

Introduction

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Questions, context, and challenges

What is critical thinking, especially in the context of higher education? How have research and scholarship on the matter developed over recent past decades? What is the current state of the art here? How might the potential of critical thinking be enhanced? What kinds of teaching are necessary in order to realize that potential? And just why is this topic important now? These are the key questions motivating this volume. We hesitate to use terms such as “comprehensive” or “complete” or “definitive,” but we believe that, taken in the round, the chapters in this volume together offer a fair insight into the contemporary understandings of higher education worldwide. We also believe that this volume is much needed, and we shall try to justify that claim in this introduction.

The context here is complex, with strands running in different directions and overlaying each other. Four paths open up. First, there is a sense—especially in the Pacific Rim, notably China but also in other Asian countries—that critical thinking has been given insufficient attention over decades and even centuries. Pedagogies have been influenced by a complex of Confucian and cultural attitudes to the teacher-as-authority and tacit rules of knowledge transmission, buttressed by a sense of education assisting in the building of a national identity. Over recent decades, however, there has developed a sense that modernity requires more questioning stances among students, if higher education is to fulfill its potential in the forming of a changing society. Second, there is a parallel sense—especially in the newer countries of Africa and South America, and also dimly becoming evident in more developed countries of the North—that critical thinking is a necessary part of the formation of critical citizens. Third, there continues to be—especially in the United States—a concern that amid mass higher education students are insufficiently developing their powers of critical thought. Last, especially in the wake of the emergence of “the entrepreneurial

university” and the development of market principles in higher education, a concern with critical thinking is apparently being displaced by a determination to raise the levels of skills more obviously suited to the requirements of a global economy. Notably in the United Kingdom and Australia, for example, “critical thinking” has faded from the public debate about higher education, as “employability” has risen.

These currents prompt a number of observations, namely that critical thinking is of worldwide concern, that its presence—for a variety of reasons—may be fragile, and that its interpretation is connected with a range of purposes that are themselves changing. Once, critical thinking was once understood to be the mark of a person who had been in receipt of a higher education. Indeed, there was considerable overlap between the liberal conception of the idea of the university and the idea of critical thinking. The university precisely made available a space in which the mind could be so educated that it was able to form its own authentic judgments. Now, as higher education has both become a mass enterprise and its value to the economy has multiplied, it is an open matter as to whether and in which ways critical thinking might be of economic value. Consequently, it sometimes appears that if the idea of critical thinking is to find broad support across society, then it needs to be reframed so that its social and civic value might become more apparent.

What this book does

This book does more than investigate critical thinking as either a concept or as a set of skills in itself. There are plenty of books that do this already (for a recent example, see Moon 2008). Specialist edited collections have also been created, for example, looking at critical thinking and generalizability (Norris 1992). Rather, this book examines the nature of critical thinking within, and its application and relevance to, higher education. As we shall see, the very idea of critical thinking in higher education has generated profoundly different, and even antagonistic, views among scholars and researchers who have thought deeply about the matter.

The aims of this volume are fourfold:

1. to bring together key papers, or excerpts of key texts, that have already been published in this area;
2. to explicitly focus on the work being done on critical thinking in the particular context of higher education;
3. to provide (in this introduction) an overview of the literature; and
4. to stimulate further interest and debate on the topic.

In selecting contributors, we have been mindful that critical thinking in higher education is a global concern with a potential worldwide audience of

millions. All educators across all the disciplines are interested—or should be interested—in critical thinking. It is arguably a central concern of higher education of our time. We have, therefore, been keen in embarking on this volume to solicit contributors from around the world and from all continents, as well as from a range of disciplines and wide perspectives. To this end, this volume includes contributions from five continents, ten countries, and over eighty institutions, making the resulting book a truly global product of the collective efforts of dozens of scholars.

Considerations

“Critical thinking in higher education” is a phrase that means different things to many people. Does it mean a propensity for finding fault? Does it refer to an analytical method? Does it mean an ethical attitude or a disposition? Educating to develop *critical intellectuals* and the Marxist concept of *critical consciousness* are very different from the logician’s interest in identifying fallacies in passages of text, or the practice of distinguishing valid from invalid syllogisms. Critical thinking in higher education can encompass debates about critical pedagogy, political critiques of the role and function of education in society, critical feminist approaches to curriculum, the development of critical citizenship, or any other education-related topic that uses the appellation “critical.” Equally, it can be concerned to develop general skills in reasoning—skills that all graduates might possess. With all of these multiplying interpretations and perspectives, and after more than four decades of dedicated scholarly work, critical thinking remains more elusive than ever. The concept is, as Raymond Williams has noted, a “most difficult one” (Williams 1976, 76).

Traditional philosophical definitions of the concept of critical thinking do not necessarily inform debates in all of the areas of critical thinking scholarship. Definitions of critical thinking are not central to areas such as critical pedagogy or critical feminism. Learning about such definitions does not help one develop a critical attitude about the society in which one lives. Philosophical definitions of critical thinking do not directly assist—or so many believe—in becoming a critical citizen. It may be that the core attributes of critical thinking will always remain fundamental to what we mean by “critical thinking” since, at a basic level, critical thinking is about having skills of a certain sort (inference making, reasoning, and so on). Yet, critical thinking is also much more than this. Traditional philosophical definitions of critical thinking seem impotent in relation to these wider areas of critical thinking scholarship as they apply to the field of higher education.

There are significant practical matters at stake here. An American book, *Academically Adrift: Limited Learning on College Campuses* (2011), provoked widespread interest and media attention in the United States (Mataconis 2011; NPR Staff 2011; Rimer 2011). The study on which the book was based tracked the

educational development of a range of skills of 2322 American college students from 2005 until 2009. It established that 45% of students made *no significant improvement* in their critical thinking or reasoning skills during the first two years of college and 36% made no significant improvement after an *entire* four-year college degree (Arum and Roska 2011). Students tested could not, after completing a university course, sift fact from opinion, nor could they clearly present an objective review of two or more conflicting reports or determine a cause of an imaginary problem without being influenced by persuasive rhetoric and emotional blackmailing. This was a disturbing set of findings, and placed in serious doubt the assumption that critical thinking was being adequately taught, at least on American college campuses.

