Smashing Down "Old" Ways of Thinking: Uncritical Critical Thinking in Teacher Education

Matthew Etherington

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Abstract

The application of critical thinking in teacher education today enjoys universal approval at most levels of learning and unites educators. However, there is one view of critical thinking that is grounded in a progressive notion of education that perceives traditions, that is, nonscientific ways of knowing, as an impediment to learning. The educator's role is to encourage an abandonment of "old ways of thinking" and adopt a pragmatic interpretation of critical thinking. The author recounts an example of this and then argues for an inclusive perspective of critical thinking that includes all traditions.

Introduction

At a recent conference of teacher-educators, participants had the opportunity to hear—in one double session—different understandings of critical thinking integration in teacher education. The first pair of presenters, both education professors, described in detail an approach by which student teachers were taught to integrate critical thinking based on the following definition. "Critical thinking" they said, "is the smashing down of old ways of thinking" (personal communication, May 2014) and "the purpose [of critical thinking] is to always rock their boat" (personal communication, May 2014).

In the question-and-answer time, the professors clarified their definition as "utilizing new and innovative ideas and not previous [old] knowledge or values from a bygone era" (personal communication, May 2014). While their original definition of "smashing down old ways of thinking" remained, in the question time they spoke about their ultimate objective to advance critical thinking skills by steering their education students toward reason, logic and scientific evidence. No one present in the room (except the author of this paper) showed any surprise that education professors would choose to use the phrase "smashing down old ways of thinking" in relation to critical thinking.

This lack of surprise and the experience itself is worth labouring over. The professors' definition of critical thinking disregards learners who value so-called "old knowledge," which has in many cases been passed down from family, community and Elders. Second, their definition tacitly promotes the view that knowledge from the past is simplistic and an impediment for thinking effectively (abstractly). If such a definition were acted upon, the diverse epistemologies

that Indigenous and non-Indigenous learners bring with them to the classroom would be ignored. Moreover, a homogenous ideal of critical thinking would dominate and, finally, current educational policy that encourages diverse ways of thinking would be abandoned. Last of all, a false dichotomy would be established between "old ways of thinking," which is perceived as traditions lacking logic, reason and evidence (Widdowson 2010), and so-called new ways of thinking, which are assumed to be logical, reasonable and evidence based (Egan 2002).

Professors have been entrusted with the welfare and education of all learners, and with this responsibility a learning environment that perceives critical thinking as the "smashing down of old ways of thinking" not only overlooks the holistic nature of knowledge and knowing but fails to generate a safe place for all students to learn. The "smashing down of old ways of thinking" in education is not consistent with promoting cultural inclusiveness for Indigenous learners and their families set within a growing multicultural society (Samuels 2010).

So, can education students retain their "old ways of thinking" and still be capable of thinking critically, or should they first agree to criteria by which education faculty determine when "old ways of thinking" interfere with critical thinking and cannot enter the fray? In the central sections of this paper, the author considers this principal question in light of the insights of John Dewey's pragmatic views of thinking critically, advocates of critical thinking and the possibility of making space for living traditions within the classroom. Some suggestions are then raised to consider the prospect that "old ways of thinking" and other ways of thinking can peacefully coexist in any critical thinking model for teacher education students.

Background and Influences

The phrase "smashing down of old ways of thinking" is a progressive rational feature of education, which is consistent with two unfortunate features of Western ways of thinking about education today: the rampant pragmatism and the concomitant devaluation of nonscientific traditions.[1] In the context of higher education, pragmatism is understood as "every situation learners encounter is in some sense unique" (Biesta and Burbules 2003, 13). Pragmatic critical thinking does not necessarily draw on knowledge from the past, but has a dialectical progressive future-oriented approach to creating new knowledge. Traditional education that includes traditional ways of knowing is then portrayed as old knowledge and considered to make students passive recipients of other's ideas (Egan 2002).

Although progressivist standards have a long history in education, progressivism as an educational ideal is often associated with the Eurocentric views of Herbert Spencer in the 1850s and advanced by John Dewey, who made progressivist principles and democracy in education increasingly popular (Egan, 2002). In T*he School and Society*, which began as a series of lectures given to parents, professionals and others, Dewey (1956) mobilizes this approach as he imagines a pragmatic application of critical inquiry drawing from the ideas of an individual and never those of another man (sic) (Fallace 2010). One of the central ways of achieving this for Dewey was through the scientific method, which he considered the most reliable process for understanding reality and locating truth (Gribov 2001). Dewey's pragmatic philosophy is important for inclusion in this discussion because it echoes the interpretations of critical thinking held by education instructors who publicly announce that critical thinking can only be achieved by the "smashing down [of] old ways of thinking."

Although Dewey's philosophy of education has much to offer teaching and learning today, he did not "recognize the world's culturally diverse knowledge systems, or how different knowledge systems are based on intergenerational knowledge and inform people's lives meaningfully" (Bowers 2005, 17). Dewey did not understand that nonscientific traditions are not necessarily an obstruction to scientific ways of thinking critically (Bowers 2011), but instead give meaning and attentiveness to the culture and worldview in which people are embedded (Groome 2001; Valk 2007).

