

In Defence of Generalisation: Moore on the Critical Thinking Debate

W. M. Davies

The University of Melbourne, Melbourne, Australia
wmdavies@unimelb.edu.au

***Abstract:** This paper argues that general skills and the varieties of subject-specific discourse are both important for teaching, learning and practising critical thinking. The former is important because it outlines the principles of good reasoning simpliciter (what constitutes sound reasoning patterns, invalid inferences, and so on). The latter is important because it outlines how the general principles are used and deployed in the service of “academic tribes”. Because critical thinking skills are—in part at least—general skills, they can be applied to all disciplines and subject-matter indiscriminately. General skills can help us assess reasoning independently of the vagaries of the linguistic discourse we express arguments in. The paper criticises Tim Moore’s argument to the contrary conclusion that the specific forms of discourse (the “specifist” thesis) are a more suitable than general skills (the “generalist” thesis) as a means to teaching and learning about critical thinking.*

***Keywords:** Inference-making, critical thinking, argument*

1. Introduction

Tim Moore’s recent paper for this journal on the critical thinking debate between the “generalists” and the “specifists” is a timely piece, especially given the moves to introduce graduate skill assessment tests that incorporate “critical thinking” (Moore 2004). It is also timely given the recent discussions in the literature on the issue of Asian students studying in Australia and the alleged decline of academic standards, especially in the area of “critical thinking” (Watkins, Reghi et al. 1991; Chalmers and Volet 1997; Atkins 1999; Devos 2003). This paper argues that Moore is wrong in siding with the specifists, and that there is more to the case for the generalist than Moore suggests. However, unlike Moore, I am not intending to *adjudicate* between the rival positions, but to suggest that they are complementary and alternative means to achieving “critical thinking”.

2. The Generalists and the Specifists

The “generalists” are described by Moore as those for whom critical thinking is a universal, general skill. The “specifists” are those for whom critical thinking “is best conceived as only a loose category taking in diverse modes of thought” (Moore 2004, p. 4). Moore cites Robert Ennis (Ennis 1985; Ennis 1987; Ennis 1992) as a defender of the former position and John McPeck as a defender of the latter position (McPeck 1981; McPeck 1990; McPeck 1992). Moore himself sides with McPeck and argues for the importance of specific-skills and genre-specific approach to the teaching of critical thinking.

3. Moore’s Argument

It seems to me that Moore's argument—and indeed, the whole “debate” between the generalists and the specifists—involves a case of the *fallacy of the false alternative*. This is not a new response to the debate. In fact, it has already been mentioned in relation to McPeck's account—on which Moore relies (Quinn 1994).¹ In Moore's case, the fallacy can be seen in a revealing passage:

Despite the importance attached to the skill of critical thinking, and despite assurances by many universities that it is imparted to students as a matter of course, a number of unresolved questions remain. Central to these is the issue of *whether critical thinking is in fact a universal “generic skill” able to be applied invariably to the situation at hand, or whether it is best conceived as only a loose category taking in diverse modes of thought*. And related to this conceptual issue is a central pedagogical question: *is it best for our undergraduate students to be taught about critical thinking as a subject of study in itself, or should it be handled within the context of students' study in the disciplines* (Moore 2004, p. 4).

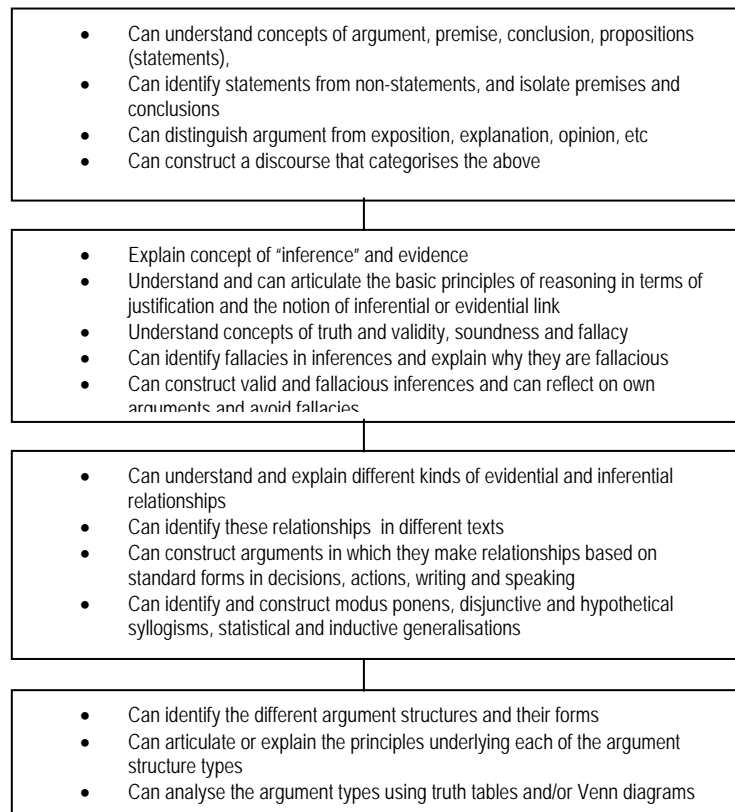
Moore seems to want us to accept here that critical thinking should be *either* thought of as a universal “generic” skill or a “loose category taking in diverse modes of thought”—that is, a subject-specific category, *but not both*. He does seem to be opting for an “exclusive” sense of “or” regarding the generalist and specifist debate. In parallel, he wishes us to accept that students should be either taught about critical thinking “as a subject of study in itself”, or through disciplinary studies, *but not both*. We can see that this is so, because in the article alternative positions are not offered; combined approaches are not raised as worth considering (though see below). This false dilemma is similar, note, to other fallacies, such as:

Either we increase military support to El Salvador or we cut off funds altogether. Therefore we must choose between caving in to communism and supporting a brutal tyranny.