Further, in a major report by a consortium of US organizations in 2006 (Casner-Lotto and Benner 2006), the employers surveyed articulated the skill set that was needed in the workplace in the new century. The highest ranked skill as rated by employers was “critical thinking,” surpassing “innovation” and “application of information technology.” The employers were invited to consider recently hired graduates from three types of institutions: high school, two-year colleges, and four-year colleges and made clear their views regarding the skill deficiencies in the new graduates. The proportions of employers evincing such concerns were 57.5, 72.7, and 92.1% respectively (Casner-Lotto and Benner 2006). That is, *92.1% of the employers surveyed regarded graduates from four-year colleges as being “deficient” in critical thinking.* The US business community, it seems, is well appraised of the importance of critical thinking, even if its perceived value may be languishing in the academy.

In the United Kingdom, higher education institutions have now largely “abandoned critical thinking,” and turned to “vaguely defined” skills such as “teamwork,” “communication” and “leadership.” It is these “skills” sets that “lecturers have to tick off as they incorporate them into their lessons... students [become] commodities [which] transforms education into a ‘big business’ rather than education for education’s sake” (*Education News* 2013). There appears something of a paradox in the modern academy. Industry wants more critical thinking, but increasingly—at least in some countries—universities have little interest in providing it, even if they continue to proclaim its value. We may at least conjecture that it is not coincidence that the United States and the United Kingdom are among the countries that have seen the most marked moves in the marketization of higher education, and driving forward its demonstrable economic value, while it is just such countries in which the place of critical thinking appears to be in jeopardy.

All this comes at a time when, globally, universities are more associated than ever before with the business world. In short, universities have never been more aligned with the business sector, and yet (ironically) never less capable of meeting its needs. Critical thinking skills development, among other things,

may well have been abandoned as part of the emergence of the entrepreneurial university.

However, whether critical thinking can and should be taught is itself a contested matter; and views here depend in part on what is understood as critical thinking. Many would concur that recognizing and constructing arguments—that is, critical thinking as reasoning skills—is valuable and important. Much less agreement attaches to the idea of educating for radical social and political change (“critical pedagogy”). Others are not happy with the teaching of critical thinking in *any* form. The Texas Republican Party actually tried to ban the teaching of critical thinking in schools (Strauss 2012). But what *exactly* did the Republicans want to ban? This was not obvious. Little progress on the topic of critical thinking in higher education can be made if the concept itself lacks a theoretical and conceptual grounding. Critical thinking surely remains “one of the defining concepts in Western education which enjoys wide endorsement, [and] yet we have no proper account of it” (Barnett 1997, 1)

What should be done?

Our sense is that while the topic of critical thinking in higher education is—and should be—of concern to many, it has, to date at least, typically been addressed in a piecemeal fashion, and within the confines of separate disciplines and fields (philosophy, sociology, psychology, education, pedagogy, management studies, and so on). Few attempts have been made to construct a broad overview of the field, with a focus on how critical thinking should be located, applied, studied, and taught within higher education. This then is a pressing need given the increasing importance of critical thinking in the curriculum, the university, and the world beyond, that of bringing together the key approaches so as to begin to form a unified field for study and practical implementation.

Another outstanding task is that of constructing a *model* of critical thinking as it might apply in higher education. Work has been done for at least forty years on the topic of critical thinking and informal logic, and the skills needed for fine critical thinking. This is a matter of explicitly educating *for* critical thinking (i.e., for developing the skills required by students for critical thinking within higher education). However, there has been very little done on the matter of being critical in the wider world and the ways in which higher education can help here. Providing a model of critical thinking in higher education will go some way toward clarifying its nature and its possibilities.

Initially much of the intellectual running was made by philosophers, especially those working on reason, argument, and the philosophy of the mind. Not surprisingly, they came to associate critical thinking with precisely what

it is to reason carefully and soundly. Such legitimate concerns need to be reconciled with another set of very legitimate concerns, namely what it is to be educated in the modern world; and there, in this educational perspective, two camps may be discerned, those who have been interested most in what it is to be educated as an individual, and those who see in education a way of helping to transform society. To our knowledge, a model of critical thinking in higher education that reconciles all these different perspectives has not before been attempted. We attempt to provide such a model in these pages and, in so doing, we shall see points at which the various positions run into each other.

Three rival perspectives

The *philosophical* perspective (on which we have just touched) is principally interested in clear and rigorous thinking. It has a particular interest in logical thinking, including informal and formal logic, in how critical thinking relates to language use in ordinary contexts, how it forms part of metacognitive processing in complex adaptive systems, and so on. The *educational* perspective is interested chiefly in the wider educational development of the individual student and, to that end, is concerned with ways in which critical thinking can benefit the wider society outside the classroom through the development and formation of a critico-social *attitude*. The *socially active* perspective—as we might term it—is itself a complex of positions but is prompted by a concern to see society itself transformed and sees the inculcation of critical attitudes in students as a propaedeutic to that end. It encompasses critical pedagogy (i.e., educating to dissolve habits of thought and to promote political activism) and critical citizenship (i.e., cultivating a critical citizenry).

As we shall see, these three perspectives are by no means entirely separable. Their boundaries are permeable, with commentators, researchers, and scholars taking up all manner of cross-boundary positions. For example, cutting across the latter two perspectives—the educational and the socially active perspectives—is a concern as to how to reconcile tensions that exist in the modern corporate university, with its emphasis on developing technical and work-ready skills in graduates, and the traditional role of the university that aims to prepare thoughtful, well-read critical thinkers who are beneficial to society at large (Daymon and Durkin 2013). There are, though, tensions between the perspectives. For any book attempting to survey this field, the concerns of the educators risk being seen (by philosophers) as tangential and remote while the concerns of the philosophers risk being seen (by educators) as myopic and obscure. Any book on the topic of critical thinking in higher education has to try and address both perspectives without compromising the integrity of each. This book is our attempt to do just that.

Critical thinking movements

Richard Paul (2011) sees developments in understanding critical thinking as occurring in three separate if overlapping waves. These began in the 1970s, with the move to introduce formal and informal logic in the curriculum, a practice dominated largely by philosophers and their concerns. This wave emphasized skills in both (1) the identification of arguments and (2) the evaluation of arguments. It saw identification and evaluation of logical structures, and the awareness and avoidance of fallacies of reasoning, and so on, as largely equivalent to critical thinking. Skills in argumentation, on this view, led to the purportedly laudable aim of producing better critical thinkers. An implication here was that such critical thinking could best be promoted by institutions putting on dedicated courses, being essentially programs designed to develop skills of logic, reasoning, and argument. We still see the influence of this wave today with a number of generalist critical thinking and informal logic courses taught in institutions around the world (but mainly in the United States).

