Toward a self-correcting society: Deep reflective thinking as a theory of practice

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Abstract

This paper addresses the question of how to educate toward democracy, which has as its defining trait the ability to self-correct. We draw on a study that investigated Deep Reflective Thinking (DRT) as a classroom method for cultivating collective doubt, which is essential for developing students' capacity for self-correction in a community of inquiry.

Keywords

deep reflective thinking, democracy, genuine doubt, metacognition, self-correction

Introduction

Democracy has become alienated and degenerated, fraught with problems—like the influence of 'big money', in-group/out-group conflict, wrangling between dominant political parties, political polarisation, social division, wealth inequality and failure—and, resultingly, cannot effectively respond to climate change. It is no wonder that youth satisfaction with democracy is declining the world over. However, as more young people are becoming disillusioned with democratic politics, they are also finding alternative ways to make their voices heard, as the 'Greta Effect', which continues to mobilise collective global action over climate change, demonstrates. While this can be taken as an example of education doing what it should (i.e. making students aware of and empowered to act on the climate crisis), there are still far too many adults—who are also products of the education system—unwilling to act. This raises an important question: 'Has education failed democracy?' We contend that there is an urgent need for pedagogical practices that teach self-correction, which is a defining trait of a democratic system, provided the learning environment is conducive to students' continuous growth to help them become effective agents of change. To

this end, we draw on the findings of a study on Deep Reflective Thinking, founded on the educational theory of Philosophy for Children, which enables greater depth of understanding through the key connective element of metacognitive practice. We argue that such practice engages students productively in the exploration of epistemic doubt aimed at developing students' capacities for the self-correction, which is vital for deliberative democracy as a communicative practice and a mode of associated living.

Education, self-correction and democracy

A strength of democracy lies in its ability to self-correct, to solve problems, and to adapt to new challenges. However, increased volatility, resulting from multiple global crises—humanitarian, financial, and environmental—is testing this ability. As a result, citizens of Western-style, liberal democratic nation states, particularly younger generations, are becoming increasingly disillusioned with democracy's ability to create the changes needed to address global issues that affect local and regional populations, such as climate change, environmental degradation, species extinction, housing shortages, and social and economic inequality. A recent report, *Youth and Satisfaction with Democracy*, from the Centre for the Future of Democracy at the University of Cambridge (Foa et al. 2020),[1] found that in almost every global region satisfaction with democracy is in its steepest decline among the 18–34 demographic. An exemplar case of such disgruntlement, but turned into positive action, can be found in Greta Thunberg's rebellious act of skipping school, as a way of challenging world leaders to take immediate action for climate change. She subsequently founded the *Skolstrejk för klimatet* (School Strike for Climate) movement, raising public awareness of climate change around the world, especially among young people, which generated similar campaigns by local communities across the globe, and eventually *Youth for the Climate*—the digital platform created to coordinate these student activist protests—which has united over a million young people in 2,083 cities in 125 countries. Thunberg demonstrated that she did whatever she could despite the millions who did nothing because they thought doing little was not worthwhile. In doing so, she facilitated the global potential for democracy as a *corrective social and political institution*. Even if nothing further were to eventuate, Thunberg's dissenting

[1] Between 1973 and 2020, Cambridge researchers collaborated with the Human Understanding Measured Across National (HUMAN) Surveys Project to combine data from approximately five million respondents in over 160 countries. The respondents were asked about the degree of satisfaction with democracy in their country.

voice epitomises the active and informed citizenship crucial for cultivating the collective action vital to a functioning democracy.

It is noteworthy that the report found that there are only minor generational gaps in attitudes towards democracy in nations with a wealth distribution that is relatively flat (e.g. Iceland or Austria), whereas countries, such as the USA, with persistent wealth inequality, show large and growing divides. Economic exclusion is clearly a major contributor to youth discontent: 'Higher levels of youth unemployment and wealth inequality are associated with rising dissatisfaction in both absolute and relative terms—that is, a growing gap between assessments of democratic functioning between youth and older generations' (Foa et al. 2020, p. 2). This should come as no surprise. In 1995, the Australian ecofeminist philosopher, Val Plumwood, argued that a major obstacle to a democracy's capacity for correction is radical inequality, which, she claims, 'is both itself a hindrance to correctiveness and a key indicator of other hindrances to societal correctiveness' (p. 137). As the report indicates, higher levels of persistent economic inequality lead to dissatisfaction with democracy as an agent of change. However, Plumwood contends that the failure of democracy lies not with democracy itself, but with liberal democracy that has failed democracy and, consequently, ecology.

