2010. 43(1): 9-25.

Barrow, Robin and Woods, Ronald. *An Introduction to Philosophy of Education (fourth edition)*. London: Routledge, 2006.

Bevan, Ryan. 'Expanding Rationality: The relation between epistemic virtue and critical thinking.' *Educational Theory*, 2009. 59(2): 167-179.

Carter, Adam, Jarvis, Benjamin and Rubin, Katherine. 'Varieties of Cognitive Achievement.' *Philosophical Studies*, forthcoming.

Carter, Adam and Gordon, Emma. 'Openmindedness and Truth'. *Canadian Journal of Philosophy*, 2014. 44(2): 207-224.

Christensen, David. 'Disagreement as Evidence: The Epistemology of Controversy.' *Philosophy Compass*, 2009. 4(5): 756-767.

Christensen, David, and Lackey, Jennifer, eds. *The Epistemology of Disagreement: New Essays*. Oxford: Oxford University Press, 2013.

Coady, Cecil. 'Testimony and Observation.' *American Philosophical Quarterly*, 1973. 10: 149-155.

Code, Lorraine. 'Toward a 'Responsibilist' Epistemology.' *Philosophy and Phenomenological Research*, 1984. 65: 29-50.

---. *What Can She Know?* Ithaca, New York: Cornell University Press, 1991.

Cohen, Stewart. 'Knowledge, Context and Social standards.' *Synthese*, 1987. 73(1): 3-26.

Cremin, Lawrence. 'John Dewey and the Progressive-Education Movement, 1915-1952.' *The School Review*, 1959. 67(2): 160-173.

Curren, Randall, Robertson, Emily and Hager, Paul. 'The Analytical Movement.' *A Companion to the Philosophy of Education*. Ed. Randall Curren. Oxford: Blackwell, 2003. 176-191.

Cuypers, Stefaan and Martin, Christopher. *Reading R.S. Peters Today*. Oxford: Wiley-Blackwell, 2011.

Dearden, R.F. 'Instruction and learning by discovery.' *The Concept of Education*. Ed. Richard Peters. London: Routledge & Kegan Paul, 1967. 135-155.

Dewey, John. *Democracy and Education*. New York: Macmillan, 1916.

---. *How We Think*. Chicago: Henry Regnery, 1933.

---. *The Quest for Certainty*. Oxford, England: Minton, Balch, 1929.

Downie, R.S., Loudfoot, Eileen, and Telfer, Elizabeth. *Education and Personal Relationships*. London: Methuen & Co., 1974

Elgin, Catherine. 'Epistemology's Ends, Pedagogy's Prospects.' *Facta Philosophica*. 1999. 1: 39-54.

---. 'Take it from me: The Epistemological Status of Testimony.' *Philosophy and Phenomenological Research*, 2002. LXV: 291-308.

---. 'Trustworthiness.' *Philosophical Papers*, 2008. 37(3): 371-387.

---. 'Understanding and the Facts.' *Philosophical Studies*, 2007. 132 (1): 33-42.

Ennis, Robert. 'A concept of critical thinking.' *Harvard Educational Review*, 1962. 32: 81-111.

Facione, Peter. *Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction*. Report commissioned by *American Philosophical Association*, 1990.

Faulkner, Paul. 'On Telling and Trusting.' *Mind*, 2007. 116: 875-902.

Freire, Paulo. *Pedagogy of the Oppressed* translated by Myra Bergman Ramos. New York: The Seabury Press, 1970.

Fricker, Elizabeth. 'The Epistemology of Testimony.' *Proceedings of the Aristotelian Society Supplementary*, 1987. 61: 57–83.

Fricker, Miranda. *Epistemic Injustice: Power and the Ethics of Knowing*. Oxford: Oxford University Press, 2007.

---. 'Rational Authority and Social Power: Towards a Truly Social Epistemology'. *Proceedings of the Aristotelian Society*, 1998. 98(2): 159-177.

Fuller, Steve. 'On regulating what is known: A way to social epistemology.' *Synthese*, 1987. 73(1): 145-183.

---. *Social Epistemology* (second edition). Indiana: Indiana University Press, 2002.

Gettier, Edmund. 'Is Justified True Belief Knowledge?' *Analysis*, 1963. 23(6): 121-123.

Ginet, Carl. *Knowledge, Perception, and Memory*. Dordrecht: D. Reidel Publishing Company, 1975.

Goldberg, Sanford. 'Testimonially based knowledge from false testimony.' *The Philosophical Quarterly*, 2001. 51: 512–526.

---. *Relying on Others: An Essay in Epistemology*. Oxford: Oxford University Press, 2010.

Goldman, Alvin. 'Foundations of social epistemics.' *Synthese*, 1987. 73(1): 109-144.