The 1980s saw a second wave, with an introduction of concerns that were much wider than critical thinking as adumbrated by philosophers. This more educational orientation included standpoints of cognitive psychology, critical pedagogy, feminism and other perspectives, as well as discipline-specific approaches to critical thinking (critical thinking in Business Studies, and so on). It had a wider agenda than that of critical thinking as argumentation. It was concerned with the development of the student as a person (rather than as a cognitive machine) and emphasized critical thinking in relation to attitudes, emotions, intuitions, human *being*, creativity, and so on.

The rise of *critical pedagogy* during this period—with its origins in German critical theory, Marxism, phenomenology, and psychoanalysis—resulted in an interpretation of critical thinking far wider than that offered by first-wave theorists, seeing critical thinking as an ideological issue, not one concerned with validity and reliability of arguments. As a point of difference, the first-wave theorists took the adjective “critical” to mean “criticism” (i.e., identifying weaknesses in and correcting some claim or argument). The critical pedagogues, or the second-wave theorists, by contrast, took “critical” to mean “critique” (i.e., identifying dimensions of meaning that might be missing or concealed behind some claim or argument) (Kaplan 1991, 362). This is an important difference, and one that is often the basis of misunderstanding among scholars in this field and that results in scholars talking past one another.

A third wave of the critical thinking movement, Paul (2011) identifies as a “commitment to transcend the predominant weaknesses of the first two waves (rigor without comprehensiveness, on the one hand, and comprehensiveness without rigor, on the other).” Paul sees this third wave as “only beginning to emerge,” but he identifies this as one which includes the development of a

“theory” of critical thinking, which does justice to the earlier emphasis on structures of argumentation, and yet which does not neglect other important human traits such as the emotions, imagination, and creativity, or, for that matter, the wider educational possibilities within higher education.

All of these waves are on display in many of the chapters in this volume. However, many of the papers here cannot easily be ascribed to any one wave but cut across concerns relevant to more than one wave. Some of the papers, too, are openly reflective of critical thinking itself, and we can see their contributions as a modest step in the direction of third-wave theorizing.

Toward a model of critical thinking

From the overview so far offered, it is evident that any account of the place of critical thinking in higher education needs to make sense, for example, as to how critical thinking is represented in debates about critical pedagogy, the role of education in leading to individual fulfillment and collective sociopolitical activism, the place of critical thinking in educating for citizenship, the role of critical thinking in relation to creativity, and so on. Any such account of critical thinking must also embrace the long-standing focus of critical thinking as a composite of skills and judgments, and as a variety of dispositions as well. A model of critical thinking in higher education is needed that incorporates all these perspectives and approaches.

Critical thinking in higher education has, we contend, at least six distinct, yet integrated and permeable, dimensions: (1) core skills in critical argumentation (reasoning and inference making), (2) critical judgments, (3) critical-thinking dispositions and attitudes, (4) critical being and critical actions, (5) societal and ideology critique, and (6) critical creativity or critical openness. Each of these, we believe, has a particular place in an overarching model of critical thinking. The model we propose here indicates that critical thinking has both an *individual* dimension, as well as a *sociocultural* dimension and incorporates six distinct dimensions of critical thinking, namely skills, judgments, dispositions, actions, critique, and creativity. For reasons of space, we shall not deal with the “creativity” dimension here. For this, and for a more detailed development of the model, see Davies (2015).

The place of critical thinking in higher education

What is the place of critical thinking in higher education? At one level, as noted, critical thinking is all about the development of certain sorts of skills. These include skills in argumentation, and skills in making sound judgments. Employers want evidence of critical thinking skills in their employees, and graduates are assumed to possess these skills. However, skills without the

disposition to *use* them are not much use, so critical thinking is about dispositions as well. On this view, critical thinking, as both skills and dispositions, is mainly about the development of the *individual*. We might call this the *individual dimension* of critical thinking. For the most part, it embodies a sense of critical thinking being rather narrowly bounded, working within, say, the frames of thought that characterize different disciplines (and making reasoned judgments within those frameworks).

However, theorists who promulgate what has become known as critical pedagogy think that critical thinking is more about *changing matters*, and here changing society as much as if not more than individual students. Such an approach is fired by concerns about society, its conditions of social oppression (as it advocates perceive them), its ideologies, and its fundamental inequities. They regard truth claims, for example, “not merely as propositions to be assessed for their truth content, but as part of systems of belief and action that have aggregate effects within the power structures of society. It asks first about these systems of belief and action, *who benefits?*” (italics in the original, Burbules and Berk 1999, 47). Their focus is on the social and political *functioning* of arguments and reasoning and their wider frames of thought. Questioning power relationships in society that lie behind forms of thought must, they argue, be considered a central part of critical thinking (Kaplan 1991).

Scholars who write about what has become known as critical democratic citizenship education offer a yet further account of critical thinking. Given that critical thinking has a social and political dimension, it is not unreasonable for it to have a dimension of interpersonal socially appropriate *caring* as well (Noddings 1992). In order to cultivate critical citizens, they argue, “instructional designs are needed that do not capitalize on applying tricks of arguing, nor on the cognitive activity of analyzing power structures, but contribute . . . in a meaningful and critical way in concrete real social practices and activities” (Ten Dam and Volman 2004, 371). They argue that learning to think critically should—in part at least—be conceptualized as “the acquisition of the competence to participate critically in the communities and social practices of which a person is a member” (Ten Dam and Volman 2004, 375). This kind of educational aim, naturally, has an impact on the development of critical character and *virtue*. A good “citizen,” they suggest, should be a socially adept and virtuous person, caring in nature, with the capacity to consider the interests and needs of humanity. On this view, critical thinking has *moral* as well as cultural characteristics. We might call this the *sociocultural dimension* of critical thinking.

Both the individual and the sociocultural dimensions can be given a place, and reconciled, in a single model of critical thinking in higher education. We see here two dimensions as separate and distinguishable axes or vectors that account for very different, equally important, aspects of critical thinking. To

date, much of the scholarly effort has been (rightly) expended on the individual axis, with its emphasis on the cultivation of skills and dispositions. This is understandable: being an (individual) critical thinker naturally has many personal and social benefits, not to mention its need in the workplace. Increasingly, however, over the past twenty years, the sociocultural dimension has been developed, and it should be accorded an equal place in any model of critical thinking.

What is critical thinking?