This gives readers of Moore's paper the possibly incorrect view that one needs to take a stand on the alternatives offered, when it might be unnecessary. In fact, there is plenty of support for the idea critical thinking should be seen in terms of *both* a general skill—and diverse modes of thought that are particular to the disciplines concerned. One teacher of traditional “generalist” critical thinking methods, Pat Gehrke, has suggested that they way to approach teaching critical reasoning in the future is by means of an “existential” approach—an ‘augmentation pedagogy that involves: ‘infusing argumentative pedagogy with the perspective of rhetoric as epistemic ... [which results in a] multiplicity of logics and a plurality of truths that can be engaged dialogically, rather than oppositionally’ (Gehrke 1998). I would not want to go so far as to make such ambitious claims as to what might result from such an “infusion”, but the general point that general reasoning skills can be taught means of *joining* “argumentative pedagogy with rhetoric” is important and needs to be made. This approach has been adopted elsewhere (Ennis 1987; Ikuenobe 2001).

Ikuenobe, for example, argues persuasively for a position where the generalist approach can be combined with the requirements of specific contexts in a “developmental” approach to teaching critical reasoning. On Ikuenobe's view, context-free principles of informal logic are ‘necessary but not sufficient’ for critical thinking (Ikuenobe 2001, p. 20). Ikuenobe makes the plausible point that an entirely context-dependent “specifist” view of critical thinking is “unsatisfactory”. This is because while it is true that the notion of what constitutes an acceptable premise and conclusion is discipline-specific, ‘it is necessary to have an objective

set of rational standards that can be rationally agreed on to unpack the notion of “reasonable inference” (Ikuenobe 2001, p. 24). His “developmental” procedure can be represented as a series of five stages as follows:



It is only at the fifth level—not specified here owing to its discipline-specific nature—are the general principles applied to specific disciplinary contexts. Below this level general principles of critical reasoning are studied. This kind of model is surely more intuitively reasonable—and arguably more pedagogically sound—than a model which is entirely “specificist” in its approach.

Moreover, there is compelling evidence that an approach that “infuses” general critical thinking skills into the context of a discipline—a “partial treatment” approach—results in measurably better performance than a “no treatment” approach, but not better performance than a “full treatment” approach (i.e., a generalist critical thinking approach in the guise of informal logic classes). Solon has noted, in two separate studies, a substantial rise in critical thinking competence as measured in a Cornell Z test after a study comparing pre- and post-tests of three groups of students: one receiving only general critical thinking instruction (the full-treatment group); another receiving critical thinking instruction in the context of psychology classes (the partial treatment group) and a third group—a class in rhetoric—receiving no instruction at all (the no treatment group) (Solon 2001; Solon 2003).

The full-treatment group had 40 hours of classroom instruction and over 80 hours of homework exercises. This group showed the greatest improvement in critical thinking of the other two groups. The partial treatment group had 10 hours of class time intervention and the control group had none at all. Solon carefully eliminated from the groups individuals who may have had prior experience or training in “logic” or critical thinking-related subjects

(statistics, research methods) or who was involved in debating, investigative journalism or detective work. Solon also subjected the students in the three groups to a battery of tests to ensure that students in the three groups were not too dissimilar in terms of initial abilities. The grade point averages of each group of students were similar (2.79, 2.86 and 2.73 respectively), they performed similarly on an ASSET reading test (for university admission) and there was no noticeable differences in terms of gender or ethnic mix. Crucially, students in each of the groups performed similarly in the pre-test using the Cornell Z (Critical thinking group M=43.88; Psychology group, M=43.75; Rhetoric group, M=44.13). The results of the second study are reproduced below.

	Pre-test Cornell Z	Post-test Cornell Z	Group Contrast	Mean Difference	Critical Value	Level of Significance	Effect Size
Critical Thinking n = 32	43.88 SD: 4.51	30.32 SD: 3.67	CT v Rhetoric (post)	7.05	4.28 6.30	Sig p < .05 Sig p < .01	d = 1.19
Psychology n = 30	43.75 SD: 5.17	26.88 SD: 4.24	CT v Psych (post)	3.45	3.39	Sig p < .05	d = .80
Rhetoric n = 33	44.13 SD: 5.19	23.27 SD: 5.51	Psych (post) v Rhetoric (post)	3.61	3.39	Sig p < .05	d = .69

From (Ikuenobe 2003)

Clearly such results are suggestive of the importance of an integrated approach to teaching generalist skills in the context of the disciplines and not an argument for an entirely specificist approach. (Interestingly, it also offers controlled support to the value of a “generalist” approach by itself). The results seem to indicate that the more critical thinking instruction, the greater the benefit in terms of measurable results. Ikuenobe’s paper is the first of its kind to attempt a controlled study of this kind, and further work in this area—replicating the study in a variety of disciplinary contexts—would be of great interest.