> The superiority of democracy to other systems in detecting and responding to ecological problems would seem to lie largely, then, in its capacity for adaptation and *correction*. So in order to discover why democracy is failing, we must now ask which political features of democracy contribute to and what forms hinder its capacity for correction? (p. 137, emphasis added)

Radical inequality, which has become increasingly far-reaching under liberal democracy, she argues, is an indicator of 'the capacity of its privileged groups to distribute social goods upwards and to create rigidities which hinder the democratic correctiveness of social institutions' (p. 134). She argues that 'the escalation of the processes responsible for ecological degradation, despite the great citizen effort that has gone into challenging them in democratic polities, therefore represents an alarming failure' (p. 135) of the current liberal democratic political systems.

We can go back even further in history to 1927 when American philosopher, psychologist, and educational reformer, John Dewey, reminded us that a public engaged in self-correction is essential to democracy (see Dewey 2012). Dewey, however, saw fault in education, and viewed the failure to educate towards self-

correction as a hinderance to not only the self-correction of beliefs held by individuals, but societal and political self-correction and, thus, to democracy itself. Dewey's democracy is a deliberative model of democracy that provides a vision of an ideal democratic society which supports greater participation and deliberation as necessary conditions for democratic life. These elements increase '[d]iversity of stimulation [which] means novelty, and novelty means challenging thought' (Dewey 1916, p. 85).

Dewey's theory of experiential education focuses attention on the relationship between schooling and life, both inside and outside the classroom, which is vital to democratic citizenship, as students develop their social and intellectual capacities to engage in collective self-correction. If democracy is understood primarily not as a system of government and institutional practices, but as a social democratic mode of associated living that relies on deliberative communication, then democratic education must be an exemplar of such a democracy to achieve its twofold purpose: the reconstruction of education itself and the broader aim of social reconstruction toward the creation of a self-correcting society.

Dewey's vision of the reconstruction of education heavily influenced Matthew Lipman, co-founder of Philosophy for Children, who, along with the other co-founder Ann Margaret Sharp, also had Charles Sanders Peirce as a chief influence. Together, Lipman and Sharp (1978) adapted Peirce's ideas to education, specifically the notion of a 'community of inquiry' (COI), a collaborative, community-centred, inquiry-based pedagogy that is an exemplar of democracy in action because it is a *self-corrective* process governed by deliberative dialogue. Participants engage in collaborative philosophical inquiry—a self-correcting process in which members of the community challenge beliefs, suggest alternative perspectives for exploration, and negotiate understanding (see Millett & Tapper 2012).

The COI, as a specific method for fostering philosophical discussion and critical discourse, is typically articulated as five stages or a basic pattern of inquiry: the offering of the text, the construction of the agenda, solidifying the community, using exercises and discussion plans, and encouraging further responses (Lipman 1991, pp. 241–243). The method has been adapted by teachers and other practitioners, the world over, to suit diverse educational settings, but the basic pattern of five stages of inquiry set out in Lipman's educational theory and practice and implicit in the Philosophy for Children curriculum materials still represents the basic standard upon which others draw (see Burgh, Field & Freakley 2006; Cam 2006; Davey Chesters 2012; Gregory 2007).

However, to convert a classroom into a community of inquiry, teachers require more than procedural knowledge of the five stages of inquiry. To achieve the radical aims Lipman intended requires teachers to have pedagogical knowledge—an understanding of the theory and practice of learning that underpins COI. Briefly, the pedagogy of the COI is underpinned by a pragmatist epistemology of fallibilism; the epistemological thesis that beliefs cannot be justified conclusively, as there will always remain the possibility of doubt regarding the truth of the belief. In other words, it is the rejection of certainty and absolute conceptions of truth and reality. The acceptance of theories, then, is always provisional and subject to further investigation and revision, a process that Peirce thought began in doubt. For Peirce (1877), genuine doubt plays a pivotal role in giving rise to inquiry. Doubt can be described as a state of hesitancy over whether to accept or reject a given proposition (Hildebrand, 1996; Peirce, 1899). But Peirce also thought it to be a peculiar sensation accompanied by the desire to ask questions—an irritating quality, like an itch begging to be scratched. Like scratching that gives relief, Peirce thought that doubt gives rise to inquiry, which seeks to find another kind of relief, namely, reliable but provisional knowledge. If we accept Peirce's premises, then reliable knowledge arises from a community of inquirers engaged in 'self-corrective' thinking, such as knowledge derived from disciplinary-based inquiry (e.g. science, history, mathematics, philosophy which, in turn, informs curriculum subjects). Peirce's notion of a community of inquirers (comprising scholars, researchers, and experts who engage in disciplinary inquiry), by virtue of its logic and method of investigation, 'sets the standards and the justification for the construction of reliable knowledge. It is the actual community whose members accept the logic and method of investigation that acts as a deliberative jury between doubt and belief about ideas or hypotheses' (Burgh & Thornton 2022, p. 103).

