

Critical Thinking Attitudes: A Framework for the Issues

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Standard accounts of the nature of critical thinking assign an important place to critical thinking attitudes. It is generally agreed that it is not enough for someone to *have* critical thinking skills. He or she must also be willing to use them: appropriate attitudes or dispositions are required for someone actually to be a critical thinker.

John Dewey, for example, stressed the necessity for having both skilled methods and the desire to use them. Indeed, he wrote, "if we were compelled [as Dewey, correctly, held we are not] to make a choice between these personal attitudes and knowledge about the principles of logical reasoning together with some degree of technical skill in manipulating special logical processes, we should decide for the former" (Dewey 1933, p. 34). Dewey emphasized that these attitudes are "traits of character," i.e., "moral qualities." In other words, critical thinking has a moral dimension: there is an ethics of belief (and inquiry) as well as of action. He did not try to provide a complete list of the attitudes, dispositions, or traits of character necessary for the habits of critical thinking ("reflective thinking"), but he did identify what he took to be three of the most important: open-mindedness, whole-heartedness (or "absorbed interest"), and "responsibility in facing consequences." Note that Dewey used the terms "attitude" and "disposition" interchangeably, a practice in much of the recent critical thinking literature also.

Turning to current analyses of critical thinking, we find Robert Ennis organizing his account of the "Goals for a Critical-Thinking Curriculum" under two headings: one for abilities and one for dispositions (Ennis 1985; see also Ennis 1981). The inclusion of disposition is one of the significant modifications which Ennis has made in his original analysis of critical thinking (Ennis 1962). Among the items on his detailed list of dispositions are

some that are essentially the same as Dewey's attitudes, such as "Be openminded . . ." and "Take a position (and change a position) when the evidence and reasons are sufficient to do so." The former, which Ennis analyzes into three parts is, of course, Dewey's open-mindedness. The latter is Dewey's "responsibility in facing consequences."

Richard Paul distinguishes between critical thinking skills in a weak sense and in a strong sense (Paul 1984). In the weak sense, critical thinking skills are technical and specialized skills "ultimately extrinsic to the character of the person." Paul argues that we should not limit our goals to these, but rather should work towards the development of critical thinking skills in the strong sense, in which they are integrated and "ultimately intrinsic to the character of the person and to insight into one's own cognitive and affective processes."

In addition to general statements, a variety of specific lists of critical thinking attitudes or dispositions has been given, although the relationships among the items on the lists are not always clear. Edward D'Angelo, for example, lists ten attitudes: intellectual curiosity, objectivity, open-mindedness, flexibility, intellectual scepticism, intellectual honesty, being systematic, persistence, decisiveness, and respect for other viewpoints (D'Angelo 1971, pp. 7-8). Ennis lists 13 dispositions:

1. Seek a clear statement of the thesis or question
2. Seek reasons
3. Try to be well informed
4. Use credible sources and mention them
5. Take into account the total situation
6. Try to remain relevant to the main point
7. Keep in mind the original or basic concern

8. Look for alternatives
9. Be open-minded
 - a. Consider seriously other points of view than one's own ("dialogical thinking")
 - b. Reason from premises with which one disagrees—without letting the disagreement interfere with one's own reasoning ("suppositional thinking")
 - c. Withhold judgment when the evidence and reasons are insufficient
10. Take a position (and change a position) when the evidence and reasons are sufficient to do so
11. Seek as much precision as the subject permits
12. Deal in an orderly manner with the parts of a complex whole
13. Be sensitive to the feelings, levels of knowledge, and degree of sophistication of others. (Ennis 1985, p. 54)

What links together the variety of views about critical thinking attitudes and dispositions, strong sense critical thinking, and the critical spirit¹ is the conviction that something more than narrowly focused technical skills is needed if someone is to be a critical thinker. But the appeal to attitudes covers a diversity of issues about what else is required in a critical thinker; these have usually not been clearly distinguished from one another. I will attempt to sort some of these out and will conclude by proposing a typology of additional features required for critical thinking beyond the possession of technical critical thinking skills.