It is not necessarily being suggested that general critical thinking skills need be taught in the form of critical thinking or informal logic classes at universities (as it is customarily done). I am neutral on the issue as to how best to teaching general reasoning skills. As Tim van Gelder has pointed out, the evidence for such courses actually improving reasoning abilities is mixed, though as we have just seen with Soton’s work, there is certainly some evidence that it does develop general thinking skills and improve academic performance overall (Annis and Annis 1979; Massey 1981; Tomko 1981; Gibbs 1985; Miller 1986; Leshowitz 1989; Hatcher 1999; Riniolo and Schmidt 1999; Reed and Kromrey 2001). Regardless of where one stands on this debate, it is clear that teaching such general skills by means of new developments in computer-supported argument mapping is showing substantial improvements in overall reasoning abilities (van Gelder 2002). It may be that the generalist enterprise has been right in its aims but wrong in its methods to date and that there are better ways to teach it. This is entirely consistent with the argument of this paper.

But to return to Moore’s argument. Moore’s fallacy is not as explicit—nor as dangerous—as the substituted argument above. I would not want to suggest that it is. But it is nonetheless Moore’s aim to subordinate our understanding of critical thinking as a “generalist” movement to an understanding of critical thinking as a “specificist” movement. Moore, in fact, wants us to see generalist-style critical thinking as itself *a specific form of discourse* (as opposed to a general skill which is universal to the human species). It is clear that this is his motivation in other passages:

What I want to suggest from the above analysis is that the discourse associated with generalist critical thinking training (as in Text 1) may be best thought of as not a *general* discourse at all, but rather a quite *specific* one (Moore 2004, p. 13).

Elsewhere, however, Moore is less equivocal:

I do not wish to suggest that this type of discourse [generic, universal “critical thinking” models] is not a valid one for our students to learn about, only that it is a mistake to see it as the model for other discursive forms that they will need to engage with, both in their studies, and later in their professional lives ... to [do so] is pedagogically ill-conceived (Moore 2004, p. 13).

There is clearly a conflict here. On the one hand, Moore’s conclusion that a specificist thesis is more acceptable than a generalist thesis regarding critical thinking (his stand on the “critical thinking debate”) will only follow if an exclusive sense of “or” is assumed (and *either* the generalist thesis or the specificist thesis is supported, *but not both*). But Moore is less than equivocal on this, and in places, wants to acknowledge the importance of both the specificist and generalist theses. This conflict is fudged by calling the generalist approach a “type of discourse” in the second passage above.

But this reasoning is flawed. The generalist approach demonstrably sees critical thinking as more than “a type of discourse”. As Moore notes correctly elsewhere, for the generalist—and not the specificist—critical thinking is a “universal, general skill” that applies to ‘the correct assessing of statements’ (Ennis 1987). For the specificist it is a “loose category taking in diverse modes of thought” that are subject-specific. Moore seems to want to have his cake and eat it too. He wants to use an “exclusive” sense of “or” and reject the generalist conception in favour of the specificist conception, but in places he also wants to have an “inclusive” sense of “or” and keep the generalist conception as *a form of discourse* among other. This line of reasoning results in confusion.²

5. Moore’s Examples

Much of the argument that Moore presents turns on an acknowledgement of the different “dimensions” of *object*, *content* and *register* in the selectively-chosen samples given from academic writing. These samples are of the kind that students may be faced with. Moore’s aim is to give a detailed assessment of a range of texts from different disciplines. The examples Moore presents are reproduced in the Appendix below, and summarised in a table that Moore also provides (Moore 2004, pp. 7-8).

All the examples are selected because they present different examples of ‘critical thinking’ from different disciplines, and each evaluate a ‘set of ideas’ (Moore 2004, pp. 7-8). Moore’s claim is that because the object, content and register of the examples are dissimilar that this therefore casts the ‘generalist’ thesis into disrepute. Moore’s argument can be expressed in the following hypothetical syllogism (I am paraphrasing from Moore’s article):

P1: If the generalist thesis is true then examples of critical thinking from different disciplines should be able to be assessed using general skills of critical thinking.

P2: Examples of critical thinking from different disciplines *cannot* be assessed using general skills of critical thinking (the object, content and register are dissimilar for each example)

C: Therefore, the generalist thesis is false.

This valid argument form—*modus tollens* (or denial of the consequent)—provides further, practical, support for Moore’s previous contention that:

Universal general skills do not model the discursive forms that students have to engage with (and “would seem to be pedagogically ill-conceived”) (Moore 2004, p. 13) [Tantamount to: critical thinking skills are *not* best taught as universal skills.]