The task of the pragmatist teacher as facilitator, then, is to initiate students into the methods of inquiry, and together as co-inquirer, develop their 'appreciation of fallibilism, with the goal of reconstructing students' experiences and knowledge through self-correction' (Burgh & Thornton 2022, p. 110). However, few universities offer subjects or courses on Philosophy for Children or facilitating communities of inquiry. So, as far as accredited courses go, 'there are limited opportunities for teachers and philosophers to learn about doing philosophy with children. This makes it difficult to establish large scale philosophy programs within schools' (Bleazby & Slade 2019, p. 215). Instead, teacher preparation courses on how to engage students in philosophical inquiry are provided by local and regional Philosophy for Children organisations around the world, and a consistent standard of professional

development for teachers has not been forthcoming. Emphasis has been largely on facilitating philosophical inquiry in the classroom without developing teachers' understanding of the pedagogical underpinnings rooted in pragmatist epistemology necessary for the broader aim of reconstructing education to foster self-corrective citizens.

To address this issue, we draw on a study, *Deep Reflective Thinking Through Collaborative Philosophical Inquiry*, conducted between 2012 and 2016 with student participants from Year 2 through to Year 7 (7 to 12 years of age) by one of the authors, Elizabeth Fynes-Clinton. The initial aim of the research was to develop a theory of practice for teachers and students collaboratively engaged in a learning environment of a community of inquiry, later coined Deep Reflective Thinking (DRT). DRT acknowledges the importance of Philosophy for Children's theoretical underpinnings in pragmatist epistemology as essential to classroom practice. The DRT framework also attempts to draw attention to, and put into practice, the pedagogical principles and guidelines for the wider aim of reconstructing education as inquiry that Lipman gleaned from reading Dewey. In this sense, DRT provides a practical approach for implementing the theory and practice of the COI in a way that can enable a greater depth of understanding through the key connective element of metacognitive practice, a topic we will discuss in detail in the next section.

The DRT framework is intended to 'assist teachers to understand and implement pedagogy that, in turn, enables students to develop DRT through sustained immersion in a COI' (Fynes-Clinton 2018, p. 9), with the aim of improving the collective and individual thinking of students as they take part in collaborative philosophical inquiry. To this end, the study also provides insights into how DRT can function as an effective pedagogical approach for democratic education (see Burgh 2014; Burgh & Thornton 2022) and environmental education (see Thornton 2024), both of which can provide an educational response to the need to think ecologically in a time of environmental crisis and the need to mitigate climate change (Bleazby et al. 2023). As such, this paper introduces ways of engaging students in collaborative philosophical inquiry as a self-corrective process. While we do not address teacher education directly (as it is beyond the scope of this paper), implicit in the study and its findings are pedagogical guidelines which would be applicable to professional development programs aimed at teachers and teacher educators, but with an explicit focus on inquiry as a struggle to replace doubt with settled belief through collective self-correction.

Four dynamic interactive elements of Deep Reflective Thinking

This section presents the theoretical framework of DRT, a specific way of thinking and learning that emerges from a balanced, dynamic interplay among four elements: (i) repertoire of intellectual skills and processes; (ii) sustained engagement in philosophising; (iii) ongoing self- and peer-assessment; and (iv) examination of epistemic doubt (see Figure 1).

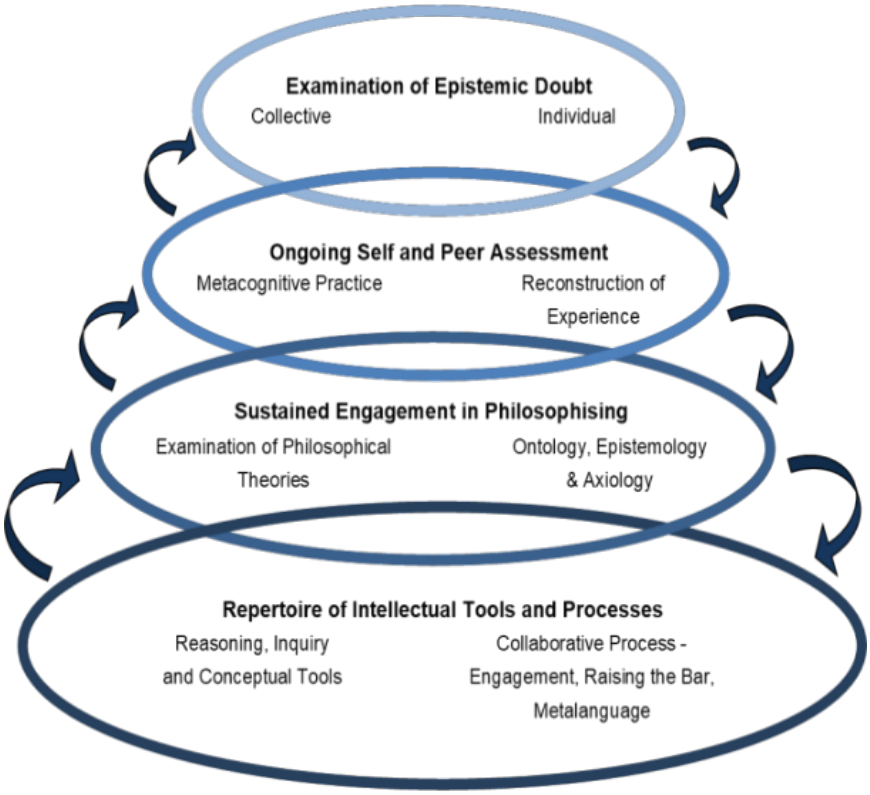

Figure 1: The four key element of Deep Reflective Thinking (DRT).