In 1990, the American Philosophical Association convened an authoritative panel of forty-six noted experts on the subject to produce a definitive account of the concept. It resulted in the production of the landmark Delphi Report (Facione 1990). This led to the following definition of critical thinking which is as long as it is hard to follow:

We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation and inference as well as explanation of the evidential conceptual, methodological, criteriological or contextual considerations upon which that judgment was based. Critical thinking is essential as a tool of inquiry. Critical thinking is a pervasive and self-rectifying, human phenomenon. The ideal critical thinker is habitually inquisitive, well-informed, honest in facing personal biases, prudent in making judgments, willing to consider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in selection of criteria, focused in inquiry and persistent in seeking results which are as precise as the subject and circumstances of inquiry permit. (Facione 1990)

While of undeniable importance as a definition of critical thinking for educational philosophers, this account of critical thinking does not lend itself easily to educational implementation. How would a dean of a Faculty, for example, use this definition to further embed the teaching of critical thinking in the curriculum? How useful is it, in a practical sense, in a higher education context? It is not clear that higher education can benefit from such a definition in the form it is presented. Nor does it square with the wider concerns about the nature of criticality. It seems, on the face of it, a definition rooted in *one kind* of critical thinking, namely, critical thinking as argumentation and judgment formation.

Among the various threads in the above definition, we can distinguish the following: critical thinking as skills in inference making and argumentation, critical thinking as (reflective) judgment formation, and critical thinking as

a variety of dispositions and attitudes. These can be classified into two broad categories: *cognitive elements* (argumentation, inference making, and reflective judgment) and *propensity elements* (dispositions, abilities, and attitudes) (Halonen 1995). Note, however, the phenomenon of *action* is not mentioned in the Delphi definition. It is, in principle possible to meet the stipulated requirements of the definition and not *do* anything.

Strong skills in argumentation are not to be dismissed. They help to provide a sound basis for capable decision making. This is because decision making is based on judgments derived from argumentation. Such decision making involves understanding and interpreting the propositions and arguments of others, and being able to make objections and provide rebuttals to objections. Broadly speaking, then, this sense of the term “critical thinking” is seen as involving skills in *argumentation*. Critical thinking in this sense is a fundamental skill and is one which—on the available evidence—universities have apparently not been teaching as well as they should.

Critical thinking as reflective thinking (the “skills-and-judgments” view)

However, even within the cognitive-philosophical camp, critical thinking is often defined more widely than this, and in practical and instrumental terms, for example, as: “reflective and reasonable thinking that is focused on deciding what to believe or do” (Ennis 1985) or as “thinking aimed at forming a judgment” (Bailin, Case, Coombs and Daniels 1999, 287) or as “skillful, responsible thinking that facilitates good judgment” (Lipman 1988, 39). This definition focuses less on the mechanics of the skill of argumentation and more on the *reflective* basis for decision making and judgment calls. We might call this the “skills-and-judgments” view.

These wider senses of critical thinking are not inconsistent with “critical thinking as argumentation,” and are, indeed, in some sense premised on it. Being able to demonstrate “reflective thinking” for the purposes of decision making requires skills in argumentation. However, this account does bring in a different emphasis, focusing less on mechanisms of argumentation qua inference making, and more on judgment formation, which is at a higher cognitive level. (The relationship seems asymmetric: one can engage in idle argumentation without making a judgment toward a decision, but not vice-versa—or at least not *ideally*.)

The definition by Ennis, given above—“reflective and reasonable thinking that is focused on deciding what to believe or do”—is recognized as the leading definition in the “skills-and-judgments” view. However, note that Ennis’s definition is somewhat limiting by again not necessitating, for its application, any commitment to *action* on the part of the critical thinker. On this account,

a person might exhibit critical thinking, without requiring that a decision so reached actually be implemented.

To sum up the “skills-and-judgments” view, we can think of cognitive critical thinking skills as involving *interpretation, analysis, inference, explanation, evaluation*, and some element of *metacognition* or *self-regulation* (Facione, Sanchez, Facione, and Gainen 1995, 3; Halonen 1995, 92–93). These facets of critical thinking are all in the Delphi list. This is sometimes collectively known as the “skills-based” view of critical thinking.

A taxonomy of critical thinking skills

At this point, categorizing these skills would seem to be useful. We shall use the framework by Wales and Nardi (1984) and borrowed by Halonen (1995). Cognitive critical thinking skills as such can be seen as falling under four main categories: *lower-level thinking skills* (which might be called “foundation” thinking), *thinking skills* (or “higher level” thinking), *complex thinking skills*, and *thinking about thinking* or metacognitive skills. “Identifying an assumption,” for example, is clearly less difficult—and requires fewer cognitive resources—than say “analyzing a claim” or “drawing an inference.” There might be debate about which skill belongs in which category, but there is little doubt that some cognitive skills are demonstrably more sophisticated than others (see table 0.1):

There is considerable degree of unanimity in the literature on many of the cognitive skills involved in critical thinking, if not the degree of importance accorded to each. In any event, the view that critical thinking involves both (1) rigorous argumentation, assessing propositions, analyzing inferences, identifying flaws in reasoning, and so on and (2) judgment *formation* is pervasive. However, as noted, despite its importance, when applied to the higher education context (as opposed to a philosophical context), there has been a tendency to define critical thinking far too narrowly.

Table 0.1 Critical thinking skills

Lower-level thinking skills (“Foundation”)	Higher-level thinking skills	Complex thinking skills	Thinking about thinking
Interpreting	Analyzing claims	Evaluating arguments	Metacognition
Identifying assumptions	Synthesizing claims	Reasoning verbally	Self-regulation
Asking questions for clarification	Predicting	Inference making	
		Problem solving	

Critical thinking as dispositions (the “skills-plus-dispositions” view)

It has long been recognized that the ability to think critically is different from the attitude or *disposition* to do so (Ennis 1985; Facione 1990), and this too needs to be considered in any attempt to define critical thinking. Dispositions have been described as “at least half the battle of good thinking, and arguably more” (Perkins, Jay, and Tishman 1992, 9).

Dispositions are sometimes defined as a “cast or habit of the mind” or “frame of mind” that is necessary for exercising critical thinking. Dispositions are not arguments or judgments, but *affective* states. They include critical thinking *attitudes* and a sense of *psychological readiness* of the human being to be critical. They are equivalent to what Passmore once called a “critical spirit” (1967, 25) and have been defined as a constellation of attitudes, intellectual virtues, and habits of mind (Facione et al. 1995). Correspondingly, we may distinguish between critical thinking in a “weak” sense and in a “strong” sense (Paul 1993). The former consists of the skills and dispositions already discussed; the latter consists of the *examined life* in which skills and dispositions have been incorporated as part of one’s deep-seated personality and moral sense—in short, one’s *character*.