A further misunderstanding can be seen in *School and Society*, in which Dewey (1956) wrote, "Many anthropologists have told us there are certain identities in the child's interests with those of primitive life … There is a sort of natural recurrence of the child mind to the typical activities of primitive peoples" (p 48). Because Dewey understood the social world of learning as a series of developmental linear steps from simple to advanced, it is not surprising that Dewey disparaged traditional perspectives of learning and thinking in colleges and universities and advocated the superiority of a progressive "scientific definition of mission and identity" (Johnson 2010, 23). Dewey assumed that including traditional knowledge or

perspectives to examine concepts, ideas or topics other than the scientific method would make the pupil a mere passive recipient of others ideas—a slave—an affair of telling and being told (Egan 2002; Fallace 2010), leading to "old ways of thinking."

Unfortunately, the view that traditional ways of thinking lead to passive thinking and that to be a visionary and forward thinker requires educators to "smash down old ways of thinking" offers a narrow, simplistic and unhelpful dualistic approach to knowledge in general and critical thinking in particular. All knowledge is passed down within a particular tradition. Second, it simply does not follow that just because a learner incorporates their tradition to analyze an issue, concept or event, they are inevitably passive thinkers. Since the 1960s the academy and contemporary teacher education have recognized, at least in theory, that a multiplicity of epistemologies are valuable for understanding reality, especially important within diverse Western societies today (Government of British Columbia 2015; Peters, 1967).

Well over ten years ago, Marsden (1997) argued that there was a growing world view perspective in education informed by advocates of John Dewey's pragmatic beliefs about learning that should be recognized because of its antagonism towards traditions and traditional thinking. Marsden (1997) explains

> This philosophy is found in the spiritual descendants of John Dewey where the tendency has been to absolutize the pragmatic method in education. Absolutized liberal pragmatism has little tolerance for different perspectives and in particular groups that hold to traditional ways of thinking that might challenge the pragmatic absolutes. (p 26)

What it means to think critically is then wedded to a rational orderly methodology drawn from "rigorous scientific evidence" and emphasized over opinion-based and subjective decision making. The key point is that, comparable with scientific pragmatism, "effective" pedagogy should not include traditional epistemologies that are "unscientific". In fact, no one understood this better than John Dewey (Spears and Loomis 2009).

The author suggests that the source that entails one to conclude that critical thinking requires the "smashing down of old ways of thinking" is rooted in the pragmatic philosophy and advocates of John Dewey. This forceful progressivist Eurocentric notion of learning promotes a shift from the locus of authority reflected in the local community and family to that of the "enlightened" modern pragmatic institution. As a consequence, rather than draw upon the perspectives offered by both traditional and pragmatic ways of critical thinking, the precepts that inform learners with traditional epistemologies are largely discounted as irrelevant—knowledge to be "smashed down."

From the Is to the Ought

It is suggested that if critical thinking really entails the "smashing down [of] old ways of thinking," learners are left with a narrow and discriminatory epistemology devoid of other ways of thinking and knowing. The phrase fails to include the subjective and the intuitive voice of all learners, leaving students ignorant of other realities. It also presents a false dichotomy of choosing between traditional [and] scientific thinking. Hurley and Hurley (2013) suggest that setting up false dichotomies like this could require the teacher to identify her students with a strong adherence to social convention and submission to traditions and authorities, and describe them as displaying a skills deficit (see also Widdowson 2010). Contemporary ideas and methods, Egan (2002) notes, "present learning as some kind of binary moral choice between the traditional, passive, forced, and vicious and the progressive, active, reliable and rational" (p 45).

The concerns levelled against an adherence to social conventions are an abuse of critical thinking that was precisely the criticism Socrates launched against the Sophists and their teachings. Certainly some beliefs or values are unhelpful and could be even harmful for critical thinking, but the "smashing down of old ways of thinking" is far removed from this perspective and as such has moved away from the intellectual virtues—in particular the virtue of intellectual humility (Bowell and Kemp, 2002). Similarly, Portelli and Hare (1996) argue that critical thinking essentially requires the learner to reflect humility and a commitment to learn from others. In the spirit of humility, one would be better served to reflect upon a sensitive or controversial issue within its context, where there are supporters and detractors on both sides, and then attempt to understand the thinking of another person. Critical thinkers could then examine and evaluate the details—scientifically and nonscientifically for the reasons offered. This would confirm to learners that there are other ways of knowing besides only a scientific approach. In fact, Smoker and Groff (1996) list three categories of legitimate knowledge in the world in addition to

scientific knowledge that could be included as critical thinking. These comprise the mystical/spiritual, knowledge from Indigenous peoples and organized religion, and knowledge from fundamental traditions and beliefs.