We then discuss how these elements work together to form a deep reflective practice that can assist students to examine and evaluate politically contentious issues with the aim of understanding the conceptual, philosophical, and empirical underpinnings of the issues under discussion. The teaching of these elements takes place through the COI. Additionally, in the early stages of learning, a teaching COI is also implemented to focus on the *how* of thinking, in which students pause at certain points during the inquiry to reflect on the thinking as it occurs, the current epistemic progress, the tools and processes used, their impact in the inquiry, and ways to further the epistemic progress (Fynes-Clinton 2018, pp. 246–256). A teaching COI differs from the process used by Lipman, as during the discussion the facilitator or the students might pause discussion to allow for reflection on what has taken place to arrive at this point in the discussion. Students are asked specific reflective questions to assist them to think

about certain elements of the discussion and how they could move it forward. This method is especially effective when a discussion becomes circular or off-track. It is also an effective way to enable students to see how the use of specific tools and processes can increase the epistemic progress of the inquiry.

The aim of the teaching COI is not to replace the COI but to provide greater formalisation when students are beginning to learn how to inquire philosophically within a COI (see Fynes-Clinton 2018, pp. 246–256). Through explicit analyses of the procedural elements and intellectual tools of philosophical inquiry, which we outline below, the students learn to think as the process thinks and, at the same time, gain the ability to reflect upon the process so that they develop the capacity to appropriate it in ways that best serve themselves and the community.

The introduction of DRT in the classroom commences with the teaching and learning focus on the intellectual and procedural foundations of the COI, then shifts to a greater substantive focus as the students' inquiry capacities develop. When provided with opportunities to participate in sustained inquiry experiences underpinned by ongoing self- and peer-assessment and the examination of epistemic doubt, the students develop capacities that enable them to collectively move the discussion from a surface-level exploration of the ideas under discussion to deeper, more focused investigations.

In the early stages of the DRT process, the facilitator assists the inquiry progress by modelling intellectual practices, asking procedural and substantive questions more frequently, and consistently encouraging connection-making and the examination of difference, thereby helping the students to remain engaged and connected to the ideas under discussion. As students develop their capacities to question, make relevant connections, and test ideas in ways that can drive the inquiry, they begin to take increasingly greater responsibility for the epistemic progression. Ongoing self- and peer-assessment facilitates the students' understanding of when and how to move the inquiry forward. Contentious issues that can seem beyond the expected understanding of the students' years can be examined through DRT, driven by the development of their collective metacognitive capacities. This approach has distinct benefits for teaching and learning in relation to the development of collective doubt and a self-correcting community essential for the kind of self-correcting society both Plumwood and Dewey deemed necessary for democratic politics. In the next four sections we examine the key element of DRT.

1. Repertoire of intellectual tools and processes

The repertoire of intellectual tools and processes includes reasoning tools (e.g. deductive reasoning, inductive reasoning, analogical reasoning), conceptual tools (e.g. exploring concepts, definition, classification), and progressing the inquiry (e.g. questioning, summarising). These tools and processes form the critical phase of the basic pattern of inquiry (see Burgh et al. 2006; Cam 2006; Davey Chesters 2012). The tools and processes are initially taught through focused collaborative exercises, usually within a teaching COI, to enable the students to practice their application and understand how and why they support epistemic progress, all of which are integral to the inquiry process. In DRT they are made transparent as part of the inquiry process through metacognition. Students reflect on their use and intellectual impact during the teaching COI (see Fynes-Clinton 2018, pp. 246–256). Additionally, the facilitator's questioning can also assist the students to recognise the use of a tool during inquiry and, thus, come to understand its purpose (see Figure 2).