However, I would submit that Premise 2 of the above argument is false. To see why, consider Moore’s claim that assessing Texts 2 and 3 in terms of the ‘non-gradable’ terms of Text 1, does not do justice to the evaluative criteria being employed in such texts. Moore suggests that the terms in Texts 2 and 3: ‘implausible’ and ‘ineffective’; ‘holistic’ and ‘vivid’—unlike the term ‘true’ or ‘logical’ (which might properly apply to Text 1)—admit of gradable evaluation. It is possible to be ‘more or less plausible’, ‘more or less vivid’, and so on. Moore claims that, by contrast, is not possible to be ‘more or less true’. His point is that the evaluative criteria of Text 1—which is presented as a textual instance of the ‘generalist’ model of ‘critical thinking’—do not admit of ‘graded’ evaluation, and that therefore the generalist thesis is inadequate as a means of understanding all kinds of ‘critical thinking’. The evaluative criteria that apply to examples like Text 1, do not apply to Texts 2 and 3, according to Moore.

However, this is a serious oversimplification of critical thinking as it is understood—or should be understood—in the generalist model. The generalist thesis is not restricted to the kinds of examples as given in Moore’s Text 1, even if they are the main focus of Moore’s attack on generalisation. Strictly speaking, the generalist thesis is that understanding and application of rules of logical inference *as taught in critical thinking or logic classes* (and not in specific disciplinary areas) assists in the transmission of the tools and principles of “critical thinking” (i.e., these skills are not just taught by means of subject-specific genre of the disciplines).

It needs to be noted that syllogistic reasoning patterns, such as those provided in Text 1, are only *one form* of critical thinking—one model of logic—on the generalist model. Specifically, it is a form known as propositional logic (or syllogistic, or Aristotelian logic) (Smith 2003). Modern forms of critical reasoning, however, also admit of many alternative forms of logics—one of which is “fuzzy” logic (Hajek 2002). This form of generalist logical system admits of a range of truth values in-between “true” and “false”. Propositions may be assigned *degrees of truth*, which may be “absolutely true,” “absolutely false” or some *intermediate* degree of truth. On this account, a proposition may in fact be *more true* than another proposition. Other systems of logic include: monotonic logics, paraconsistent logics, intuitionist logics, modal logics and relevance logics. At best, Moore’s point applies, at best, only to the teaching of a *certain form* of generalist “logic” (namely, propositional logic), not others.

Leaving this aside, however, it is not clear—even using the form of generalist logic that Moore is criticising—that his argument follows. For I would submit that Texts 2 and 3 (given in the Appendix) *can* be profitably discussed using the terms of general logical principles. This does not mean, of course, that the texts cannot *also* be profitably discussed in the terms of the linguistic discourse or subject matter they are expressed in; it means only that Moore’s claim that they cannot be adequately rendered in the terms of the generalist thesis is false.

The argument of Text 2, for example, can be re-written as follows (once again I am paraphrasing from the example Moore gives):

P1: If different models of reasoning constitute what he call “subject areas”, and have their own “categor[ies] of understanding” and rules of reasoning, then the general thinking skills approach is implausible.

P2: The different models of reasoning *do* have their own rules of reasoning [evidence for this is presumably supplied elsewhere in McPeck’s book].

C: Therefore, the general thinking skills approach is implausible.

It would be clear from what has been argued so far that this argument is far from adequate, even if the conclusion does follow validly from the premises (as it does here). Even accepting that different disciplines have their own “rules of reasoning” and “categories of understanding” (whatever this might mean exactly), it need not be accepted, without further argument, that the general thinking skills approach is “implausible”. I have suggested in this paper that there is no coherent reason why the terms of the generalist and the specificist positions cannot be jointly marshalled as useful and practical ways of approaching an understanding of “critical thinking”. Indeed, they are best seen as complementary methods. Assuming otherwise commits the fallacy of the false alternative. Given this, Premise 1 can be seen as a false premise. I would suggest that McPeck’s argument is a case of a valid argument with unsound premise and a false conclusion. That this is so can clearly be seen once the argument is unravelled from the slab of disciplinary text that harbours it—a considerable advantage of the generalist method.

The argument of Text 3—a review of a study by M. Hopkins written by K. Poethig—is admittedly more difficult to render in the terms of the generalist model of critical thinking and more susceptible to misinterpretation as it is taken out of disciplinary context (which I acknowledge is *also* useful in understanding critical thinking). However, the argument as it stands goes something like this (note that there are a number of assumed premises and intermediate conclusions being made):

P1: A ‘holistic’ ethnography should attend to transnational linkages (or: if an ethnography attends to transnational linkages then it is ‘holistic’). (Tacit, assumed premise).

P2: [The author’s] not attending to transnational linkages can be explained by the primary focus on women and children and their kinship rituals.

P3: If an ethnography primarily focuses on women and children and their kinship rituals then the refugees will not express a political or national self-consciousness (beyond being survivors of the Khmer Rouge).

P4: Hopkins’ study *does* focus primarily on women and children and their kinship rituals.

C1: Therefore, the refugees in Hopkins’ study do not express a political or national self-consciousness (beyond being survivors of the Khmer Rouge) (from P3-P4).

P5: An ethnography that attends to transnational linkages would pay more attention to political transitions in Cambodia.

P6: Hopkin’s study *does not* attend to political transitions in Cambodia (from P2)

C2: Therefore, Hopkin’s study does not attend to transnational linkages (tacit, unstated conclusion, from P1-P3 and P5-P6).