A taxonomy of critical thinking dispositions

Critical thinking dispositions might be broadly categorized as falling under dispositions arising in relation to the *self*, in relation to *others*, and in relation to the *world*. Again, it might be debated which category a disposition belongs to (and some might belong to more than one), but it is fairly clear that there are at least four dispositional orientations (see table 0.2):

Table 0.2 Critical thinking dispositions

Dispositions arising in relation to self	Dispositions arising in relation to others	Dispositions arising in relation to world	Other
Desire to be well-informed	Respect for alternative viewpoints	Interest	Mindfulness
Willingness to seek or be guided by reason	Open-mindedness	Inquisitiveness	Critical spiritedness
Tentativeness	Fair-mindedness	Seeing both sides of an issue	
Tolerance of ambiguity	Appreciation of individual differences		
Intellectual humility	Skepticism		
Intellectual courage			
Integrity			
Empathy			
Perseverance			
Holding ethical standards			

Critical thinking as a composite of skills and attitudes

Critical thinking has naturally been seen in terms of a composite of skills, knowledge, and attitudes too—including argumentational, reflective, and affective features (Boostrum 1994; Brookfield 1987; Facione 1990; Kurfiss 1988; McPeck 1981; Paul 1981; Siegel 1988; 1991; Watson and Glaser 2008). Most theorists hold a composite account. The composite view includes both the cognitive and propensity elements discussed above. While the ability to argue and make inferences, to reflect and make judgments, and be critically disposed is all important, it is also crucial to recognize that each of these does not occur in isolation. For McPeck, critical thinking involves a disposition and a skill, and “one must develop the disposition to use those skills” (1981, 3), hence, his definition of critical thinking as “a propensity [disposition] and skill to engage in an activity with reflective skepticism” (1981, 8).

How the cognitive and propensity elements relate to each other in any definition of critical thinking is subject to much discussion. Facione et. al., for example, postulate an interactionist hypothesis where “the disposition toward critical thinking reinforces critical thinking skills and that success with critical thinking skills reinforces the disposition” (1995, 17).

To conclude here, as it has been traditionally defined—by Ennis, Paul, McPeck, Lipman, and others in the critical thinking movement—critical thinking has been seen largely in terms of cognitive elements, that is, as “reflective and reasonable thinking that is focused on deciding what to believe or do.” However, as intimated, this definition is remiss by not including in its scope any sense of actual or potential *action*.

Dimensions of criticality: An axis diagram

Figure 0.1 represents the critical thinking movement as outlined so far. This movement is largely concerned with an individual's *cognitive* qualities, that is, cognitive elements or skills (argumentational skills, skills in thinking) and reasoning and argumentative propensities or character attributes of the *person*. These are inclusive of all the skills and attributes mentioned in figure 0.1 (namely foundation, higher-level, complex, metacognitive skills, as well as critical thinking abilities and dispositions). These skills and dispositions are represented by separate lines radiating out from the bottom of the Y axis. This account of criticality is what might be termed “critical thinking *unadorned*” or critical thinking in its traditional senses. (The X axis will be added in a moment.) For the full development of this diagram see Davies (2015).

Critical thinking as “criticality” (The “skills-plus-dispositions-plus-actions” view)

Following Barnett (1997), the term now most commonly used in relation to critical thinking is that of “*criticality*.” Criticality is a term deliberately distinct

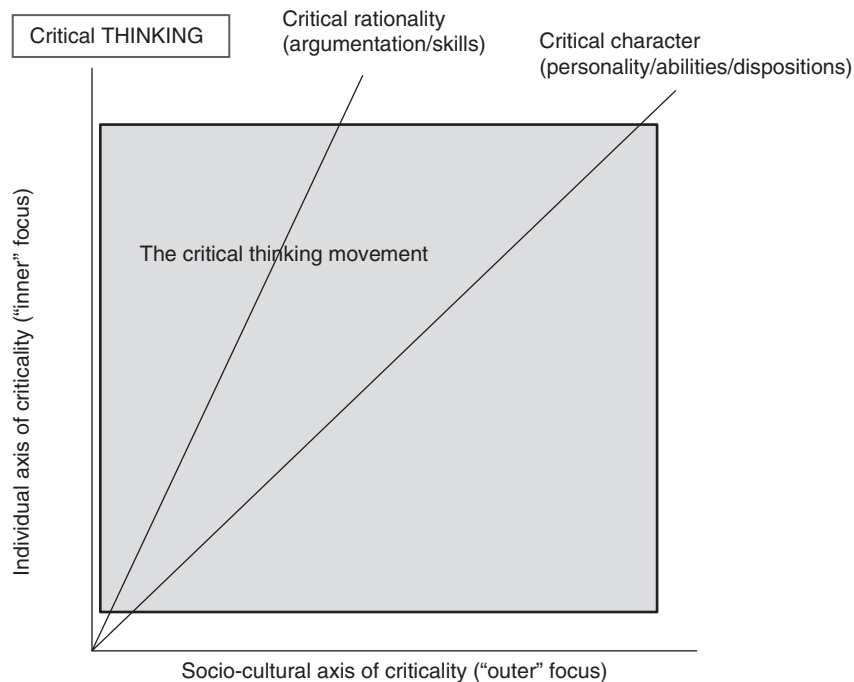


Figure 0.1 Axis diagram: The critical thinking movement.

from the traditional expression “critical thinking,” which was felt to be inadequate to convey the educational potential that lies to hand. The term “criticality” attempts to inject a perspective that widens critical thinking to incorporate not only argument and judgment and reflection but also the individual’s wider identity and participation in the world. This is a concept of critical thinking involving students reflecting on their knowledge and simultaneously developing powers of critical thinking, critical self-reflection, and critical action—and thereby developing (as a result) critical *being* (Barnett 1997; 2004; Johnston, Ford, Mitchell, and Myles 2011). Now, criticality, not unlike critical thinking, appears, in some quarters, to be gaining its own scholarly industry.

What is “criticality”?