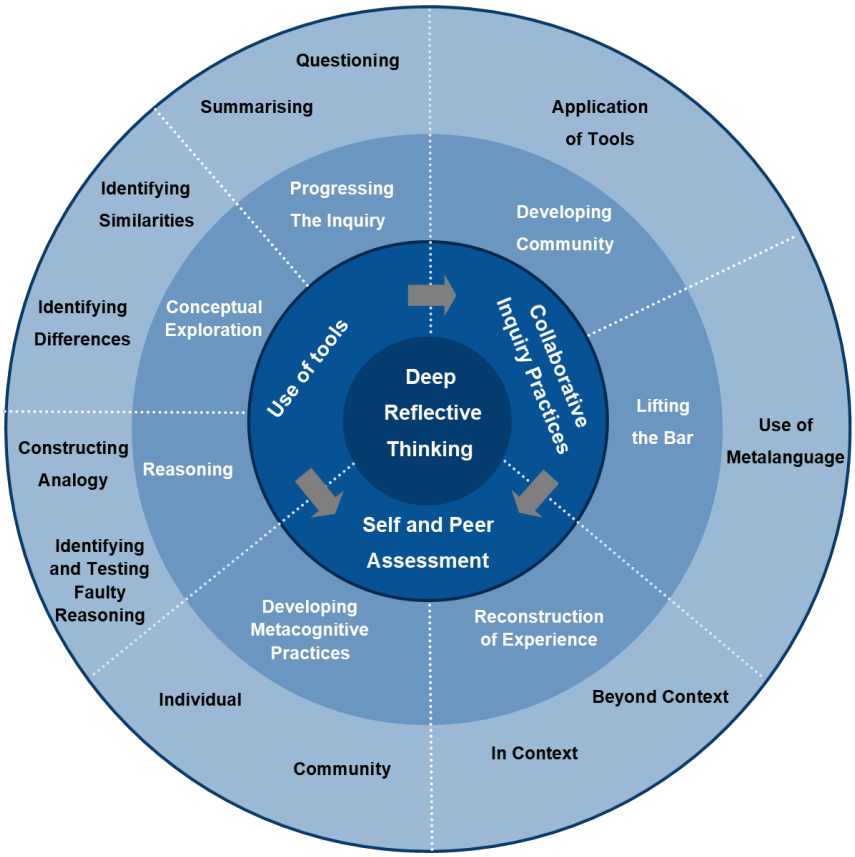

Figure 2: Repertoire of intellectual tools and processes in relation to collaborative inquiry practices and self- and peer-assessment.

Pedagogical transparency can assist students to map the inquiry progress. This can take place during a teaching COI or by interweaving reflective questions such as: Have we made progress with our understanding of …?; How do we know?; What

tools or processes helped us to move forward?; Have there been any barriers to our progress?; How could we overcome these barriers?; Have we overlooked any important ideas? When students consistently think about these types of questions as part of their learning the questions become internalised, enabling them to mentally map their progress as it takes place. Epistemic progress is further supported by interweaving reflective practice into inquiry over time, thereby encouraging the collective formation of habits of mind within the community and developing students' capacity to reconstruct these habits. In other words, individual and collective self-correction is habituated through inquiry. Their experience of what it *feels like* to share dialogue can prompt them to take ownership of the ideas and shared responsibility for the intellectual progress of the inquiry. As the study demonstrates, self- and peer-assessment enabled the students to understand how they collectively become a community of inquirers, a mode of associated living that extends beyond the classroom (Fynes-Clinton 2018, pp. 101–134), which is essential for developing a self-correcting community that is necessary for democracy (Burgh & Thornton 2022).

2. Sustained engagement in philosophising

DRT centres the pragmatist theory and practice of learning that underpins it through sustained and rigorous inquiry stimulated by students' experiences, stories, and connections to other learning, along with the community's collective cultivation of doubt, their self- and peer-assessment of their experiences, and understanding of those experiences. Sustained engagement in philosophising, combined with the shared experience of genuine inquiry, can ignite students' care for inquiry. This can facilitate a more complex understanding of the COI, shifting it from a procedure comprising the basic pattern of inquiry that informs the specific teaching method for fostering philosophical discussion, to something that forms a habit of mind in their lives beyond the classroom. To ensure the students make optimum progress individually and collectively, collaborative inquiry should be engaging, challenging, and have the potential to be ongoing. DRT engages the students' interest to stretch and expand ideas and issues over time, place, and disciplines, thereby facilitating the time and space to revisit their thinking and build new connections as further ideas emerge. To achieve this, the teacher's role as facilitator of the COI extends to co-inquirer to mediate between the narrow-sense community of inquiry which is characterised by the basic pattern of inquiry and promotes philosophical discussion and critical discourse, and 'the pedagogy that underscores the wide-sense community

of inquiry, i.e. the pedagogical guidelines that drive the community of inquiry as a teaching method' (Burgh 2021, p. 24).[2]

To cultivate DRT, students are required to consider the ontological, epistemological, and axiological underpinnings of the ideas presented through the following guiding questions: What is there? How do we know? Should we care? Viewing ideas through philosophical lenses of being, knowing, and valuing can cultivate a deeper understanding and propagate capacity building within the community. To facilitate personal connections to the ideas under discussion, the following reflective questions are also important: How am I connected to this? How can my thoughts assist the epistemic progress of the community? Foregrounding these questions can encourage attentive focus and prompt students to share their personal stories connected to the issues under investigation. To deter students from becoming culturally insulated by the prevailing social and political institutions and practices, they are encouraged to think about how they or their family may be connected to a specific issue, as well as how different cultures might perceive the issue. The process potentially enables them to develop a better understanding of why people think in certain ways and the impact of culture and heritage on their beliefs and actions. DRT enables freedom of thought through pedagogical transparency, while simultaneously cultivating the students' responsibility to offer epistemically and ethically considered responses. It can pave the way to epistemic freedom and agency, as alluded to by a Year 4 student involved in the study, when discussing his experience with DRT.