P7: Given the profound shifts in Cambodia during the period of Hopkins' research, a study where the subjects express no political or national self-consciousness nor other transnational linkages, is surprising (from P1-C2).

P8: The subjects in Hopkins' study express no political or national self-consciousness and other transnational linkages (from P3-C1 and P7)

C3: Hopkins' study is surprising.

It would be easy enough to go on to establish Poethig's main conclusion that Hopkins' study is not "holistic"—in Premise 1 it is only established that if an ethnography attends to transnational linkages then it is holistic (nothing is established about Hopkins' study itself)—but I think the point being made here is already clear enough. The generalist model of understanding critical thinking is *quite* capable of handling arguments expressed in the language of the disciplines.

It might be argued that such an approach is a blunt instrument and captures few of the subtleties of the language used—e.g., in relation to the extent of "vividness" of Hopkins' study—but this is a slightly different point from the one Moore is making. (Moore is intimating that *because* it cannot capture "vividness" it therefore cannot capture the argument being made—and this clearly does not follow as we have seen.) At any rate, none of the linguistic subtleties impinge or influence the series of inferences being made. A generalist approach does not require such linguistic fineries as "most vivid" to establish the patterns of inference in the argument. Indeed, such things add little or nothing to the argument, *qua* pattern of inference, though they might add something to the author's attitude to the article being reviewed, and the social context of the paper (Moore is right in stressing this point). But it is unreasonable to expect that any *one* approach to understanding critical thinking will do the entire job (that is, both analysis of inference and textual analysis). I am suggesting that both approaches—generalist and specifist—are needed.

One of the major advantages of a generalist approach such as that given above is that it allows inferences to be made clearly and explicitly so that they *can* be questioned and criticised. If I were Hopkins, I would more easily be able to attack Poethig's review from a reading of the above "generalist" rendering, than I could from Poethig's original text. Indeed, I would be able to point to the premises of Poethig's review that I disagree with, and establish the reliability of the drawing the conclusion that he has. I would be easily able to muster a counter-attack or reply.

However, I would not want to suggest that the generalist approach alone is a panacea. It also has disadvantages. It is true that this approach alone does remove the elegance of the prose by rendering it "bluntly" as a series of inferences. But then again, academic writing is not poetry. It is written to advance knowledge by means of argument or evidence. Another disadvantage of such a rendering is that it can be done badly in the wrong hands. It requires hard intellectual work, and prose is—by its very nature—notoriously open-textured and vague. Different readers bring different assumptions to the argument and construe it differently. This can lead to renderings of the prose in quite different ways. (Note, however, this is also a problem for the specifist approach to critical reasoning which is based on the discourse of the disciplines alone.) However, these problems can be overcome, not by opting for a *specifist* approach to critical thinking, but to investigate better ways to render arguments using the generalist approach. New forms of computer-assisted argument mapping seem, on the evidence to date, to be the best strategy for the future (Monk 2001; van Gelder 2001; van Gelder 2002).

Much is lost in the “fog” of academic discourse in the disciplines. This is indeed a pity. Often students are not capable of understanding arguments being made precisely *because* they become lost in academic discourse. I point to just one example of textual “fog” as a case in point:

The move from a structuralist account in which capital is understood to structure social relations in relatively homologous ways to a view of hegemony in which power relations are subject to repetition, convergence, and rearticulation brought the question of temporality into the thinking of structure, and marked a shift from a form of Althusserian theory that takes structural totalities as theoretical objects to one in which the insights into the contingent possibility of structure inaugurate a renewed conception of hegemony as bound up with the contingent sites and strategies of the rearticulation of power.³

At the level of pedagogy, becoming lost in academic discourse—at the expense of seeing patterns of inference in arguments—is unfortunate in the extreme. At the level of what might be driving educational policy, it is a disaster. To see critical thinking in the terms of the “specifist” alone—to see: ‘the discourse associated with generalist critical thinking training as not a *general* discourse at all, but rather a quite *specific* one’ (Moore 2004, p. 13), is to plump for the “fog” of disciplinary discourse over the clarity of generalist inference-making (I am not suggesting, by the way, that all disciplinary language is “foggy”, though increasingly in some disciplines it is). I would submit that *unless* students are capable of “deconstructing”—and I use this word in a non-technical and non-disciplinary sense—slabs of discourse into a series of premises leading to a conclusion, it is not clear that they have learned anything substantive about their subject (regardless of the subject-matter). Becoming embroiled in the discourse of one’s discipline may have intrinsic merits, but doing this to the *exclusion* of understanding the patterns of general inference being made is to lose one of the important aims of education; that is, to be able to apply general critical thinking principles to any text under consideration (regardless of subject matter). Increasingly, I see students who cannot do this, so the “specifists” would, on the face of it, appear to be winning. So much the worse for contemporary education.