The challenge here is that some educators do not see the value of traditional knowledge in the same way as traditional groups do (Tanaka 2009). Knowledge is important only for what it can *do*. Knowledge is supposedly important only if it is useful, and what is measured as useful is obvious only to those who share progressivist principles, which render traditional knowledge as simple and scientific knowledge as complex (Egan 2002). This view presupposes a narrow and timeworn perspective of legitimate knowledge from a bygone era of the 1930s, that is, logical positivism.[2]

If we accept a privileging of scientific knowledge in the academy, we would have to also discard the traditions of art, literature, music, history, mathematics and many other fields of human endeavour that are essential aspects of the modern world but are grounded in traditions that do not depend on the scientific method for validation (Bailey 2014). Furthermore, no scientific endeavour could even begin without some set of received nonscientific beliefs, since science itself operates within traditional frameworks of assumption that cannot be empirically verified on scientific grounds (Kuhn 1962).

Critical thinking does not have to be understood in this way. The inclusive educator can offer a more comprehensive epistemology for consideration. Rather than ask the learner to adopt *the* critical view on an issue, which might assume that there is only one way to think, the teacher and learner take account of alternate stories and competing points of view while not jumping to judgment. The freeing of minds to think critically about issues would occur at the same time for developing awareness of the traditions in which all minds are embedded. Unfortunately, a posture that evaluates anything outside of the logic and rationality of science as being uncritical and even deceptive (Widdowson 2010) leads to instructors thinking that their role really is to "smash down old ways of thinking".

If scientific knowledge is only one epistemology, then critical thinkers should not be expected to draw merely on scientific knowledge.[3] The scientific bases, "while not superficial, do represent only a surface level of a complete understanding of the subject" (Bransford, Brown and Cocking 1999, 14). Also, as previously noted, to compartmentalize knowledge as scientific or not is to fail to recognize knowledge holistically, interwoven and interdependent. The obvious problem with compartmentalizing knowledge must be considered if critical thinking does not fall further into an epistemological prejudice of colonialism, where a Eurocentric education system has taught learners to distrust traditional–spiritual knowledge structures (Widdowson 2010).

Critical thinking should not require the learner to divorce themself from their traditional beliefs but rather [to] be free to share their views and be prepared to dialogue within the public domain of education and schooling. The often neglected question asks if a pragmatic application of critical thinking divorced from received traditions and values should be expected from a learner who values their traditions to make sense of the world. This should be decided by individuals who embrace a living tradition and not by those who do not. What a learner values and the knowledge they extract from their traditions should not comprise a "smashing down of old ways of thinking" but a humility that seeks to understand why a learner adopts the knowledge and values they do.

The Importance of Living Traditions

For thousands of years, traditions and intergenerational knowledge have been fundamental to how people have lived in societies and cultures. Today, living traditions provide a family-flourishing and family-preserving reality integral to identity formation. Kroeker and Norris (2013) note that "to be raised in a particular tradition provides a necessary sense of identity and stable moral environment from which to explore the world" (p 310).

A living tradition adopts not only factual propositions but, more important, value claims (Vaidya 2013) and so is often linked to a person's identity—their core being. Critical thinkers should be encouraged to retain their traditional epistemologies because traditions provide knowledge, context and value (Pelikan 1992). However, if traditional beliefs or practices prevent the forces of innovation and individual emancipation for thinking (Bowers 2011), then educators would have a compelling reason to encourage the adoption of pragmatic scientific practices of critical thinking and discourage nonscientific epistemologies, although this would have to be discussed and informed by all stakeholders. Nonscientific traditions are not in opposition to

scientific ways of thinking critically, but rather provide an awareness of the culture and world view in which one is embedded and shared (Bowers 2011; Groome,2001; Valk 2007).

Traditions are important for critical thinking because they are owned by people and are part of their story; consequently, the educator role is to be a "mediator between the young person and their tradition" (Huebner 1999, 383). Having a traditional frame of reference also makes a difference in how the data of human experience are seen and understood. Traditions are vital for critical thinking because they offer students some further questions to be answered, some additional theories to be examined and some alternate projects to be undertaken, all of which should be of interest to a comprehensive education (Porath 2013).

Traditions are carried and embodied in people and communities located in people and in the present (Huebner 1999). If traditions are anything that is handed down from the past to the present and are a way for people to determine what is real and valuable, then educators ought to be gracious hosts and include traditions in the learning process, whether it be public or private institutions of learning. There must be public spaces available in higher education for the conflicts that young people have with the knowledge, reality and values that higher education advances.

We can take an example of the importance of traditions and how they are understood within community from the traditional Māori people of New Zealand. In traditional Māori belief, there is something beyond the cramped world of everyday empirical experience. They do not live in a closed system where what we see is all there is (Barlow 1994). The traditional principle of interconnectedness and intergenerational knowledge is important and meaningful to the Māori people.[4] Their living tradition includes not only the physical world but beyond the physical—the metaphysical or spiritual—with intergenerational knowledge passed down as truth from one generation to the next. For the Māori people to think effectively entails the inclusion of their traditions.

No one creates their own reality from scratch, because we are all embedded in traditions. Traditions provide a normative force that holds a society together (Shills 1981). They provide remembered stories that "render a community or culture capable of ordering their new experience in a manner consistent with the story" (Hauerwas 1981, 54, cited in Fernhout 1997, 86). Traditions are re-enacted and shared as knowledge between past generations and a younger one. They are a core feature of being human in community with likeminded people. Traditions are accumulated understanding and provide a pattern of thinking that guides action. All societies, including Western societies, have been guided by both scientific and nonscientific traditions. Those who suggest that critical thinking can happen only when one discards their nonscientific or traditional beliefs (Widdowson 2010) is described by Bowers (2011) as antitraditional traditionalists. Scientific thinking is itself rooted in a long-held tradition.