> … it challenged my mind and lets my mind have freedom over everything else and instead of the one being led, I also experienced leading myself. (quoted in Fynes-Clinton 2018, p. 146)

Consideration of the lives and views of others expands students' thinking and helps them to understand their responsibility, as individual inquirers, to support the epistemic progress made by their community. The students' personal stories, ignited by their focus on ideas and issues to which they feel closely connected, will often provide valuable stimuli for further inquiries (Fynes-Clinton 2018, pp. 137–156).

Reflectively connecting the ontological, epistemological, and axiological underpinnings of ideas under discussion assists the students to move out of the abstract and to apply their ideas as a form of experiential learning. In doing so, they

[2] For a discussion on the narrow-sense and wide-sense community of inquiry, see Sprod (2001 and this issue); Burgh (2021).

develop the capacity to move between the empirical and the philosophical, facilitating a discussion in which philosophical views are considered, even if they cannot be agreed upon. Asking the community to think about what someone might say if they held an opposing view can encourage students to consider social, political, economic, gender or ethnic differences, thereby experiencing the diversity in the COI. If the community is homogenous (particularly in ways that are epistemically unjust towards other groups), it becomes the teacher's role 'to present stories, information, beliefs, and habits that lie outside of the dominant narrative' (Thornton 2024, p. 152). In doing so, teachers can provide opportunities to disrupt the epistemic certainty inherent in most classrooms, for example by introducing concepts which the dominant narrative has epistemically silenced or marginalised, as well as other worldviews, such as Indigenous ways of knowing, being, and doing. Indigenous political concepts are particularly important in a time of environmental crisis, as they have provided the ground for traditional custodianship—the responsibility Indigenous peoples or nations have in caring for Land and Country. In Australia, Aboriginal peoples have been caring for Country in environmentally sustainable ways for over 60,000 years. This ancient system of social and political ordering can provide ontological insights into sustainable relationships between self and place. It can prompt us to question the instrumental foundation of Western ethics, which is largely premised on the notion of nature as inert matter devoid of ethical standing, and can inform thinking about and interaction with place (Plumwood 1990). It can also prompt us to expand the philosophical lenses of inquiry from being, knowing, and valuing to include doing, because—as Mary Graham (2014) argues—ethics is a practice which is embedded in, and emerges from, place.

3. Ongoing self- and peer-assessment

DRT facilitates meaning-making through sustained engagement in genuine dialogic inquiry with attention to on-going self- and peer-assessment in response to the collective doubt of the community. The practice of ongoing self- and peer-assessment (also called self- and group-correction, self-monitoring or self-regulation) is frequently articulated in the literature specific to the field of dialogic pedagogies and Philosophy for Children (see Burbules 1993; Dewey 1997; Lipman 1991; Splitter & Sharp 1995). However, the literature generally refers to the students' ongoing attention to the quality of the reasoning and the procedural aspects of inquiry. The study extends the meaning to include 'the ongoing interaction between metacognitive practice and reconstruction of the learning experiences' (Fynes-Clinton 2018, p. 53). Metacognition refers to 'a range of complex understandings evolving through a process of reflective

analysis, internalisation and reconstruction of one's thoughts and actions' (Fynes-Clinton 2018, p. 53). In this sense, ongoing self- and peer-assessment provides a way of internalising the process of collective self-correction as a habit of mind.

The self- and peer-assessment we refer to here is not formative evaluation whereby students are asked to reflect on their participation at the end of each inquiry session by evaluating the types of thinking and acting that are valued in a COI using checklists or a scale of responses from 1 to 5. It is a rigorous, ongoing metacognitive process that permeates all aspects of the inquiry. Metacognitive questions are interwoven into the discussion and become an internalised part of the thinking process. In the early stages of DRT, these questions would be asked by the facilitator, especially in a teaching COI, but as the students' DRT capacities increase, the questions become an internalised part of the inquiry process as they learn to self-correct and think as a community. The skills required for this level of reflective practice need to be taught and practiced continually during COI sessions and in conjunction with any new learning. The aim is to cultivate a sustained interrelationship between ongoing metacognitive practice and reconstruction of prior learning within the community (Dewey 1997). Sustained reflection and self-correction are considered essential to classroom dialogue. When reflection and self-correction become a habit of mind, students learn to reconstruct their thinking experiences as individual thinkers and collectively as a community. The study identified a convincing impact on students' thinking capacities during the sessions through the practice of ongoing self- and peer-assessment and this can extend to other learning areas and their lives beyond the classroom. A collective culture of self-corrective agency can potentially arise when the students take on shared authority for their learning and have opportunities to share their personal connections to the ideas under discussion. Ongoing self-and peer-assessment is necessary for building a self-correcting community, and, thus, for fostering a self-correcting society akin to that described by Dewey and Plumwood. Further, through the process of sustained engagement in philosophising, combined with ongoing metacognitive practices, many students began to take on the identity of apprentice philosophers, drawn to fundamental questions and philosophical abstraction (Fynes-Clinton 2018, pp. 140–142). The following quote demonstrates a Year 6 student's use of personal experience to reflect on the value of examining doubt, suggesting the exploration of doubt will help students establish beliefs that resonates with them resulting from collaborative inquiry.

