

Can students be taught to think critically?

Karen Ancill

Centre for the Enhancement of Learning & Teaching
London Metropolitan University

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The literature on critical thinking has its roots in different disciplines – philosophy, psychology and education. These separate academic strands have led to the development of different definitions and therefore there has been little consensus on the definition of critical thinking. How to teach and foster critical thinking in students is still an ongoing debate. This has led to confusion among students who in turn do not know what is expected of them. Learners need some definition of critical thinking and even if there is no one definition, we can agree on some of the elements of the critical thinking process.

Critical thinking is an elusive concept, but it appears there are two broad camps. The first arguing that it is a set of skills that can be taught or learnt and the second that it is a disposition that cannot be taught but can perhaps be encouraged and nurtured. Some authors believe there are identifiable processes and skills and that skills in reasoning and an ability to think critically can be gained by a skills approach. Such taught skills could include how to identify the argument and key points in a text and how to evaluate the evidence. In the study skills camp, Stella Cottrell (2005) takes a generic study skills approach and sees it as a series of steps. Similarly, others (Paul and Elder 2004; Fisher 2001) also describe it as a sequence of stages.

Some argue the importance of logic – and even equate logic with critical thinking. *Bowell & Kemp (2002)* show its importance in reasoning and *Paul and Elder (2004)* show how logic is useful when deciding whether something makes sense and follows on. However, there is no real need to learn formal structures of logic to think effectively and critically.

Critical thinking is much more than just logical reasoning. It is also more than a set of skills or processes as it is possible to follow a list of steps without necessarily engaging in critical thought. It appears to also include the characteristics of intellectual curiosity and ability to use language skilfully with clarity and precision (*Bailin et al 1999*). The second, less structured, approach takes into account the importance of personal attributes, in particular the intellectual resources needed to be a critical thinker. There is a quality of thinking involved in the process and it is this quality and not the process of thinking that makes critical thinking distinctive (*Bailin et al 1999*).

This personal attribute of what has been called a 'critical disposition' (Coles and Robinson 1991) or a questioning habit of mind, suggests that critical thinking is more than skills and logic and really a set of habits and attitudes. The personal attributes and outlook of a critical thinker is what really counts. Some people are intellectually curious and apt to think critically while others are more uncritically accepting of ideas (Kneale 2003). This positions critical thinking as something active and not just receiving and accepting information and knowledge (Ennis 1996). For many students believing, not thinking, is knowing. 'It is not enough to teach college students the skills of critical thinking if they are not inclined to use them' (Halpern 1999:72). The question remains whether a student can develop a critical disposition and to what extent learners can be guided to become critical thinkers.

In this context, the pedagogical approach is more concerned with how critical thinking can be facilitated. Some argue that learners can be guided into becoming critical thinkers. Brookfield (1987) typifies this pedagogical approach advocating, as he does, trying to 'awaken, prompt, nurture and encourage this process' (p11). He focuses on how to enable learners to think critically, suggesting it can be fostered through stimulating the curiosity and motivation of students.

Khun (1999) has argued there is a developmental aspect to critical thinking which develops in parallel to the learner's conception of knowledge. There is a development and progression of the conception of knowledge. The starting point is the absolute, when knowledge is 'delivered' to the student by experts and it is then a matter of absorbing it. The conception of knowledge can transition to a realisation that knowledge is constructed and contextual and a matter of (informed) opinion, where there can be multiple perspectives and where tutors become facilitators. It is argued that a learner's capacity to think critically and independently can only grow in relation to their knowledge development (Baxter Magolda 1992)

Critical Thinking Workshops

There are various approaches to the teaching of critical thinking. There are approaches that focus on logic, on skills, on pedagogy and on personal dispositions. Some reasoning skills which are a part of critical thinking can be developed through exercises where students are trying to identify arguments and spot assumptions and flaws in arguments, and evaluating sources of evidence and interpretation.

Although assessment provides the opportunity for feedback and should be a good time to introduce and explain critical thinking to students, unfortunately, all too often bald statements at the end of an essay like 'too descriptive' or 'insufficient evidence of critical thinking' appear and can be confusing to students. Spending some of the time during a workshop discussing feedback that students have received can be therefore be useful. The learning developer may be using generic materials for this, though it might be useful at the start of a class to find out what each student is studying and then incorporate appropriate examples drawn from their subjects. The subject tutor may use their own materials or adopt generic ones.

Like Kipling's *Six Honest Serving Men* ('Their names are What and Why and When and How and Where and Who') this 'asking questions' approach to exploring problems is closely related to the journalist's investigative process and is used by many tutors successfully to improve the critical thinking of their students. Good examples of this model can be found on the Learn Higher website ('Critical Thinking Resources for Staff') pages and includes explanations of this approach including a video by John Hilsdon with advice on how it can be taught.

Some educators like to teach the philosophical underpinning to critical thinking such as reasoning and the fallacies of reasoning, ethics and practise at dealing with moral dilemmas. Some like to use logic puzzles (like the '4 prisoners in hats' among others, which can be found online). It is often argued that it's not about getting it right but rather looking at something in a particular way. However it is unclear how useful it is for students to continually find they cannot arrive at the 'correct' answer in these kinds of exercises. Some examples of scenarios (in *Bowell and Kemp* for example) can be used as a catalyst for debate and can illustrate argument and counter-argument. Using examples from their subjects can make the links to academic argument even clearer.

Discussion of moral dilemmas can help students become aware of how far their decisions are based on values. Group discussions, particularly engaging students in argument, though sometimes difficult to manage, can be a useful way of improving reasoning and debating skills, making students understand the need to support their views with reasons. It also exposes them to different perspectives and therefore helps students avoid that common failure to consider opposing points of view. It may also be that this kind of interaction with other students can help facilitate the shift from absolutist thinking.

Although a text analysis can be time-consuming, a well-chosen short text can be an invaluable learning tool. Using a text that is relevant to their subject helps students to understand why it is useful and how they can apply their critical skills. Students can be set tasks to identify the argument and then to assess it by finding what evidence has been used to support the conclusion, identifying weaknesses and strengths in the process. Students can then discover that asking key questions is central to critical thinking. This kind of exercise can also make students aware of differing perspectives as it can be contrasted with texts that provide alternate viewpoints.

It is important that students understand that there are no right or wrong answers and problems can have multiple solutions. They need to be able to see why it is that people can hold different views given the same situation or set of facts. Students can be helped to make the transition in their conception of knowledge required to become critical thinkers. Educators can be provocative, deliberately selecting material that displays ambiguity and the possibility of multiple perspectives in order to stimulate the thinking of students and even unsettle them. Our styles and approaches will vary, but as educators we can make knowledge transformative. We

can show students that there are other ways of looking. And once that shift in knowledge occurs it becomes irreversible. Educators are not here to 'transmit' knowledge. Learners need to be challenged and not spoon-fed. Education is, after all, 'the kindling of a flame not the filling of a vessel'.

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Biographical Note

Karen Ancill is a Senior Lecturer in Educational & Learning Development and part of the CELT team. She works with students on a one-to-one and on a group basis, helping them develop a wide range of academic skills. The power and form of critical thinking is one of her main personal and professional interests. **Email:** k.ancill@londonmet.ac.uk