Issues about the nature of critical thinking attitudes

(1) How do attitudes and dispositions differ from skills? This question is made more complex by the recognition that there are also skills involved in the executive organization of thinking or problem solving. When people seem unwilling to think critically, it is often because they do not have the appropriate skills. Much of what is discussed under the label of "attitude" seems to involve such metacognitive or organizational skills. Dewey's attitude of open-mindedness, for ex-

ample, "includes an active desire to listen to more sides than one; to give heed to facts from whatever source they come; to give full attention to alternative possibilities; to recognize the possibility of error even in the beliefs that are dearest to us" (Dewey 1933, p. 30). In part, these involve metacognitive skills of cognitive self-awareness and planning. These are critical thinking skills, to be sure, but they are somewhat different from the very specific, first-order skills generally mentioned as critical thinking skills, such as identifying conclusions of arguments or judging the credibility of sources. Metacognition involves awareness of one's cognitive processes, planning, and the integration and organization of skills for a larger extended purpose. Metacognition is also similar to what David Perkins calls "tactics" or "thinking frames" (Perkins 1986).

Developing understanding of the way our emotions enter into our reasoning is also an important part of becoming an effective critical thinker. Thinking has an affective dimension that exclusive attention to cognition and cognitive skills may obscure. There are "meta-affective" skills, such as tolerating criticism or recognizing the emotional sources for many strongly-held beliefs, which play an important role in successful critical thinking. The term "meta-affective," which I have coined on the model of "metacognitive," is intended to refer to awareness, planning, and organization of emotion. Critical thinkers need to be aware of their own feelings, emotions and motivations and those of others. They need to be able to control their emotions in appropriate ways in reasoning. For example, a critical thinker will recognize when a good objection to a statement he or she has made is maddening but will be aware of the inappropriateness of responding angrily and will be able to admit error, or modify the statement, or come up with a counter-argument, or simply adjourn the discussion. However, good meta-affective strategies do not require the elimination of emotion, even if this were possible. The meta-affective skills are similar to the interrelated personal intelligences which Howard Gardner has written about: ability to understand oneself and ability to understand others.²

(2) Assuming that a relatively clear notion of what is meant by critical thinking attitudes can be developed, what are the specific critical thinking attitudes? Is it better to conceptualize them as made up of a variety of separable attitudes, or is it better to focus on a single master attitude, say, the “critical spirit” which perhaps has a number of different sorts of manifestations? If there are several attitudes, are they mutually compatible? (See McPeck 1981, p. 59). If upon further examination it turns out that there are tensions, say, between open-mindedness on the one hand and whole-heartedness and responsibility in facing consequences on the other, how are these tensions to be resolved? For one might well be in doubt in a particular case whether a commitment to a strongly held view violates open-mindedness or instead is the result of whole-hearted responsibility in facing the consequences of the evidence. Similarly, “decisiveness” and “flexibility” may well pull in opposite directions. How is good judgment to be developed about specific cases? People active in the field of teaching for thinking need to do a great deal more work to move the discussion beyond the level of catch phrases whose exact meaning or application in the classroom is left unclear.

(3) If one chooses to itemize various specific critical thinking attitudes or dispositions, further questions flood in. Let us look at one example: Ennis’s “Be openminded.” Ennis lists three aspects under this (injunction to have a) disposition:

- a. Consider seriously other points of view than one’s own (‘dialogical thinking’)
- b. Reason from premises with which one disagrees—without letting the disagreement interfere with one’s reasoning (‘suppositional thinking’)
- c. Withhold judgment when the evidence and reasons are insufficient

Each of these raises fascinating issues. (a) Which views are to be taken seriously? One of the recurrent aims of philosophers of science has been to diagnose hypotheses or doctrines as meaningless, pseudoscientific, non-falsifiable, not plausible or worthy of pursuit, or not real possibilities, in order to narrow the range of hypotheses or points of view which need to be taken seriously. Perhaps

only serious alternatives need to be considered. How are these to be determined? Should alternatives to one’s views always be seriously considered as recommended by Paul Feyerabend and embodied in his “principle of proliferation”? (Feyerabend 1975). How is one, then, to avoid relativism?³ I am suggesting, not that the disposition in question is ill-advised, but that its precise articulation is an open question.