6. Conclusions

Moore’s conclusion from all this is a form of “qualified relativism” about the enterprise of critical thinking (Moore 2004, p. 14). From the (reasonable) assumption that the linguistic discourse of the various disciplines are distinctive and unique, and with the observation that students, by and large, move between linguistic discourses readily without problems (a premise I would question), combined with his earlier argument that the generalist thesis is inadequate (which I have criticised), Moore claims that there are problems of drawing together in some intelligent way ‘the homogeneity of the general with the pluralities of the particular’ (Moore 2004, p. 14). According to Moore, it is not easy to see how the generalist model of critical thinking can ever capture the “loose and diverse modes of thought” of the disciplines. Hence, he sides with the specifists and a “qualified relativism” of what constitutes critical thinking. Critical thinking is not a general facility, which (given suitable training) we are all imbued with to a greater or lesser extent, but a “particularist” facility to be devolved to the linguistic discourse of the disciplines. Moore cites Taylor as a fellow proponent of this view (Taylor 2000).

Given the preceding discussion, however, this “qualified relativist” conclusion is a *non sequitur*. Critical thinking, as a general facility, *can* be applied to the forms of discourse of the disciplines readily. I have used only deductive forms of reasoning in this paper, but of course “critical thinking” encompasses much more than this (Ennis 1987). Moreover, there is no good reason to rule out a combinatory approach whereby critical thinking is seen in terms of *both* general skills and particular skills used in the context of the disciplines (Ennis 1997). Armed with both, students can adapt readily to the challenges of higher education. Arguing otherwise assumes the fallacy of the false alternative. Arguing otherwise also drives educational policy in distinctly unhelpful directions.⁴

The way around the error is to acknowledge that any attempt to adjudicate between the generalist and the specifist positions amounts to a false dilemma. General skills *and* the varieties of subject-specific discourse are *both* important for teaching and learning about critical thinking. The former is important because it outlines the principles of good reasoning *simpliciter* (what constitutes sound reasoning patterns, invalid inferences, and so on). The latter is important because it outlines how the general principles are used and deployed in the service of “academic tribes”. Recent work in critical thinking has been able to see past the false dilemma that Moore has presented, and to accommodate the different notions of critical thinking in a unified approach (Ikuenobe 2001). Critical thinking is therefore more than simply “a loose category taking in diverse modes of thought”(Moore 2004, p. 4). There is nothing relativist—or “qualified relativist”—about it.⁵

References

- Annis, D. and L. Annis (1979). "Does Philosophy Improve Critical Thinking?" Teaching Philosophy **3**: 145-152.
- Atkins, S. (1999). Difference Theory and Cross-Cultural Teaching. Crisis and Education: Comparative Perspectives for the New Millennium Conference, Melbourne.
- Chalmers, D. and S. Volet (1997). "Common Misconceptions about students from South-East Asia Studying in Australia." Higher Education Research and Development **16**(1): 87-98.
- Devos, A. (2003). "Academic Standards, Internationalisation and the Discursive construction of "The International Student"." Higher Education Research and Development **22**(2): 155-166.
- Ennis, R. H. (1985). "Critical Thinking and the Curriculum." National Forum **65**: 28-31.
- Ennis, R. H. (1987). A Taxonomy of Critical Thinking Dispositions and Abilities. Teaching Thinking Skills: Theory and Practice. J. Baron and R. Sterberg. New York, W. H. Freeman.
- Ennis, R. H. (1992). The Degree to which Critical Thinking is Subject Specific: Clarification and Needed Research. The Generalizability of Critical Thinking: Multiple Perspectives on an Educational Ideal. S. Norris. New York, Teachers College Press: 21-37.
- Ennis, R. H. (1997). "Incorporating critical thinking in the curriculum: An introduction to some basic issues." Inquiry **16**(3): 1-19.
- Gehrke, P. (1998). "Teaching Argumentation Existentially: Augmentation Pedagogy and Theories of Rhetoric as Epistemic." Argumentation and Advocacy **35**(2): 76.
- Gibbs, L. (1985). "Teaching Critical Thinking at the University Level: A Review of some Empirical Evidence." Informal Logic **7**: 137-149.
- Hajek, P. (2002). "Fuzzy Logic",. The Stanford Encyclopedia of Philosophy.
- Hatcher, D. L. (1999). "Why Critical Thinking Should be Combined with Written Composition." Informal Logic **19**: 171-183.
- Ikuenobe, P. (2001). "Teaching and Assessing Critical Thinking Abilities as Outcomes in an Informal Logic Course." Teaching in Higher Education **6**(1): 19-32.
- Ikuenobe, P. (2003). "Teaching Critical Thinking: The More the Better!" The Community College Journal **9**(2): 25-38.
- Leshowitz, B. (1989). "It Is Time We Did Something about Scientific Illiteracy." American Psychologist **44**: 1159-1160.
- Massey, G. (1981). "The Pedagogy of Logic: Humanistic Dimensions." Teaching Philosophy **4**: 303-336.
- McPeck, J. (1981). Critical Thinking and Education. New York, St. Martin's Press.
- McPeck, J. (1990). Teaching Critical Thinking: Dialogue and Dialectic. New York, Routledge.
- McPeck, J. (1992). Thoughts on Subject Specificity. The Generalizability of Critical Thinking: Multiple Perspectives on an Educational Ideal. S. Norris. New York, Teachers College Press: 198-205.
- Miller, R. (1986). "Towards an Empirical Definition of Thinking Skills." Informal Logic **7**: 113-124.
- Monk, P. (2001). Mapping the Future of Argument. Australian Financial Review: 8-9.
- Moore, T. (2004). "The Critical Thinking Debate: How General are General Thinking Skills?" Higher Education Research and Development **23**(1): 3-18.