Education is also embedded in a tradition, and so Wineberg (2008) argues [that] education can be open to other views of reality and by doing so becomes a gift of hospitality. Educators act as good hosts, inviting young people into an open space of community and life together. Community life has a commitment to traditions and education acts hospitably to make room for the young person in the life of the community.

The Waning of Traditions in Education

It was evident that the waning of traditions in education gained momentum in the 1970s and 1980s. Nash (1988) argued that in the 1970s and 1980s there was already a prevailing view in higher education that we had arrived at a stage of civilization at which the family is irresponsible or incompetent, parents cannot be expected to raise their children properly, and education must step in and make the best of a bad job.

In the late 1980s, Tyson-Bernstein claimed that we had an education system that celebrates progress in the new and up-to-date over the old or "irrelevant" (Tyson-Bernstein 1987). Also in the late 1980s, Bowers (1987) anticipated an exclusive practice in higher education becoming widespread that was hostile to traditions or nonscientific ways of thinking. He suggested it had justification in the assumption of an inherent pragmatic view of change—that is, the rational process is the only way of knowing and the individual is the ultimate source of authority.

A privileging of the rational scientific method in education also reflects the views of Levinson (1999) over ten years later, who maintained that critical inquiry and reason should *not* have to respect the beliefs or intergenerational traditions of a child's family, home or community, but in fact focus on achieving autonomy *from* the parents' beliefs and

home community. Critical thinking was advantageous simply because it could "liberate" students from unquestionably accepting what others try and persuade them of—namely nonscientific traditions (Bowell and Kemp 2002). As critical thinking is student-centred learning, it was even lauded that it could be used to "evaluate people" (Duron, Limbach and Waugh 2006, 1).

The waning of traditions presents students with perspectives of the world and their role in it. Far from being neutral, the waning of traditional ways of thinking critically in education essentially says to its future generations, this is how we would like you to be and how we would like you to think. With such an inherent bias, one might naturally ask if all learners can see themselves represented at all in the teaching and learning.

Why Critique Critical Thinking at All?

Critical thinking is identified by the Partnership for 21st Century Skills (Lai 2011) as a skill necessary for postsecondary education and the workforce. There is nothing new here, as educational instruction in critical thinking geared with the workforce in mind has been practised in several countries for over a hundred years (Hirsch 1996, 136). However, less attention has been paid to the historical roots or advocates of critical thinking or even *why* critical thinking is so important that it enjoys status on most education documents.

The fact that learners in teacher education are encouraged to think critically is significant; however, it does not imply that they *ought* to think critically or, more importantly, that thinking critically should privilege some beliefs at the exclusion of other beliefs (Vaidya 2013). For example, Widdowson (2010), in her article "Critical Thinking, Secularism and Mount Royal University: Is 100 Years of Progress Under Threat?" assumes that critical thinking and traditions with no scientific evidence such as religion, spirituality and Indigenous spirituality are incompatible. In a similar vein to other voices, Widdowson champions critical thinking, but only within the confines of scientific investigation, describing science as evidence based and reliable while holding the view that other nonscientific belief traditions are antiprogressive. She argues that because of the "mandate of postsecondary institutions to encourage critical thinking" (p 2), "allowing other beliefs to enter higher education such as spirituality into Aboriginal programs and services, should be a concern for all people who value the promotion of critical thinking in educational institutions" (p 6). Nonscientific beliefs have no credibility because they apparently produce a lack of critical thinking. Widdowson is of the view that scientific thinking is the only way one can think critically.

Rational intuition does inform most of us why it is better to be a critical thinker rather than a noncritical thinker. As Nord (2010) argues, if students are not encouraged to question or think seriously about particular issues we would not describe their education as comprehensive, but rather indoctrination; so a correct practice of critical thinking is clearly important. Nevertheless, Howard Gardner (1993) points out that critical thinking understood or applied as a universal concept is deeply flawed. A common confusion, Gardner suggests, is that critical thinking is often described in a broad general sense in which a person is trained to be "*a* critical thinker," yet this is not helpful. Particular domains of learning require their own particular brand of thinking critically (Bailin 2002; Willingham 2007). For example, a car mechanic's diagnosis of car trouble is more credible than a doctor's. Gardner goes on to list musicians, biologists and historians, all of whom value critical thinking but do so very differently. In the end, researchers and practitioners cannot agree if critical thinking is general or subject specific (Lai 2011).

Naturally, the same would apply to nonscientific intergenerational traditions. How do people with traditions understand and apply critical thinking to reality? What types of knowledge inform their cosmology? How would, for example, a learner's indigeneity inform their values about the purpose of education and schooling? For Indigenous people, the goal of education might be to sustain the wisdom and teachings of Elders and intergenerational knowledge, spiritual perspectives and understanding. Critical thinking would then entail an investigation for finding the most meaningful enduring method to transfer Indigenous perspectives and knowledge to the young.