(b) One theme in recent work on the psychology of reasoning is that humans are not ideal reasoners, so that Ennis’s second aspect of open-mindedness is an ideal goal (Tvarsky and Kahnemann 1974; Nisbett and Ross 1980). What are we to make of psychological studies of limitations in reasoning from false premises? Are the norms of critical thinking to be realizable ideals? Shouldn’t ideals be formulated in such a way that they take account of the practical limitations of finite human beings? As W.C. Wimsatt puts it, “it is not irrational to use a procedure that may under some circumstances lead you into error if you take pains to avoid those circumstances and if using it saves you a great deal of effort” (Wimsatt 1986, p. 297).

(c) Doesn’t an injunction according to which the presumption is to withhold judgment lean towards sceptical disbelief? Aren’t there times when other considerations might incline one to assent when the evidence is insufficient? And what count as sufficient evidence and reasons? This leads to the issue of the proper balance between scepticism and responsible reflective commitment.

(4) How are domain knowledge, critical thinking skills, and critical thinking attitudes related in specific applications?

(5) There are moral issues about critical thinking attitudes. As Dewey stressed, morally relevant traits of character are necessary for effective critical thinking. Stephen Norris has recently claimed that students have “a *moral right* to be taught how to think critically” and to have teachers who model critical thinking (Norris 1985, p. 40). It would follow that the decisions about whether or not to implement progress of critical thinking instruction also have a moral dimension. Moreover, critical thinking is directed toward action as well as belief, so critical thinking instruction

is part of moral education. Hence, discussions of critical thinking will be hard to limit to neutral, technical skills which have no controversial aspects.

Teaching Critical Thinking Attitudes

What changes in teaching are needed to foster critical thinking attitudes? And what should teachers do to develop their own critical thinking attitudes? It is clear that teachers should model critical thinking, both because students have a right to this and because only teachers who are critical thinkers themselves can teach critical thinking. Teacher training thus needs to address the attitudes of teachers and their metacognitive and meta-affective skills.

Teachers are interested in robust strategies, i.e., methods in which one can have confidence regardless of which controversial theories one holds about the proper analysis of critical thinking, the nature of knowledge and inquiry, or the psychology of learning. Further, these should be actually usable by teachers. Teachers should feel comfortable trying them out and be able to discover for themselves if they work. If teachers are affirmed as competent professionals, as is now being widely discussed, then it is appropriate to look for robust or "theorist-proof" rather than "teacher-proof" curricula and strategies. Are there such robust strategies and tactics for teaching critical thinking attitudes?

Some useful suggestions include the following.

(a) The teacher should model critical thinking (and so must be an accomplished critical thinker).

(b) it is important to identify and name critical thinking processes as they occur in the classroom and to attempt to use them in a variety of situations.

(c) Students should be actively involved and be encouraged to take the initiative as much as possible. A class should be organized as a community of inquirers on issues which are real and of genuine interest to students, so that students can actively think critically about experiences and problems

identified by them.

(d) Students should be helped to identify the thinking strategies and group processes which are productive as they emerge from class discussion and activities. They should, in other words, be helped to discover for themselves productive ways of thinking and inquiring.

(e) The classroom atmosphere should encourage students to take intellectual risks and to take their own and their fellow students' ideas seriously. The intellectual worth of each student should be affirmed. A variety of specific techniques can foster this aim. For example, students can take leadership roles in class discussion and can be evaluated in part on how well they have tried to grapple with the ideas of fellow students.

(f) The self esteem of students as persons and thinkers should be affirmed. Attention to the affective and interpersonal dimensions of critical thinking will bring rewards in the form of greater facility with technical skills.

Open-mindedness and Community Limits

(1) Are there appropriate community limits to the topics or points of view which can be discussed in an open-minded way? It is possible to draw boundaries. Not everything is up for grabs. Certainly many limits to *action* will not be violated even if the justification for these limits is critically probed. Further, it is possible for different teachers, communities, school systems, or other institutions to draw their own boundaries on permissible topics for discussion. These boundaries will be drawn differently in different school systems, but it would be misleading to suggest that there are some systems that might not want to draw any boundaries. There is ample room for local decision making. In part this point simply recognizes that teachers and communities will inevitably set limits; critical thinking is a matter of degree. But also serious positive arguments need to be considered to the effect that, since critical thinking is most effective when alternatives to accepted views are vividly considered, critical discussion of some topics may be inappropriate or harmful for

younger children or morally corrupting.