Broadly speaking, criticality comprises—and is a composite of—three things: *thinking*, *being*, and *acting*. In emphasizing action in addition to thinking (in the form of argumentation and reflective judgment), criticality might be conceived of in relation to established definitions of critical thinking as *trait*. That is, while a critical thinker can be disposed to think critically, criticality points to the way a person is in the world. A critical person exhibits a critical orientation

toward the world and has a trait, thereby, to act accordingly. Criticality requires that one be moved to *do* something (Burbules and Berk 1999, 52). While skills and dispositions are crucial for critical thinking, they are not sufficient unless a person is in her- or himself critical and unless she or he is disposed to act in a critical vein. To adapt a famous line from Kant: criticality without critical thinking skills is empty; critical thinking without action is myopic.

An example of "criticality"

The concept of criticality—as a composite of critical thinking, critical reflection, and critical action—has been made concrete by the use of a famous photograph as a frontispiece to Barnett's book *Higher Education: A Critical Business* (1997). The photograph depicts a student in front of a line of tanks in Tiananmen Square in 1989. Most people have seen this photograph; indeed, it is one of the defining photographs of the latter part of the twentieth century. How does the photograph demonstrate critical thinking as "criticality"?

This photograph is intended to imply that higher education should be (if not always in practice) an educational process involving a composite of *thinking*, *being-in-the-world*, and *action*. Critical thinking, in the established cognitive sense proposed by philosophers such as Ennis, Siegel, Lipman, McPeck, and others, is an important perspective, but by itself inadequate as a way of capturing what higher education can be *at its best*. Higher education can, therefore, potentially do much more than teach students how to demonstrate (for example) critical thinking as analytic skills and judgments. It can also prompt students to understand themselves, to have a critical orientation to the world, and to demonstrate an active sociopolitical stance toward established norms or practices with which they are confronted. This, it is argued, is more than what is offered by the critical thinking movement in relation to skills in critical thinking; it is tantamount to the development of critical *beings*.

This is a sense of "critical thinking" that extends beyond the individual and his or her cognitive states and dispositions to the individual's participation in society as a critically engaged citizen in the world. Note that it also includes a *moral* and *ethical* dimension to critical thinking. After all, critical thinkers do more than reason; they also *act ethically* on the basis of their reasoned judgments.

In this argument for the criticality dimension, *critical reasoning*, *critical reflection*, and *critical action* could be thought of as three interlocking circles in the form of a Venn diagram (see figure 0.2). It is important, according to Barnett, that they be regarded as interlocking—but not as entirely congruent with each other; otherwise, the space for each of them to work (including critical thinking in the cognitive sense) would be lost.

The respective concerns of educational philosophers and higher education scholars in relation to the topic of critical thinking are then quite different. The work of Ennis, Paul, McPeck, and others aims to identify the philosophical

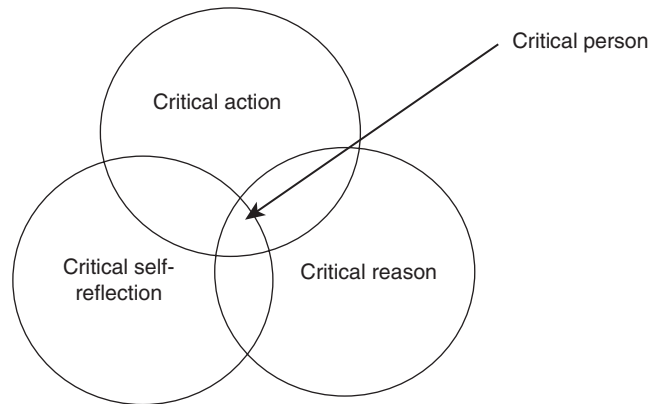


Figure 0.2 The intersection between critical reason, critical self-reflection, and critical action (Barnett 1997, 105).

elements of what a critical thinker *is* or *should be*; the work of those interested in criticality aims to identify what a critical thinker *does* and can *become*. In turn, the implications for higher education on producing critical beings also holds out a promise for what *higher education* can be, which, however, especially given the corporate nature of the university, it seldom is at present (Cowden and Singh 2013)

Criticality, then, is a *wider* concept than critical thinking, as it has been generally defined by educational philosophers. To some extent it subsumes critical thinking. One outcome of this wider concept being taken up, of course, is that it suggests a wider set of responsibilities befalling higher education professionals, that is, teachers and academics, than that of (simply) imparting skills in argumentation, or developing in students a capacity for rational “reflection” or decision making, or even cultivating critical thinking dispositions. Educating for criticality, in contrast, holds out a sense that higher education can become (more) a process of *radical* development than merely a cognitive process. It captures a sense of enabling students to reach a level of “transformatory critique” (i.e., to live and breathe as a critical thinker, to become an *exemplar* of what it means to be a critical being).

The axis diagram revisited

The concerns of the criticality movement arose, as we have seen, in reaction to the narrow emphasis of previous accounts of critical thinking. These previous accounts view critical thinking in terms of individual skills, dispositions, and abilities. While proponents of the criticality dimension certainly do not eschew these important individual facets of critical thinking entirely (indeed, they endorse their importance), the criticality perspective adds something

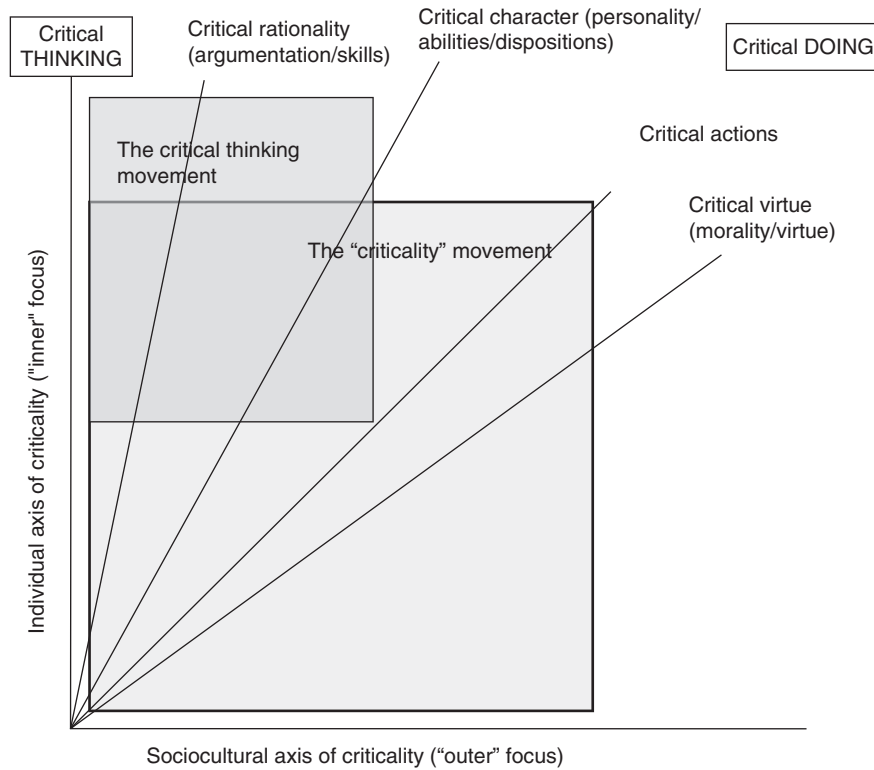


Figure 0.3 Axis diagram: The critical thinking and "criticality" movements (Davies 2015).