An Uncritical View of Critical Thinking

Critical thinking is perceived to be important for educators and students because of the enhanced satisfaction, understanding and advanced memory it

brings. Paul (1993) maintains that one gains the satisfaction of increased knowledge and understanding *only* through critical thinking. Cultural critic bell hooks (2013) supports critical thinking as a practice of freedom to fulfill our mandate as educators to be of compassionate service to students as whole people.

And yet an education that does not include other beliefs, world views and cultural understandings is implicitly fragmented and hostile to learners who hold other beliefs and intergenerational traditions (Groome 1998; Kanu 2011). Regrettably, within institutes of education there are minimal attempts to offer educators or teachers an understanding of intergenerational traditions beside the scientific pragmatic one (Nord 2010). Because instructors are products of an education system that taught them fragmented bits of meaning and were never encouraged to connect those meanings, they are oblivious to the pros and cons of the philosophies that guide their practice and as a consequence are uncritical of Dewey's scientific pragmatism as an absolute (Gatto 2010). The sociologist Lori Beaman (2006) offers an explanation from a Canadian perspective:

> In Canada our strong roots in Marxist sociology has given us a rich critical tradition, but has also resulted in a simplistic dismissal of traditions such as religion as unimportant to the study of society, an approach with which Marx himself surely would have disagreed. (p 2)

Beaman highlights that Canada is currently being realized through immigration and those who are coming to the country often bring with them intergenerational traditions, or what might be called nonscientific ways of understanding the world as outside of or on the margins of those traditionally dominant in Canada. In a country that touts multiculturalism and diversity as symbolic markers of our civility, Western educators are clueless how to think about or include other ways of knowing in any deep or purposeful way. Western intellectual traditions have repeatedly dismissed traditional knowledge types, such as Aboriginal, spiritual or religious, as inconsequential and unfounded, which only serves to decrease Canada's funds of knowledge (Gonzalez, Moll and Amanti 2005). Moreover, the refusal to "access the knowledge and wisdom of others produces self-fragmentation in us all" (Kanu 2011, 15).

Dewey's relationship to Marxism can offer some explanation regarding the authority that pragmatism has over the form and content of critical thinking in education today (Brooks 1994). Similar to Marxism, John Dewey stressed the production rather than the passive receipt of knowledge. What one considers a "passive receipt of knowledge" in Western education can be described as an "old way of thinking" (personal communication, May 2014), or by Indigenous, cultural and religious groups as living sacred intergenerational knowledge (Bowers 2011; Kanu 2011; Valk 2007).

Yet Dewey confirms his scientific views regarding traditions when he confessed that, "routine traditions are unthinking habits and enslave us as they reproduce no intelligence" and that knowledge of the past is like a photograph and that is all (Bowers 2011, 62). On another occasion he confessed that "we ought to make an effort … to omit the useless and antiquated and to get the best and most useful as soon as possible" (Egan 2002, 28). Dewey seems to imply Plato's definition of the slave (Brooks 1994) maintains that traditional epistemologies are "routine traditions and unthinking habits." According to Fallace (2010), Dewey was a linear historicist {p 472). This is a belief that "all the societies and cultures of the world could be placed on a single continuum of social progress leading through the stages of savagery, barbarianism, and civilization and that the earlier childlike forms still existed in the world among primitive tribes." Dewey and his collaborators held these beliefs. (Fallace 2010).

The philosophy that informs what it is to be a critical thinker, as expressed by the "smashing down of old ways of thinking" statement, is comparable to the progressive views of learning given by John Dewey—science is the only reliable source of knowledge, and Western ideals of progress the only constant truth in life.

The historian Stephen Prothero (2008) maintains that many graduates of Western higher educational institutes are illiterate of the traditions that so many people embrace and so "we need better education and not because it is wonderful to be multicultural but because the world's religious traditions are no longer quarantined in the nations of their birth, they now live and move among us" (p 3). Integration of all traditions in education is thus a necessary and respectful means for understanding and learning and requires full participation for all learners in society.

The Foundation for Critical Thinking is an educational nonprofit organization committed to change in education and society through the cultivation of critical thinking. As a representative of the foundation, Paul (1993) outlines the concern they have with the critical thinking movement in contemporary higher education. The foundation maintains that although

more people are being taught critical thinking skills today, many are still unable to enter and consider viewpoints with which they are unfamiliar or disagree. They uphold that by promoting logical thinkers and fostering critical thinking abilities in others, one must first develop particular virtues. The foundation offers a list to consider which Paul (1993) summarizes as fair-mindedness, intellectual humility, intellectual perseverance, intellectual courage, intellectual empathy, intellectual autonomy, intellectual integrity and, finally, confidence in reason (Paul 1993).

In other words, critical thinking is more than just skills. It requires a certain disposition, an intellectual humility and hospitality to other epistemologies. Critical thinking could then embrace pragmatic and nonpragmatic ways of knowing, reality and value. It would honour every aspect of being human and that includes different types of knowledge and interpretations of the world. Groome (1998) suggests that educators should be in regular conversation and partnership with communities and their traditions. Schools and higher education cannot be out of touch with "human feelings and emotions, productivity and creativity, the personal and social, the individual and relational, the spiritual and ethical, corporeality and sexuality, memory and imagination, as well as reason" (Groome 1998, 285).