> I think we need to explore our doubt to get a – like a better belief towards it … personally this happened to me, I didn't want to be riding on the

> first day but you needed to have that genuine [doubt] to get, you needed to explore the doubt in order to find something that you like. So, it's not always going to be open … you need, like sometimes you need to go under the wall to get through the doubt. (quoted in Fynes-Clinton 2018, p. 170)

The student also used analogy to propose that this process is not always straightforward ('not always going to be open') and that we may need to overcome barriers to settle a belief ('go under the wall'), thus, providing an example of how students can use the tools of inquiry to support an argument. Interestingly, his self-correction is also evident through the ways he revised his thoughts as he was sharing them with the community.

Thus, DRT facilitates students' capacity to add complexity to the discussion while also enabling other participants to understand and engage with the new ideas through sound peer modelling, relevant shared dialogue, and mastery and modelling of the use of the intellectual tools and practices. This provides an illustration of Lev Vygotsky's (1978) notion of the zone of proximal development (ZPD), which refers to the space between a child's independent ability to solve problems and their potential ability when supported through the process by adults or 'more capable peers' (p. 86). As the study shows, application and interconnection of the four key elements of DRT can elicit multiple ZPDs within the community, and further to this, multiple interconnected ZPDs cultivate the emergence of philosophical agency.

4. Examination of epistemic doubt

The importance of doubt to inquiry sits at the heart of Peirce's pragmatism. Peirce (1868) contrasted the genuine *feeling* of being in doubt with feigned or paper doubt—doubt for doubt's sake. Doubt is not something that we should pretend to have, but rather something that appears somatically. It is this feeling of doubt that Peirce thought should motivate inquiry. DRT develops students' capacity to *sit with* doubt during the inquiry process. However, students' consideration of genuine doubt is not always explicit in a COI. The facilitator needs to remain alert to students' tentativeness with ideas, sharing their uncertainty, questioning, disagreement, counterexamples, and persistence with their own idea as sometimes, but not always, these responses can indicate underlying doubt, as can body language such as fidgeting or frowning. Further inquiry questions may then be required to enable the doubt to surface so that it can be collectively examined by the community, thereby becoming collective doubt (Fynes-Clinton 2018, pp. 157–173).

The examination of doubt (as both a concept and feeling of disequilibrium), as an integral part of a COI, can provide students with a deeper understanding of doubting and the way in which it instigates an inquiry process, wherein our belief-habits no longer offer us confidence to accept them as an explanation of reality. Sustained intellectual inquiry interwoven with ongoing metacognitive practice (see Figure 2) can cultivate an attitude of fallibility, whereby students develop a willingness to experience cognitive dissonance and openness to sustained uncertainty. An understanding of fallibility, arising through the practice of ongoing self- and peer-assessment, enables students to see that very few beliefs can have the sort of justification that guarantees the truth of a belief. This was demonstrated during the study, where students' capacities to philosophise increased, and they developed greater willingness to sit with uncertainty as they came to regard uncertainty and epistemic doubt as necessary conditions for collaborative philosophical inquiry (Fynes-Clinton 2018, pp. 170–174).

Below, a Year 6 student shares his thoughts on the links between wonder and doubt.

> I think wonder and doubt are related 'cause, so I think wonder leads to doubt 'cause well that's if you're kind of, if you're a deeper kind of thinker then wonder leads to doubt but then if you're just kind of a surface thinker like 'oh I wonder this, then you kinda s[ay] okay next'— and then, that's not really going anywhere but if you wonder you know things and then you start thinking more deeply about it then you come to beliefs and then you doubt those beliefs to see if they're true … and then eventually you tweak your ideas and they get better and better ... (quoted in Fynes-Clinton 2018, p. 164)

This example demonstrates his openness to uncertainty through his explanation of the ways in which the examination of one's epistemic doubt can lead to deeper knowledge and understanding. However, not all students demonstrated a move from epistemic doubt cultivated by the community to genuine doubt. Their capacity to do this was dependent upon their substantive understanding of the issues at the time and their level of inquiry skills. Students need time and skill to consider and reflect on the genuine doubt of the community and its possible influence on their own thinking. Doubt may become internalised if the students become personally connected to an issue with a level of intensity that drives them to take some form of action, and they no longer view the issue as an exercise mandated only by the school curriculum (Fynes-Clinton & Renshaw 2021, pp. 9–22).