new. It adds the dimension of *action* to the mix. This is represented by the addition of the social-cultural axis (the "X" axis) of critical thinking shown in figure 0.3, and here depicted as "critical doing."

However, there is more to it than action. Unlike the views of critical thinking as adumbrated by proponents of the critical thinking movement (CTM), for the criticality theorists the *ethical* dimension is also important to critical thinking. Ethical decisions are, of course, usually (if not always) accompanied by ethical *actions*. This is represented by the *critical virtue* axis below. Note in the diagram that the CTM, with few exceptions, does not include the action and morality dimension.

Critical thinking as critical pedagogy

Critical pedagogy is defined as the use of higher education to overcome and unlearn the social conditions that restrict and limit human freedom. According

to one of its major proponents, it is “an educational movement, guided by passion and principle, to help students develop consciousness of freedom, recognize authoritarian tendencies, and connect knowledge to power,” and the ability to take “constructive action” in relation to education and society at large (Giroux 2010).

Like the approach taken by Barnett, Johnston, and others in their account of criticality, critical pedagogy takes the view that critical thinking needs to be broadened beyond skills and dispositions. It sees the account of critical thinking as comprising skills-plus-dispositions as very much concerned with the individual. Like the adherents of the criticality approach, the critical pedagogues include the importance of *action*. However, unlike adherents of the criticality approach, they consider *social institutions* (and society more broadly)—not merely individuals’ actions—to be a vital factor for critical thinking. This broadens the notion of critical thinking even further than any of the views previously discussed.

This is clearly an extension of the account of the radically transformed student within the criticality perspective; indeed, it extends radical educational transformation to *society at large*. The critical pedagogues see critical thinking to be not about mere argument analysis, or dispositions, or individual actions (although these too are important). They see critical thinking to be principally about “the critique of lived social and political realities to allow greater freedom of thought and action” (Kaplan 1991, 362). Specifically, the critical pedagogues are alert to the presence of ideology in discourse and social institutions and see education as a critical and active engagement with such ideologies.

The key theorists in this area are Freire (1972), McLaren (1989), and Giroux (1994; 2005). In an illuminating article by Burbules and Berk (1999) a number of distinctions are made between the critical thinking movement (incorporating the “skills-based” view of critical thinking and the “skills-plus-dispositions” view) and the critical pedagogy movement.

The critical thinking movement theorists had taken the adjective “critical” to mean “criticism” (becoming aware of weaknesses in some claim or argument). Their aim was putting logic at the service of clear thinking. The critical pedagogues, by contrast, took “critical” to mean “critique” (i.e., identifying dimensions of meaning that might be missing or concealed behind some claim or belief or institution) (Kaplan 1991, 362). Their further understanding is that such concealment serves an ideological function, masking an underlying state of affairs. Their aim puts critical thought at the service of transforming undemocratic societies and inequitable power structures, that is, not simply educating for critical thinking or even enabling individuals to embody a critical spirit, but educating for *radical* transformation in society as well. They see the critical person as resisting the ideological hegemony of capitalism, a hegemony that foists conditions favorable to the maintenance of the capitalist system onto

unwitting members of society. Here, higher education becomes a vehicle for combating perniciousness—as they see—inherent in capitalist society. They see advertising, for example, as encouraging and fostering increased material consumption while simultaneously reinforcing the myth that large corporations are there to serve their customers, when they are, in fact, serving their own interests, and maximizing profit, often at the expense of both customers and the social good (Burbules and Berk 1999, 50).

The critical pedagogues accordingly believe that the aim of education should be about turning students against the idea of being trained for the economic needs of large corporations. The followers of the critical pedagogy movement see the role of higher education not as reinforcing but as dispelling these uncritical attitudes and questioning these assumptions. They see the role of higher education as working within higher educational institutions to identify and critique power inequities in society, the myths of opportunity in capitalist economies, and “the way belief systems become internalized to the point where individuals and groups abandon the very aspiration to question or change their lot in life” (Burbules and Berk 1999, 50). Thinking critically, for the critical pedagogists, is a matter of recognizing, critiquing, and combating societal formations (really *deformations*)—including discourses—that maintain the capitalist status quo. This can be achieved by developing students and their teachers not only as critical intellectuals (Giroux 1988) but also as critical activists. This is clearly a very different sense of critical thinking than the other camps identified earlier here.

Like Barnett, the critical pedagogists see action as an intrinsic, not separable, aspect of criticality. However, they take critical action much further. They see action as important not merely for encouraging students’ personal individual critical comprehension of, and reaction to, events, but as a justification for wholesale social and political *change*. As Burbules and Berk put it, for them: “challenging thought and practice must occur together...criticality requires *praxis*—both reflection and action, both interpretation and change... Critical pedagogy would never find it sufficient to reform the habits of thought of thinkers, however effectively, without challenging and transforming the institutions, ideologies, and relations that engender distorted, oppressed thinking in the first place—not an additional act beyond the pedagogical one, but an inseparable part of it” (1999, 52). Critical pedagogy, accordingly, becomes a way of alerting students to the indoctrination that is felt here to be endemic in society *and* of combating it—so, deliberately and systematically deploying the potential of higher education as a transforming device in society.

For the critical thinking movement, this is a misguided stance. It amounts to taking for granted and prejudging the conclusions to an issue (that society *is* inequitable, that society *is* ideologically saturated and so on, and that society *is* characterized by undue repression). It is itself equivalent to indoctrination.