Although it would be a mistake to suggest that the education system is intentionally hostile to nonscientific traditional ways of knowing and understanding, the organization of higher education is reinforced to expect the student to learn as an objective observer of an external world. Representations of everyday reality are decontextualized and reinterpreted by scientific ways of knowing (Bai 2006). Change and progress is understood as inherently linear by individuals such as John Dewey (Fallace 2010) and educators who profess to the "smashing down of old ways of thinking" (personal communication, May 2014), and to be a critical thinker one must adhere to a constant quest for the new and innovative (Groome 1998). The problem is that with all the gains of the new and innovative comes a loss of traditions. The importance is given to teaching the subject, while the person becomes the object. This is evident in the language that educators use to talk about what they do (Groome 1998, 289). For example, when teacher-educators are asked, "What subjects do you teach?" Groome notes they refer to the "thing" being taught as "the subject." This implies that the students are the "objects" of education— abstract entities without context—things to be worked on.

Critical Thinking as Liberation? Some Other Ideas from the Field

Various commentaries on critical thinking rarely question or scrutinize the concept or practice (Browne and Freeman 2000). In the literature, critical thinking is discussed from either the philosophical or the cognitive–psychological perspective. In the philosophical, the portrait of the ideal critical thinker is "someone who is inquisitive in nature, open-minded, flexible, fair-minded, has a desire to be well-informed, understands diverse viewpoints, and is willing to both suspend judgment and to consider other perspectives" (Facione 1990, cited in Lai 2011, 5). In the cognitive–psychological, critical thinking is the type of actions, strategies, behaviours or list of skills or procedures a person can do (Lewis and Smith 1993). The educational approach to critical thinking represents itself in the work of Benjamin Bloom, comprising the three levels of analysis, synthesis, and evaluation (Kennedy, Fisher and Ennis 1991).

Halx and Reybold (2005) wrote the following: "Reilly, a professor in the humanities, views critical thinking as an epistemology of knowing, claiming that 'students must abandon their [old] ways of thinking'" (p 302). Back in the late 1980s, Glenn (1988) argued that the reason public education had been promoting critical thinking in schools so actively was to "liberate individuals from intermediate traditions and loyalties, in the interest of progress" (p 236). Similarly, Boghossian, a professor who teaches critical thinking at the university level, promotes an education that entails what he describes as a "critical thinking revolution," which, he argues, would require the more "rational" pragmatic thinkers to use interventionist strategies to "liberate" those who are not as "rational" as themselves, such as those who retain to nonscientific ways of knowing and interpreting the world (Boghossian 2012).

Similarly, the goal and process of undergraduate education, Mentkowski et al (2000) contend, should be set within a liberal education that encourages development from "a conformist to a post-conventional way of being in the world" (p 105). Brighouse (2000), who speaks of traditions as religions, describes them as "inferior and repressive" (p 71). Brighouse argues that critical thinking must be liberated from any form of tradition, which tends to limit rationality and critical thinking skills (see also Widdowson 2010).

In a study noting the emphasis that university faculty place on critical thinking, Paul, Elder and Bartell (2004), cited in Halx and Reybold (2005), offer some reasons why critical thinking should be encouraged. They maintain that without critical thinking human beings naturally gravitate towards "prejudice, over-generalization, common fallacies, self-deception, rigidity, and narrowness" (p 296). To end self-deception, Mill (2013) suggests that critical thinking in education should reflect a modernist or scientific standard. Learners should be taught to trust a person's claims only based on repeatability, experience and accuracy. Mill then recommends to move forward with advancing critical thinking in education drawing on science for answers. Mill suggests that educators should consider "the vast body of research in social psychology examining persuasion and attitude change" (p 409).

Although critical thinking is sometimes discussed as a "consideration of other perspectives" (Halx and Reybold 2005, 296), research by Halx and Reybold also gained the following from an interview with a university professor sharing their practice of critical thinking in the classroom:

> It takes a faculty member then—and also other students—to hold that spouter's feet to the fire and challenge [that individual]—one of the things I do is pull students out of their chairs and force them to engage with me—students must be shown how to manipulate and dismantle information. (Halx and Reybold 2005, 304)

Similarly, Widdowson (2010) argues that action should be taken by universities against any tradition that relies on unjustified claims about reality or knowledge. Widdowson maintains that "superstition and irrationality" as opposed to "reason and logic" should not be given any public space (p 4). All religions' traditions, including Indigenous traditions, are based on "superstition and irrationality, and asserting these traditions as legitimate knowledge is an educational disservice" (Widdowson 2010, 6).

In a similar vein to Widdowson (2010), Henderson and Hurley (2013) present a caricature of "noncritical" thinkers who live by their nonscientific traditions by describing them as "right-wing authoritarians" (p 248) and also "traditionalists, intellectually conservative, docile, fearful, suspicious, and egocentric" (p 250–51). They further outline two other "typical" traits, such as having a "strong adherence to social convention" and "submissive to authorities" (p 249). They claim that submissive "attitudes hinder the development of critical thinking skills in the classroom because they inhibit the students' ability to consider other worldviews" (Hurley and Hurley 2013, 249). Although Geertsen (2003) maintains that one characteristic necessary to foster higher-level thinking is a respect for others' views, Geertsen (2003) and French and Rhoder (1992) then imply that students who refuse to reexamine their nonscientific traditional views ultimately have a defective psychological disposition.