- Quinn, V. (1994). "In Defence of Critical Thinking as a Subject: If McPeck is Wrong he is Wrong." Journal of Philosophy of Education **28**(1): 101-111.
- Reed, J. H. and J. D. Kromrey (2001). "Teaching critical Thinking in a Community College History Course: Empirical Evidence from Infusing Paul's Model." College Student Journal **35**(2): 201-215.
- Riniolo, J. H. and L. A. Schmidt (1999). "Demonstrating the Gambler's Fallacy in an Introductory Statistics Class." Teaching of Psychology **26**: 198-200.
- Smith, R. (2003). Aristotle's Logic. The Stanford Encyclopedia of Philosophy, Zalta, Edward N.
- Solon, T. (2001). "Improving critical thinking in an introductory psychology course." Michigan Community College Journal **7**(2): 73-80.
- Solon, T. (2003). "Teaching critical thinking! The more, the better." The Community College Experience **9**(2): 25-38.
- Taylor, G. (2000). The Generic and the Disciplined: Can Universal and Particular be Reconciled. National Language and Academic Skills Conference, Melbourne: Monash University.
- Tomko, T. (1981). "Evaluation of Formal Logic Competence." Teaching Philosophy **4**: 387-403.
- van Gelder, T. (2001). How to Improve Critical Thinking Using Educational Technology. Meeting at the Crossroads: Proceedings of the 18th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education, University of Melbourne, Biomedical Multimedia Unit.
- van Gelder, T. (2002). Enhancing Deliberation through Computer-Supported Argument Mapping. Visualising Argumentation: Software Tools for Collaborative and Educational Sense-Making. P. Kirschner, S. Buckingham Shum and C. Carr. London, Springer-Verlag.
- Watkins, D., M. Reghi, et al. (1991). "The-Asian-learner-as-rote-learner Stereotype: myth or reality?" Educational Psychology **11**(1): 21-34.

Appendix 1: Moore's Examples

Text 1: Extract from “thinking” textbook for students (Ruggiero, V. 2001. *The Art of Thinking: A Guide to Critical and Creative Thought*. New York: Addison Wesley Longman. P. 247).

Consider the following ARGUMENT:

All Mensa members are intelligent
Some goatherds are Mensa members
Therefore, all goatherds are intelligent.

It is true that all Mensa members are intelligent (at least in terms of the mental characteristics measured by intelligence tests). So it would be logical, even inescapable, to conclude that those goatherds that are Mensa members are intelligent. But the premise speaks only of some goatherds not all of them. So it would be improper to conclude that all of them are intelligent. Non-members may be positively brilliant, but too modest to celebrate their intellectual gifts, or they may be dumber than the animals that they tend. On the basis of what is given here, we simply cannot say.

Text 2: Extract from chapter on “critical thinking” (McPeck, J. ed. 1990. *Teaching Critical Thinking: Dialogue and Dialectic*. New York; Routledge. pp. 36-37, original emphasis).

I am arguing that just as different rules of predication constitute different language games, so different models of reasoning constitute what we call “subject areas”. Each is a different “category of understanding” (in a Wittgensteinian sense), and each has its own “rules”, as it were, of reasoning. That is what renders a general thinking skills approach *implausible* from a theoretical point of view, and *ineffective* from a practical point of view—at least so I submit.

Text 3: Extract from anthropology review article (Poethig, K. 1998. Review: ‘Braving a New World: Cambodian Refugees in an American City’ by Mary Carol Hopkins. *American Anthropologist*: 100, 1.

It is surprising that the refugees in Hopkins’ study express no political or national self-consciousness beyond their now classic formulation as survivors of the Khmer Rouge. Should not a ‘holistic’ ethnography also attend to these transnational linkages, particularly given the profound shifts in Cambodia during the period of her research? This absence may be partly due to the fact that her time was spent primarily with women and teenagers, who might have paid less attention to political transitions in Cambodia. Indeed, Hopkins’ ethnography is the *most vivid* in sections dealing with women’s role in family life, particularly kinship relationships and rituals.

Text—synopsis	Field	Genre	Rhetorical purpose
Text 1: Evaluation of syllogism	Critical thinking	Textbook	Pedagogic
Text 2: Evaluation of educational approach	Critical thinking	Monograph	Expository
Text 3: Evaluation of Ethnographic study	Anthropology	Review	Expository

¹ 'There is no need to confine oneself to the side of Scylla ... nor to that of Charybdis ... The escape from the dilemma is between the horns' (Quinn, 1994, p. 105). I thank Neville Buch for drawing my attention to this article.