The interconnections of the four key elements of DRT

Interconnections are key to all four elements of DRT sketched above, and essential for the practice to reach its full potential. The DRT process builds the students' capacity to connect new ways of inquiring as each element is introduced to them through inquiry and expanded upon throughout its continued practice. As new aspects of the learning are introduced, students are required to bring the previous learning forward to build their repertoire of capabilities and consolidate their understandings. When introducing the DRT method, the procedural elements are the initial focus. The tools and processes are introduced through the teaching COI, and as the students begin to understand and apply these practices, the focus shifts to include substantive elements of COI. Through the teaching COI, the students are encouraged to connect prior learning and reflect on how the tools and processes enable deeper substantive exploration. It is relevant for the community to explore epistemic doubt conceptually, but it is the habit of self- and peer-assessment that develops student willingness to sit with epistemic uncertainty when examining contentious issues. Self-and peer-assessment is continuously interwoven into all DRT practice and forms the thread that enables students to connect the learning. This ongoing process builds students' capacities to internalise and habituate the metacognitive processes that facilitate the interconnections of the DRT elements.

DRT encourages students to focus on their reconstruction of the tools and processes within substantive philosophical discussion, by drawing attention to connections between their own thoughts and the skills and processes they used to arrive at their current understanding. The intellectual skills and processes facilitate the examination of genuine doubt which is inextricably linked to self- and peer-assessment. As the study showed, hearing others examine their beliefs can prompt students to revisit their own understandings and, in some instances, disrupt their currently held views. When this happens, students will often share their disequilibrium, thereby enabling collective examination of genuine doubt, and eliciting a process of self- and peer-assessment (Fynes-Clinton & Renshaw 2021, pp. 17–22). Through experiencing this process, students build the capacity, individually and collectively, to reconstruct their thinking in response to new understandings. Moreover, the examination of information through a sustained process of critical evaluation, reflection, and reconstruction facilitates students' capacities to respectfully disrupt views that cannot withstand this level of scrutiny. As one Year 3 student put it:

> ... Before this I didn't really take philosophy that seriously … you know I didn't think of it much now I think it's serious … Well I mean not exactly serious … I'm not saying serious as in tragic or anything but like really um important—something that you need to really wrestle with in your mind and stuff. (quoted in Fynes-Clinton 2018, p. 146)

DRT with its emphasis on genuine doubt and on-going self- and peer-assessment to develop students' capacities for collective self-correction is in line with Dewey's (1916) understanding of education in its broadest sense as 'the social continuity of life' (p. 3), and herein lies its value. As Dewey says: 'Since education is not a means to living, but is identical with the operation of living a life which is fruitful and inherently significant, the only ultimate value which can be set up is just the process of living itself' (p. 239). Education, therefore, is 'a process of living and not a preparation for future living' (Dewey 1897, p. 78). On this view, education is a form of cultural renewal, a learning process responsible for the continuity of what it means to be part of culture. But, for Dewey (1916), education is also growth; the constant 'reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience' (p. 76). Dewey defines growth as 'a continuous leading into the future', not to be mistaken for

> attaching importance to preparation for future need, but in making it the mainspring of present effort. Because the need of preparation for a continually developing life is great, it is imperative that every energy should be bent to making the present experience as rich and significant as possible. Then as the present merges insensibly into the future, the future is taken care of. (p. 56)

This growth as continuous reconstruction of experience increases autonomy—the ability to direct and control our lives. Hence, the future is taken care of in the present; what children and adolescents experience today will merge with their experiences tomorrow as active and informed adult citizens.

Conclusion

Students involved in DRT practice democracy as a deliberative process and, thus, contribute to the development of a self-correcting society, which is the defining feature of democracy. It is, as Dewey said, a mode of associated living. In this sense, DRT represents an important step in increasing the self-correction of education in that it holds the potential to disrupt existing systems and practice. Based on the findings of the study, we argue that DRT has the potential to assist students to navigate the multifaceted changes taking place in the world today. The COVID pandemic brought with it the question of how to effectively engage students in learning activities as societies moved from physical attendance to virtual attendance, and meetings and classes conducted in outdoor environments became more common. Additionally, the rapidly increasing sophistication of artificial intelligence calls for novel ways of learning and being, and the need for different sets of work skills. If climate change continues its current trajectory, it is set to change the way the world works in increasingly dire ways, along with all the systems that are built on the relatively stable Holocene. To deal with increased uncertainty, the last of the four elements of DRT is particularly useful. A world racked with uncertainty is a world racked with doubt. Teaching students to turn doubt into inquiry, then, as DRT does, turns a potentially unpleasant or even harmful experience into an adaptive capability. The key elements of DRT provide teachers with pedagogical strategies for cultivating the practice of collective doubt, which is essential for the kind of self-correcting inquiry needed for deliberative democracy and, thus, for achieving a self-correcting society which Plumwood has argued is in turn necessary for responding to ecological problems.

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