---. *Knowledge in a Social World*. Oxford: Oxford University Press. 1999.

Greco, John. *Achieving Knowledge: A Virtue-Theoretic Account of Epistemic Normativity*. Cambridge: Cambridge University Press, 2010.

---. 'The Nature of Ability and the Purpose of Knowledge.' *Philosophical Issues*, 2007. 17: 57-69.

Grimm, Stephen. 'Understanding.' *The Routledge Companion to Epistemology*. Eds Sven Bernecker and Duncan Pritchard. New York: Routledge, 2010. 84-94.

Gutmann, Amy. *Democratic Education*. Princeton: Princeton University Press, 1987.

Haddock, Adrian, Millar, Alan and Pritchard, Duncan, eds. *Epistemic Value*. Oxford: Oxford University Press, 2009.

Haddock, Adrian, Millar, Alan and Pritchard, Duncan, eds. *Social Epistemology*. Oxford: Oxford University Press, 2010.

Hager, Paul. 'Philosophical Accounts of Learning'. *Educational Philosophy and Theory*, 2005. 37(5): 649-666.

Halpern, Diane. *Thought and Knowledge: An Introduction to Critical Thinking* (5th ed). NY: Psychology Press, 2014.

Hirst, Paul. 'What is Teaching?' *The Philosophy of Education*. Ed. Richard Peters. Oxford: Oxford University Press, 1973. 163-177.

Hyslop-Margison, Emery. 'The Failure of Critical Thinking: Considering Virtue Epistemology as a Pedagogical Adventure.' *Philosophy of Education* 2003.

Katz, Michael. 'R. S. Peters' Normative Conception of Education and Educational Aims.' *Journal of Philosophy of Education*, 2010. 43(1): 97-108.

Kidd, Ian. 'Educating for Intellectual Humility'. *Intellectual Virtues and Education: Essays in Applied Virtue Epistemology*. Ed. Jason Baehr. New York: Routledge, forthcoming b.

Kilpatrick, William. *Philosophy of Education*. New York: Macmillan, 1951.

Kornblith, Hilary. 'Some social features of cognition.' *Synthese*, 1987. 73(1): 27-41.

Kotzee, Ben. 'Education and "Thick" Epistemology.' *Educational Theory*, 2011. 61(5): 549-564.

---. 'Introduction: Education, Social Epistemology and Virtue Epistemology.' *Journal of Philosophy of Education*, 2013. 47(2): 157-167.

---. 'Intellectual Virtue and the Aims of Education Debate.' Unpublished conference paper given at the inaugural conference of the Jubilee Centre for Character and Values at the University of Birmingham, Friday 14th December, 2012.

Kvanvig, Jonathan. *The Value of Knowledge and the Pursuit of Understanding*. Cambridge: Cambridge University Press, 2003.

Lackey, Jennifer. 'Testimonial Knowledge and Transmission.' *Philosophical Quarterly*, 1999. 50 (197): 471-490.

Lehrer, Keith. 'Personal and social knowledge.' *Synthese*, 1987. 73(1): 87-107.

Lipman, Matthew. *Philosophy Goes to School*. Philadelphia: Temple University Press, 1988..

---. *Thinking in Education*. New York: Cambridge University Press, 1991.

MacAllister, James. 'Virtue Epistemology and the Philosophy of Education.' *Journal of the Philosophy of Education*, 2012. 46(2): 251-270.

Marrou, Henri. *A History of Education in Antiquity*. Wisconsin: University of Wisconsin Press, 1956.

McPeck, John. *Critical Thinking and Education*. Palgrave Macmillan, 1984.

Montessori, Maria. *The Secret of Childhood*. Trans. M. Joseph Costelloe. New York: Ballantine, 1972.

Noë, Alva. 'Against Intellectualism.' *Analysis*, 2005. 65(4): 278-90.

Paul, Richard. *Critical thinking: What every person needs to survive in a rapidly changing world*. Rohnert Park, CA: Center for Critical Thinking and Moral Critique, 1990.

Peters, Richard. *The Concept of Education*. London: Routledge and Kegan Paul, 1967.

Phillips, D.C. 'The Good, the Bad and the Ugly: The many faces of Constructivism.' *Educational Researcher*, 1995. 24(7): 5-12.

---. 'Theories of Teaching and Learning'. *A Companion to the Philosophy of Education*. Ed. Randall Curren. Oxford: Blackwell, 2003. 232-46.

Plato. *Laws*. Translated by Trevor Saunders. In *Plato, Complete Works* edited by John, M. Cooper, 1997. Indiana: Hackett Publishing Company.