However, Paul, Elder and Bartell (2004, cited in Halx and Reybold, 2005, 296) argue that we can and should learn from minority perspectives that have been excluded or silenced. They later suggest that without a careful application of critical thinking, human beings naturally "gravitate towards prejudice, self-deception, and narrowness" (p 296). A more comprehensive view of critical thinking is offered by Pazmino (1994), who argues that receptivity is required to voices forgotten or rarely heard.

The traditional knowledge that a student owns is criticized, ignored and deconstructed. Vaidya (2013) asks if students and instructors are really cognizant of other methods of investigation besides a scientific analysis. She highlights skepticism and credulity as two other approaches to knowledge acquisition. Skepticism is not committed to one reality on a matter, and credulity is a belief that the majority of experts, for example, priests, popes, PhDs, Elders or knowledge keepers as termed by Indigenous groups, are correct. Kuhn (1999) notes that credulity is one way people can know what is true "either through direct apprehension or the opinion of experts" (p 22). These two other methods of knowing are rarely noted as options.

Surely in Western society no one world view should dominate how critical thinking is to be understood or practised in education (Valk 2007). Critical thinking should clearly draw on the traditions and epistemologies of all learners and "nurture and give reverence to the necessary space for mystery, awe, surprise and honour the place of excluded knowledge that must be recovered to make us whole" (Pazmino 1994, 103).

Critical thinking should undergo a criteria [sic] for use. We should not be critically assessing the values and traditional beliefs that people hold to about life, but rather ideas embedded in poems, debugging a computer program, categorizing different animal species and so forth all are appropriate subjects to critically analyze (Gardner 1993). Moreover, there are cases in which critical thinking is not epistemically responsible; for example, in the case of medical diagnosis it is epistemically irresponsible to

self-diagnose, and so a responsible critical thinking model would have the resources to instruct learners at those times when it is not responsible (Vaidya 2013).

Epistemically responsible critical thinking could promote tolerance and freedom to which the West is already deeply wedded. Dialogical reasoning is a type of Socratic thinking and questioning that requires learners to focus on solutions from the perspectives of others (Paul 1985). For example, "How would tradition A, B, C analyze this situation?" A responsible critical thinking model might ask how a "Marxist, free market capitalist, feminist, religious-ethical, postcolonial, or critical race theory perspective might understand this publicly debated and controversial issue" (Vaidya 2013, 552). This is taking a critical stance, not on the personal values, freedoms or traditions that a person holds, but gaining a critical enlightenment about controversial issues from particular perspectives that inform people's decisions and actions.

Suggestive Conclusions

The author has argued that a comprehensive critical thinking model should assist students to be inquisitive in nature, humble in approach, open-minded, flexible, fair-minded, have a desire to be well-informed, and able to understand diverse viewpoints, traditions and perspectives (Facione 1990, cited in Lai 2007, 5; Portelli 2001). The "smashing down of old ways of thinking" simply lacks this comprehensiveness.

Society is diverse and therefore critical thinkers need to reflect this diversity with their thinking. They must be incarnational and transformational, and exhibit self-sacrifice to learn in order to welcome the Other with open hands in an act of respect. Education is relational, requiring meaningful inclusion, and so critical thinkers must be open to the problems that a narrow perspective of critical thinking can have on learners with traditions outside of the scientific pragmatic model advanced by a Dewey model and the "smashing down [of] old ways of thinking." This is because, like any pedagogical practice, critical thinking can be used as an instrument of emancipation or tool of oppression. When Dewey said that the task of the educator was to "emancipate the young from the need of dwelling in an outgrown past" (Gould 1977, 73, cited in Egan 2002, 28), he, similar to the educators who stated that old ways of thinking should be broken so "real thinking" can occur, did not understand that education itself is always embedded in and under the influence of a tradition.

Critical thinking should not require the student to choose either science or their traditions for investigation; rather, both can inform one another. As the educator van Manen (1991) has said, "we need to be neither iconoclasts who only rebel and tear down traditions, nor iconolators who blindly submit to the monuments of traditions" (p 16). For learners and educators to gain a deep inside perspective of other types of knowledge, reality and value, so important in today's multicultural classrooms, an inclusive practice of critical thinking is needed. In the words of philosopher Emmanuel Levinas, education ought to be an unconditional responsibility *to* the Other. Levinas understood the Other to be "what I myself are not" (Egea-Kuehne 2008, 30).

If education is to be a human flourishing and hospitable activity, then higher education and teacher education must practise the art of critical thinking in ways that abandon the expectation of homogeneity and move toward a genuine celebration of difference and heteronomy. To contribute to our diverse knowledge systems, a responsible approach to critical thinking should actively reach out to include learners with all traditions such as feminist, Indigenous, scientific, cultural, moral or religious. This is necessary because all people are embedded in traditions and as such can learn from one another, and critical thinking itself is the result of cultural situatedness. Consequently, traditions themselves will and should play a significant and natural role in the development and application of critical thinking (Pithers and Soden 2000).

