# Fisher, Alec and Scriven, Michael (1997). Critical Thinking. Its Definition and Assessment

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# Book Reviews

Fisher, Alec and Scriven, Michael (1997). *Critical Thinking. Its Definition and Assessment.* Edgepress: CA, USA/Centre For Research In Critical Thinking: Norwich, UK.

There can be no doubt that critical thinking is an important skill. Critical consideration of beliefs and supposed forms of knowledge is essential in dealing with the constant flow of information, opinion and appeal that is so characteristic of highly literate and technological societies. It is therefore hardly surprising that critical thinking is a popular subject, among educators and researchers. This popularity is not without risk. Due to confusion on what critical thinking is, how it should be assessed and how it can be taught, there is room for fashionable swings, grandiose conceptions and unrealistic expectations. In *Critical Thinking; Its Definition and Assessment*, Alec Fisher and Michael Scriven make an effort to advance the discussion on the first two of these issues. Fisher and Scriven give an elaborate account of the concept of critical thinking and comment on some of the leading attempts to define it. They list and discuss the competencies that are involved in critical thinking and review some classical and recent tests of critical thinking. Finally, they introduce a new kind of test item – the multiple rating item – against the background of a discussion of criteria for evaluation and issues of test validity and reliability. Fisher and Scriven build on earlier work; they point out that their definition of critical thinking has much in common with earlier conceptualizations of scholars such as John Dewey, Edward Glaser and Robert Ennis.

Fisher and Scriven define critical thinking as the 'skilled, active interpretation and evaluation of observations, communications, information and argumentation' (p. 20). The inclusion of the term 'skilled' signals that standards of quality are to be met before something qualifies as critical thinking. These standards are context-dependent, since what counts as critical thinking varies with the level of intellectual development of the thinker and the topic under consideration. The skill perspective also helps to avoid the very common confusion between the activity itself and the disposition to think critically, between thinking critically and being a critical thinker. The term 'active' refers to four levels of activity. The first, 'reactive processing' includes identifying key ambiguities and missing elements. The second, 'proactive' or 'investigatory' level involves interrogating, examining, or finding further sources in order to obtain further key information or clarification. The third level is 'reflective, analytical'. Here, thinking about thinking, or metacognition, is at stake. Reflective critical thinking has to do with identification of good sources and information-gathering procedures. It can also be self-reflective, as when the critical thinker considers

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his or her own knowledge, beliefs or actions. At a next sub-level, it implies the mastery and use of the powerful vocabulary of informal logic. Formulating new or refined concepts in, or principles of, critical thinking constitutes a final sub-level, that is reached by only very few people. The definition of critical thinking includes 'interpretation', since Fisher and Scriven see it as a crucial preliminary to drawing conclusions about complex claims, and because interpretation, when it is not straightforward, requires critical thinking. As a process of determining quality or value, 'evaluation' is integral to critical thinking. Evaluation can have different objects. As a separate object category, Fisher and Scriven distinguish 'observations', because of their pre-linguistic nature and because of the importance of non-verbal, sensory data. 'Communications' are introduced as a distinct category for two reasons. First, communications, like questions and commands, do not always intend to convey information, which makes them into a special object for critical thinking. Second, a critical thinker's own 'communications' (the term is used here in a different and more general meaning!) will often need critical review by their author. 'Information' or factual knowledge constitutes a third object category, separate from the fourth and final category: 'argumentation'.

Several critical questions can be raised in response to the definition of critical thinking Fisher and Scriven give. Most of these questions have been anticipated by the authors, who thereby provide an excellent model of self-referential critical thinking. However, not all of their answers are equally convincing. One may, for example, question the need to include 'interpretation' in the definition. The fact that interpretation is a crucial preliminary to drawing conclusions about complex claims does not necessitate its inclusion in the definition or critical thinking. Evaluation, when properly done, always implies interpretation. Fisher and Scriven observe that every difficult interpretation involves critical examination of hypotheses, which brings in evaluation, but only in support role. This observation is not convincing either. It rather illustrates that critical thinking can support complex interpretation. I find it very hard to conceive of cases where critical thinking does not involve evaluation. It seems very appropriate to conceptualize effortful interpretation as a process of hypothesis testing, and thus as an essentially judgmental activity. I therefore believe that 'interpretation' can be deleted from the definition. Parsimony and clarity will benefit alike.

The Fisher and Scriven definition categorizes the objects or material of critical thinking. Critical thinking can be about observations, communications, information and argumentation. Fisher and Scriven justify these distinctions by pointing out the different nature of the categories involved. Observations have a pre-linguistic nature; communications need not convey information, and information does not coincide with argumentation. While these distinctions all make sense, it remains questionable whether Fisher and Scriven accurately conceptualize the object of critical thinking. In their

discussion of observations, the authors make the point that it often takes critical thinking to know what one really saw (or sensed otherwise): 'When the filter of critical thinking has been applied to the observations, and only then, one can start reasoning towards further conclusions using these observations as premises' (p. 37). One may, with good reason, rephrase their account to one that holds that critical thinking is applied to utterances that say something about the observations. Although these utterances can take many forms (e.g. the form of a question or a hypothesis), one can always transform them into the prototypical material for critical thinking: a claim about what is the case or should be believed to be so. According to this line of reasoning, there is no need to include observations in the definition. This, of course, does not mean that observations are an unsuitable context for critical thinking. Far from that; Fisher and Scriven convincingly argue for the importance of non-verbal sensory data. In a similar vein one can argue against the inclusion of communications and information. When one thinks critically about questions or commands, one tends to question the conditions that prevail while they are uttered, or their assumptions or implications. Again, critical thinking typically applies to statements that concern these aspects. The same seems to hold for critical thinking about information. It seems therefore, in conclusion, appropriate to consider a more concise definition of critical thinking, one that is closer to Ennis' 'the correct assessment of statements' (p. 89).