² Moore seems to make a number of standard fallacies and logical errors in his article. This makes his attack on the generalist method—which stresses the study of the “generic” characteristics of arguments—particularly ironic. This can be seen in the following points:

- As discussed, Moore asserts that *either* critical thinking is a ‘universal, general skill’ *or* it is a specific skill, i.e., a ‘a type of discourse’. Plainly, however, there is no reason why it cannot be understood in terms of both. (*Fallacy of the false dichotomy.*)
- As we have just seen, Moore fudges the distinction between critical thinking as ‘the correct assessing of statements’—i.e., critical thinking *qua* patterns of inference concerning statements—and critical thinking in the form of domain-specific rhetoric—i.e., critical thinking *qua* discipline-specific language. (*Fallacy of equivocation.*)
- Moore appears, in places, to attack a position that no-one in their right mind would assert. He argues that teaching critical thinking by using only ‘universal generic examples’ is unhelpful and ‘pedagogically ill-conceived’. (He asks rhetorically: ‘is the type of thinking that might be fostered in the general thinking text (Text 1) likely to help students to produce a discipline-specific text ...?, p. 13). His contention is that it is therefore best to do critical thinking in domain-specific terms. However, Moore does not cite anyone who argues for the proposition he is attacking and it is hard think why anyone would. Note that there is a difference in claiming: (1) that critical thinking is partly “generic” in nature (as Ennis, and others, do), and; (2) the *only* way to teach critical thinking is by using generic examples. (1) is plausible and (2) is clearly implausible. Clearly, critical thinking should be taught using as many different ways as possible—both using generic techniques *and* using the discourse of the discipline concerned. To the extent that Moore’s argument is an attack on an indefensible; and, in practice, an undefended position—who actually argues for proposition (2)?—it is an instance of the *Strawman fallacy*. NB: In fairness, Moore also notes that the generic approach to teaching critical thinking by using generic examples is: ‘a valid one for students to learn about’ (p. 13). His position is either fallacious, or it is confusing.
- Moore draws the conclusion that it is ‘pedagogically ill-conceived’ to use the generalist strategy to teach students (This is surely, given what has already been said, a *false corollary*.)
- Finally, Moore derives his conclusions about the nature of critical thinking from a discussion of propositions which—on the face of it—seem to be *trivially true*, namely: (1) that discourse analysis reveals that there are differences in the *object, content* and *register* of arguments (see Moore’s Table, cited in the Appendix); and; (2) that critical thinking is done differently in different domains of study (or “academic tribes”). These propositions are surely uncontentious. Unfortunately, they do not on their own lend support to Moore’s conclusions about the nature of critical thinking.

³ This case of impenetrable text was given first prize in the “Bad Writing Contest” conducted by the journal *Philosophy and Literature*. The example is from Judith Butler, Professor of Rhetoric and Comparative Literature at the University of California. The aims of the contest are stated as follows:

The Bad Writing Contest attempts to locate the ugliest, most stylistically awful passage found in a scholarly book or article published in the last few years. Ordinary journalism, fiction, etc. are not

eligible, nor are parodies: entries must be non-ironic, from actual serious academic journals or books. In a field where unintended self-parody is so widespread, deliberate send-ups are hardly necessary. This year's winning passages include prose published by established, successful scholars, experts who have doubtless laboured for years to write like this. Obscurity, after all, can be a notable achievement. The fame and influence of writers such as Hegel, Heidegger, or Derrida rests in part on their mysterious impenetrability. On the other hand, as a cynic once remarked, John Stuart Mill never attained Hegel's prestige because people found out what he meant. This is a mistake the authors of our prize-winning passages seem determined to avoid.

For further examples, see: <http://www.miami.edu/phi/misc/badwrit3.htm>. NB: James Franklin has taken the trouble to collect local examples of bad academic writing at his "Australia's Wackiest Web pages" (see: <http://www.maths.unsw.edu.au/~jim/wackiest.html>). I hasten to add, that Moore's paper does not at all fall into this category and—because it is well-written and clear—can be capable of criticism, as all good academic writing should. I am criticising Moore's premises and conclusion and the form of the argument he presents, not his writing.

⁴ Nonetheless, Moore is right about one thing. "Academic tribes" are a recognised phenomenon in tertiary education, and the positions advanced in academic debates are always expressed in terms of what philosophers call "paradigms" or "mental models"—the knowledge/conceptual/linguistic base for whom that dispute is important. Questions such as: "What, in general, counts as a "plausible" premise or conclusion?" are questions which are not usually answered in an abstract "general" way (outside logic classes). As Moore rightly notes, they are usually answered "inside" the context of a linguistic community; specifically, the academic culture that regards a given dispute as meaningful. This point is correct and needs to be made. However, Moore has the wrong end of the stick when it comes to seeing linguistic genre itself as the basis for understanding "critical thinking". For note that while positions defended must be *expressed* in genre-specific terms (to be acceptable to the proponents of the genre—tutors, lectures, examiners, etc), the *arguments themselves* (if they are worth their salt) must be amenable to analysis in the general terms of the logico-semantic relations of a more general nature. It is easy to see why this is so. While linguistic discourse varieties may ebb and flow, and academic "tribes" come and go, a valid inference is always a valid inference (and, by parity, an invalid inference is always invalid). To suggest, therefore, that critical thinking is best seen as a set of skills which is best understood in "specifist" terms rather than "generalist" terms, is a case of the "genre" tail wagging the "universalist/generalist" dog.

⁵ This paper has benefited from comments from Robert Ennis, Tom Solon, Tim van Gelder and Neville Buch.