Although traditions can never serve as a substitute for truth, "the authority of a tradition should always be directed to the point which people see for themselves that something is true or not" (Newbigin 1989, 48, cited in Fernhout 1997, 91). Embracing traditions through critical thinking does not mean "embracing conservatism or a retreat from progressive education"; rather, a hospitable education reflects conservative and progressive traditions—a synthesis of the two (Wineberg 2008, 100).

Critical thinking could be practised alongside people and not *on* people. It could entail an insider's perspective, which requires relationship, community and hospitality (Portelli 2001). The purpose would then be to develop knowledge and understanding, but also to advance an insider's perspective about the traditions that shape an individual's thinking and values about life. Bernard of Clairvaux (1987) offers a view of critical thinking and learning that welcomes

an insider's perspective by a focus on what Others help us see; a humility practised that "is a virtue by which a man [sic] recognizes his own unworthiness because he really knows himself" (p 103). This requires learning from and about the Other. Critical thinkers should reflect this openness to other ways of knowing rather than the view that individuals in higher education who hold to nonscientific traditions have never examined their assumptions (Widdowson 2010). Under a more expansive conception of critical thinking we embrace the idea of "individuals forming a *critical identity* and having a *point of view* that derives from adopting a concern for specific values" (Vaidya 2013, 553).

A person can still be a critical thinker and accept nonscientific ways of [pursuing] knowledge and truth. One can locate historians, Indigenous thinkers, logicians and mathematicians throughout history who have thought critically and utilized methodology that was not contingent on the scientific method. An inclusive critical thinking model must honour the diversity of other knowledge systems since the scientific-pragmatic model of critical thinking, while important, is not the only valid epistemological approach. Knowledge can be increased by quantitative and qualitative means. A broader practice of critical thinking can be advantageous for learners to understand the subjective and objective reasons people hold to their traditions for making sense of motives and perceptions. Sensitivity to these ideas can facilitate a deeper and more profound practice of critical thinking in higher education (Pithers and Soden 2000).

A critical thinker is now transformed as someone with the freedom to "consider seriously other points of view than one's own" (Ennis 1979, 5–6). Such a comprehensive education would encourage critical thinking and open-mindedness by drawing on the perspective of another (Valk 2007). This is not easy but it is a virtue of being human in the community of a classroom that critical thinking practices must include and practice (Gardner 1993). It will always be the case that "reasonable people differ on basic matters of the ultimate good; some of their starting points are religious, some philosophical" (Nussbaum 2002, 516–17).

In the end, if education faculty desire their students to be well informed, they must demonstrate a "respect for and willingness to entertain diverse viewpoints" (Lai 2011, 42). They must, in the end, not "smash down old ways of thinking," but unite, include and promote the importance of traditional ways of thinking so that students are informed and well educated for the rich diversity that abounds in classrooms in particular and Western society in general.

Notes

1. By nonscientific traditions, the author includes the religious, cultural and Indigenous traditions that have been handed down from one generation to the next for at least a minimum of three generations and inform people about what is real, what knowledge is important to have and what is of value. The traditions act as a grid [through] which epistemological, axiological and metaphysical claims are filtered. Although the traditions are not devoid of an empirical reality, I use the term nonscientific simply to make the distinction between scientific knowledge and other types of valid knowledge such as intergenerational, personal, religious and/or cultural ways of knowing. Of course, it is entirely possible that some traditions neglect, abuse or exploit by permitting inappropriate, damaging, unhealthy or immoral behaviour. But in this case, we know that the tradition is perverted and we place the term "tradition" in quotation marks since the very meaning of tradition is at issue here.

2. According to the logical positivists of the 1920s to 1950, there are only two sources of knowledge: logical reasoning and empirical experience. Nonscientific statements, those outside of science, are not empirically verifiable and are thus forbidden: they are meaningless. Today theorists of knowledge understand that science is just one type of knowledge, and there are other credible types of knowledge that can enjoy warrant. This needs to be factored in when discussing how a person comes to know something.

3. Widdowson (2010) claims that knowledge such as faith traditions and spiritual claims of any type is actually an obstacle to the acquisition of knowledge, that is, scientific knowledge (p 2). Widdowson assumes that other nonscientific claims to knowledge are static and old, and refuse to pursue questions to their conclusion. This is patently false. As Indigenous authors Battiste, Kanu and others have argued, traditional knowledge is living knowledge because it pursues truth and reality, and always follows the evidence where it leads. Kanu (2011) suggests that criticisms like those of Widdowson are "inaccurate characterizations of the 'other' and their truth, knowledge and histories" (p 47).

4 . Living traditions in Canada include First Nations spiritual rituals; the religious practices of Chinese and Japanese immigrants; and the long history of traditions and presence in Canada of Sikhs, Christians, Muslims and Hindus.

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Matthew Etherington, PhD, is a professor in the School of Education at Trinity Western University, in British Columbia, and is the director of the Institute of Indigenous Issues and Perspectives.