----- *Republic*. Translated by G.M.A Grube and Rev. C.D.C. Reeve. In *Plato, Complete Works* edited by John, M. Cooper, 1997. Indiana: Hackett Publishing Company.

Piaget, Jean. 'The psychogenesis of knowledge and its epistemological significance.' *Language and Learning: The Debate between Jean Piaget and Noam Chomsky*. Ed. Massimo Piattelli-Palmarini. Cambridge, MA: Harvard University Press, 1980. 23-34.

Pritchard, Duncan. 'Epistemic Virtue and the Epistemology of Education'. *Journal of Philosophy of Education*, 2013. 47(2): 236-247.

---. 'Knowledge and Final Value.' *The Nature and Value of Knowledge: Three Investigations*. Ed. Duncan Pritchard, Alan Millar and Adrian Haddock. Oxford: Oxford University Press, 2010. 25-47.

Pritchard, Duncan, Millar, Alan and Haddock, Adrian, eds. *The Nature and Value of Knowledge: Three Investigations*. Oxford: Oxford University Press, 2010.

Riggs, Wayne. 'Open-mindedness.' *Metaphilosophy*, 2010. 41: 172-188.

---. 'The Value Turn in Epistemology.' *New Waves in Epistemology*. Eds. Vincent Hendricks and Duncan Pritchard. Ashgate, Palgrave Macmillan, 2008.

Roberts, Robert and Wood, W. Jay. *Intellectual Virtues: An Essay in Regulative Epistemology*. Oxford: Clarendon Press, 2007.

Robertson, Emily 'The Epistemic Aims of Education'. *The Oxford Handbook of Philosophy of Education*. Ed. Harvey Siegel. Oxford: Oxford University Press. 2009.

Ryle, Gilbert. 'Knowing How and Knowing That.' *Collected Papers (Volume 2)*, New York: Barnes and Nobles, 1971 [1946]. 212-25.

Scheffler, Israel. *The Conditions of Knowledge: An Introduction to Epistemology and Education*. Chicago: Scott, Foresman, 1965.

---. *Reason and Teaching*. London: Routledge and Kegan Paul, 1973.

Schmitt, Frederick. 'What are the Aims of Education?' *Episteme*, 2005 .1(3):223-33.

Siegel, Harvey. *Educating Reason: Rationality, Critical Thinking, and Education*. New York and London: Routledge, 1988..

---. 'Epistemology and Education: An Incomplete Guide to the Social-Epistemological Issues'. *Episteme*, 2004. 1:129-137.

---. 'Is 'Education' a Thick Epistemic Concept?' *Philosophical Papers*, 2008. 37(3): 455-469.

Shulman, Lee. 'Knowledge and Teaching: foundations of the new reform.' *Harvard Educational Review*, 1987. 57(1): 1-22.

Sockett, Hugh. *Knowledge and Virtue in Teaching and Learning*. New York: Routledge, 2012.

Sosa, Ernest. 'The Raft and the Pyramid: Coherence versus Foundations in the Theory of Knowledge.' *Midwest Studies in Philosophy*, 1980. 5(1): 3-26.

---. *A Virtue Epistemology: Apt Belief and Reflective Knowledge, Volume 1*. Oxford: Oxford University Press, 2007.

Spiegel, James. 'Openmindedness and Intellectual Humility.' *Theory and Research in Education*, **2012**. 10(1): **27-38**.

Stanley, Jason and Williamson, Timothy. 'Knowing How.' *The Journal of Philosophy*, 2001. 98(8): 411-44.

von Glasersfeld, Ernst. 'An introduction to radical constructivism.' *The invented reality*. Ed. Paul Watzlawick. New York: W.W.Norton, 1984. 17-40.

Watson, Lani. 'What is Inquisitiveness.' *American Philosophical Quarterly*, 2015. 52(3): 273-288.

---. 'Why Should We Educate For Inquisitiveness.' *Intellectual Virtues and Education: Essays in Applied Virtue Epistemology*. Ed. Jason Baehr. New York: Routledge, forthcoming.

Wheary, Jennifer and Ennis, Robert. 'Gender Bias in Critical Thinking: Continuing the Dialogue'. *Educational Theory* 1995. 45 (2):213-224.

Williams, Bernard. *Ethics and the Limits of Philosophy*. Cambridge, MA: Harvard University Press, 1985.

Winch, Christopher and Gingell, John. *Key Concepts in the Philosophy of Education*. London: Routledge, 1999.

Zagzebski, Linda. *Epistemic Authority: A Theory of Trust, Authority, and Autonomy in Belief*. Oxford: Oxford University Press, 2012.

---. *Virtues of the Mind: An Inquiry into the Nature of Virtue and the Ethical Foundations of Knowledge*. Cambridge: Cambridge University Press, 1996.