However, in the critical pedagogy movement, raising the issue of the social conditions of freedom is *essential* to critical thinking. True critical thinking, for the critical pedagogists, involves liberation from an oppressive system as a condition of freedom of thought. As Burbules and Berk put it: “Critical thinking’s claim is, at heart, to teach how to think critically, not how to teach politically; for Critical Pedagogy, this is a false distinction...self-emancipation is contingent upon social emancipation” (1999, 55). In the words of the Critical Pedagogy Collective (echoing Dewey): “Education is not preparation for life—education is life itself” (2013).

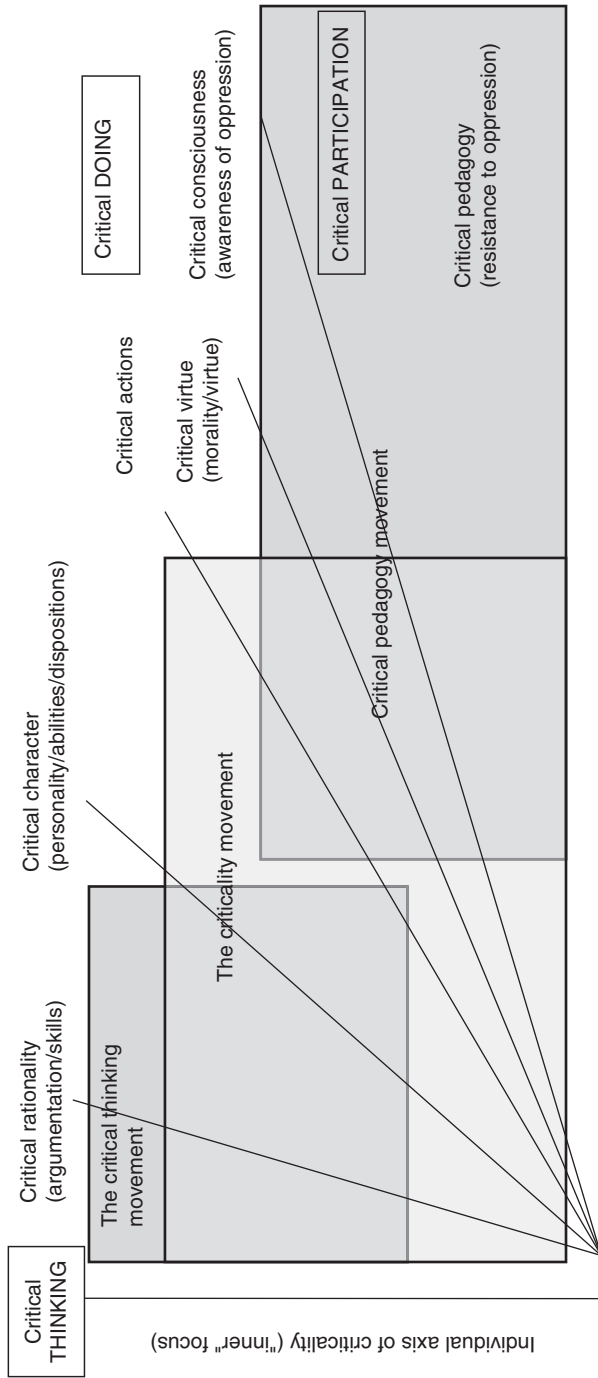
The axis diagram revisited again

We can now move to a further refinement of our axis diagram (see figure 0.4); and here we use the term “critical participation” to denote the perspectives that are orientated toward participating critically in society. Note that “critical participation” is oriented in figure 0.4 spatially closer to the category of “critical doing” compared to the category of “critical rationality” (it has a stronger “outer” than an “inner” focus). It is positioned closer to the X axis. However, there is a difference in the degree of commitment here. The “participation” facet of criticality, in turn, has two dimensions: (1) an *awareness* of oppression (known in the literature both as critical consciousness or *conscientization* (Freire 1972; 1973) and (2) a more practical dimension, the *resistance* to oppression (demonstrably, to “resist” something one needs to be aware of what one is resisting). This is known in the critical pedagogy literature as *praxis*. Both these vectors are represented in figure 0.4.

However, this separation of concerns belies deep similarities. As Burbules and Berk note: “each invokes the term ‘critical’ as a valued educational goal: urging teachers to help students become more skeptical toward commonly accepted truisms. Each says, in its own way, ‘Don’t let yourself be deceived.’ And each has sought to reach and influence particular groups of educators... They share a passion and sense of urgency about the need for more critically oriented classrooms. Yet with very few exceptions these literatures do not discuss one another” (Burbules and Berk 1999, 45). However, there are synergies between the criticality and critical pedagogy movements as indicated by their focus on action.

Conclusion

Attention to critical thinking or criticality, as we prefer it, is in greater need than ever in the contemporary world. There are, though, some challenges in giving it the important place in higher education that we suggest it warrants. Large forces are at work that are tending to diminish a sense of its significance. On the one hand “cognitive capitalism” (Boutang 2011) works—in a digital



Sociocultural axis of criticality ("Outer" focus)

Figure 0.4 The critical pedagogy movement (for an elaboration on this diagram, see Davies 2015).

age—to expand the efficiency with which vast, if not infinite, amounts of data can be assimilated. What counts here is speed of response, measured even in microseconds, with computers programmed to make such responses twenty-four hours per day. This is, as it has been described, an “algorithmic capitalism” (Peters 2014). Critical thinking, on the other hand, betokens a different rhythm, of care, reflection, and repose.

Critical thinking also draws on a particular set of motivations in bringing a critique of forces and institutions that would rather press on, untroubled by critical examination. Ultimately, what is at issue here, in critical thinking, is the concern to enlarge freedom, whether cognitive, discursive, personal, or even societal freedom. But it is at least arguable that educational institutions—including higher education institutions—are being co-opted into the service of the global knowledge economy. So the space for critical thought may be diminishing at precisely a moment when it is especially needed.

But, as we have seen, theorists and educationalists who have given thought to the matter differ profoundly over fundamental aspects of critical thought or criticality. They differ over what is to count as critical thinking, over its purposes and its scope, and the way in which teaching might help to encourage it among students. So any campaign in favor of criticality is—it may seem—bedeviled at the outset by deep schisms within the academic and educational communities.

A first step in the matter must surely be the bringing together of the different points of view, not least to see how they are exemplified in different pedagogical situations—of teaching, learning, curriculum design, and so on. That is what we have attempted to do in this volume. It is a start but no more than that.

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