(2) Does the avoidance of dogmatism lead to skepticism and relativism? How can open-mindedness be balanced with rational commitment?

One source of latent opposition to critical thinking programs is the fear of the erosion of authority and the loss of traditional values. The teacher's authority in the sense of control of the classroom is not impaired, and indeed may be strengthened, by the encouragement of critical thinking. It is important to note also that teaching for critical thinking is not necessarily incompatible with the maintenance of community standards and values. Critical thinking is not necessarily corrosive; wide-ranging exploration of objections to favored beliefs and values need not lead to their abandonment. On the contrary, an important route to the firm grasp of beliefs and values can be through their critical testing. Part of the ideal of critical thinking is that students should not only have correct beliefs but also have come to understand the rational bases for them. John Stuart Mill's point in *On Liberty* holds for schools as well as for society as a whole: critical thinking can be a way of strengthening adherence to well-founded beliefs and values.⁴

Conclusion

In sum, I have suggested several questions which those concerned with teaching thinking need to deal with. A general classification of the main areas which have been discussed under the rubric of critical thinking attitudes also emerges from this discussion. I suggest that at least five kinds of items are involved:

(1) Critical thinkers must have the *motivation* to use their critical thinking skills in the service of rational inquiry and rational decision making. They must want to pursue truth, to avoid error, to revise their beliefs as new evidence becomes available, to have not just the correct beliefs but adequate justification or grounding for them, to make their decisions on the basis of full evidence, to develop their own goals and so on. Thus there are relevant *values and attitudes* in the strict sense of

a stance for or against objects like truth, rational inquiry, and the autonomy of persons in making up their own minds. These values and attitudes are motivational.

(2) Critical thinkers need to be able to transfer their skills to new situations and problems. They need to be able to see opportunities for the application of their skills in the new. Thus there are *dispositions for transfer and application* (including the ability to recognize appropriate situations for specific critical thinking strategies).

(3) Critical thinkers need to have *metacognitive skills* (of cognitive self-awareness and planning).

(4) Critical thinkers need to have "*meta-affective*" *skills* (of emotional self-awareness and control).

(5) Critical thinkers need to be aware of certain philosophical, psychological, and sociological characteristics of knowledge and inquiry. There is *knowledge about knowledge and inquiry*. Examples include the following: knowledge claims are revisable; there are various sources of bias and distortion; inquiry is a social process requiring the cooperation of many people. To the extent that there is dispute about some of these issues, the very notion of critical thinking is contested.

Notes

¹ Passmore 1967, p. 195.

² See also Gruber 1981, 1984, 1986 for accounts of his "evolving systems approach" to creative work. Gruber sees three main subsystems: an organization of knowledge, an organization of purpose, and an organization of affect.

³ I have discussed some of these issues in connection with the problem of the rationality of the Copernican revolution in Millman 1976.

⁴ "Complete liberty of contradicting and disproving our opinion is the very condition which justifies us in assuming its truth for purposes of action. . . The whole strength and value, then, of human judgment depending on the one property, that it can be set right when it is wrong,

reliance can be placed on it only when the means of setting it right are kept constantly at hand. In the case of any person whose judgment is really deserving of confidence, how has it become so? Because he has kept his mind open to criticism of his opinions and conduct . . . The steady habit of correcting and completing his own opinion by collating it with those of others, so far from causing doubt and hesitation in carrying it into practice, is the only stable foundation for a just reliance on it; for, being cognizant of all that can, at least obviously, be said against him, and having taken up his position against all gainsayers—knowing that he has sought for objections and difficulties instead of avoiding them, and has shut out no light which can be thrown upon the subject from any quarter—he has a right to think his judgment better than that of any person, or any multitude, who have not gone through a similar process.” (Mill 1978, pp. 18-20).

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