The skill concept that Fisher and Scriven employ deserves some further reflection. Fisher and Scriven's definition of critical thinking as a skilled activity holds that there are certain standards below which thinking activities or efforts do not merit the predicate 'critical'. Sine it may be very hard to define such a threshold, one might consider to conceptualize critical thinking skill as an ability continuum that underlies achievement in a specific task or activity domain, thereby following the approach that is very common in the realm of psychological and educational testing. A paradigmatic question would then be to what extent the skill under consideration is uni- or multidimensional. Is there one difficulty order of tasks (or problems, or items) that holds for all subjects? Fisher and Scriven touch upon this important question when they discuss issues of test homogeneity. One may wonder whether the suggested order of activity levels will hold when put to an empirical test. For example: the task to apply critical thinking to one's own opinion or beliefs may well prove to be hard for some highly skilled persons and relatively easy for some persons of average critical thinking skill, due to the fact that a psychological trait such as fair-mindedness might come into play. Fisher and Scriven provide a good starting point for research into such questions. They have supplemented their definition of critical thinking with an extensive exposition on the entailed competencies: critical thinking involves interpretive competencies (critical reading, listening and observing), communicative competencies (critical writing, speaking and presenting), critical knowledge (of

informal logic distinctions and vocabulary, i.e. the tools for critical thinking), and critical technique. The latter is the genuine skill component and forms the core of critical thinking. It involves interpretation of context, clarification of meaning, the analysis of arguments and the synthesis of considerations into an overall evaluative conclusion.

A large part of the book is devoted to assessment issues. Fisher and Scriven's review of commercially available tests effectively points out the many complex and intricate considerations that are involved in testing. Their analysis points out important problems, such as the excessive demands on background knowledge that test items can make, and the validity threats that are inherent in items with a large scope for guessing. The authors also reflect on the 'great debate' on the authenticity, efficiency, reliability and validity of different types of assessment. They give a fair and balanced account of the pros and cons of selected response and constructed response items and they introduce an elaborated and very useful matrix for the evaluation of items and tests. New, and very promising, is their proposal to use multiple rating items in the assessment of critical thinking skills. The proposed item type calls for the evaluation of a number of attempts to solve a problem or task. Each attempt (e.g. a simple conclusion or a relatively complex analysis) is rated using some set of evaluative terms. The authors rightly point out that the multiple rating item is the general case of which the multiple-choice item is a special case. Selecting the best answer is a special, and often simple, case of rating each answer. The feasibility of the multiple rating item is demonstrated by a number of interesting examples of test items, such as the evaluation of short summaries, the identification and evaluation of putative reasons for a conclusion, and the evaluation of musical interpretations. The examples Fisher and Scriven give are likely to stimulate new developments in research and classroom testing.

The teaching of critical thinking is not the topic of this important and interesting book. Nevertheless, the authors address several questions of great educational importance. Fisher and Scriven make a strong case for a mixture of external stand-alone courses in critical thinking and an across-the-curriculum approach that infuses the teaching of critical thinking into the standard curriculum and teaches it in the context of particular disciplines. With equal strength they emphasize the importance of teaching techniques and concepts from informal logic. These are seen as highly transferable elements and as indispensable ingredients of a fast track to teaching general-purpose critical thinking.

Fisher and Scriven's book, in sum, has important qualities: it invites and stimulates critical thinking. Their conceptual analyses go into great detail, their analysis of existing tests is very informative and their ideas on the multiple rating item are promising. It is to be hoped that this book does not only provoke further conceptual analysis. It would be very useful if it inspires some of it readers to engage into substantial empirical

research that aims to identify components and determinants of critical thinking skills.

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Walton, D.N. (1997), *Appeal to Expert Opinion: Arguments from Authority*. University Park: Penn State Press, pp. xiv–281. ISBN 0-271-01695-7.

Issues of epistemic trust often play a central role in the evaluation of arguments. No one can investigate from scratch every topic of personal, scientific, social or political concern, and so each of us is often justified in believing a proposition because many or most of the other members of our epistemic community currently do so, or for a long time have shared that belief. There is a presumption in favour of this kind of epistemic practice, and one of the primary goals of theoretical accounts of argumentative appeals to popularity and tradition, for example, is to articulate the conditions under which this presumption is defeated.

My own view is that this is a very tricky and highly contextually sensitive business. Am I justified, for instance, in believing a proposition *P* merely on the ground that *P* is a widely held belief within my epistemic community? That depends, I would say. It depends on what *P* is about, it depends on the identity of the members of my epistemic community (however that is determined), and it depends on the reasonableness of my stance concerning the general competency of the other members of my epistemic community to form reasonable beliefs about matters germane to the topic at hand. Other things being equal, I may reasonably trust others regarding prudential consumer behaviour within the aisles of the supermarket, while reasonably withholding that trust on topics relating to party politics, and religious or moral convictions.

If this is even approximately correct, then Douglas Walton's engaging study of arguments from authority is definitely on the right track. Arguments from authority raise similar complex issues of epistemic trust, and Walton argues for an extremely subtle and nuanced view according to which these arguments are viewed as generating provisionally acceptable, but defeasible inferences. Since their weight of presumption is not absolute, arguments from authority may be subjected to a vast array of critical questions, it may be appropriate to raise very different critical questions on different occasions, and proponents of an argument from authority may respond to these questions with varying degrees of success. As such, and to his credit, Walton deliberately distances himself from all-too-familiar textbook accounts which assume that virtually all arguments from authority are fallacious, and which offer short and simplistic formulas that neatly and

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