

The teaching of critical thinking in FYHE: Can it be taught effectively as a generalist academic skill?

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Abstract

Critical thinking (CT) is a core skill for success in first year undergraduate education. The literature is divided on the best strategies for providing students the opportunities to develop CT skills; particularly in relation to whether it should be taught as a set of generalised transferable skills or whether it is required to be taught within a specific discipline context. This paper looks at a number of different strategies for developing CT skills that reflect current approaches at the University of Southern Queensland (USQ). The relative merits of each approach will be workshopped, drawing on ideas and concepts from the literature and the practical experience of participants. This will be used to tease out issues concerned with the debate in the literature on general education versus discipline-specific approaches to developing CT skills in undergraduate students.

Introduction

USQ has a number of strategies for providing pathways for entry into higher education for a diverse range of students. An emphasis has been given to ensuring that these do not serve to compromise mainstream academic entry standards or place unrealistic expectations on students approaching higher education study from socioeconomically disadvantaged (LSES) or educationally disadvantaged backgrounds. A major new strategy is the introduction of a Foundation Diploma program which provides credit for articulation into mainstream undergraduate programs at USQ. The Diploma which has been developed jointly by USQ Faculties and the University's Open Access College (OAC) operates essentially as an open access pathway which provides significant levels of individualised student support and exit level standards appropriate to the level of undergraduate credit afforded.

Four separate diplomas are offered through OAC which lead into four of USQ's five faculties. Four of the eight subjects in each diploma program are common foundation subjects developed and taught by the OAC, while the remaining subjects are discipline-specific subjects provided by each of the faculties concerned. The foundation subjects are seen as providing a key strategy for the open access diplomas as pathways into mainstream undergraduate study, as they provide the basis for engendering LSES and first generation students with a range of skills that are typically not well provided for in the educational backgrounds of these students but which are critical to their successful transition and future persistence and progression in their degree study – considered as 'transition elements'.

One of the core skills that the foundation component of the diploma courses seeks to address is 'critical thinking' (CT).

CT as a core undergraduate skill

CT has been variously defined as thinking that is: reasonable and reflective (Ennis, 1989); that displays mastery of intellectual skills and abilities (Paul 1993); that enables an individual to engage in activities with reflective scepticism (McPeck, 1990); or that enables an individual to be appropriately moved by reasons (Bailin & Siegel, 2002). Overall, CT may be thought of as thinking that is sceptical, open-minded, evidence-based, rigorous, principled and heroic. CT is viewed as being crucial for all contemporary academic contexts as it is seen as providing an attitude and/or an inter-related set of core academic skills that ensure objective analysis, deep understanding, effective problem solving and the development of self-directed learners which all lie at the heart of academic process (Nosich, 2009). It is also seen as an essential element of general and professional education in response to the rapidly changing professional and workplace environments whereby CT serves as a basis for positioning all individuals to operate effectively in an increasingly demanding knowledge society where the sheer volume and diversity of readily-accessible information sources creates its own special challenges and pitfalls (Paul 1993). CT, therefore, provides a basis for the conduct of sound scholarship and the development of effective self-directed learners.

There are several reasons why the teaching of CT is an important consideration for FYHE:

- Skills such as ‘critical analysis’ and ‘problem solving’ are typically listed alongside ‘academic communication’, ‘study management’ and ‘surviving university’ as essential academic skills that are required to be embedded early (Browne & Keeley, 2001), with such skills development having an impact on the persistence and success of first year students (Tinto & Pusser, 2006), and providing an essential ‘levelling of the playing field’ for students coming in to FYHE from diverse backgrounds (McInnis et al., 2000; Scoufis & Carmichael, 1996; van der Meer & Scott, 2008).
- Paul (1993) argues that the development of CT skills requires more than students simply engaging in CT. Students must also study the principles and practices of CT itself; requiring it to be undertaken early in the undergraduate experience, particularly as this form of study is not routinely addressed in school.
- Kalman (2002, p. 83) cites research highlighting that: “students enter introductory courses with viewpoints differing considerably from theories that will be taught them”. The early mastery of CT skills serves to facilitate the necessary realignment of paradigms required by these students to affect effective transition into university study.

Assessing curricular strategies for the teaching of CT

While CT is clearly a desirable skill for undergraduate students to have, and to develop to a high degree as early as possible in their undergraduate experience, there have been surprisingly few empirical studies on the effectiveness of different strategies for promoting the development of CT skills in undergraduate students (Lampert, 2007). As a result, the literature remains divided on the best strategies for providing students the opportunities to develop their skills in CT; particularly in relation to whether it should be taught as a distinct generic subject as part of a foundation program or whether it is required to be taught within a specific discipline context (Bailin & Siegel 2002, 1998; Moore, 2004; Weinstein, 1993). The main arguments put forward in this debate can be summarised as follows:

Robert Ennis (1989) describes CT as consisting of a collection of skills – including observing, inferring, generalising, reasoning, analysing, assessing statements and critiquing arguments – that are generalised and transferable, subject to a threshold level of competence in a particular discipline in undergraduate contexts.

Richard Paul (1993) is also a ‘generalist’, but describes CT more as a set of behaviours and psychological traits than as a set of skills. This author notes that good critical thinkers need to have a deep knowledge of themselves in order to resist inherent biases, need to be heroic in terms of having the courage to face harsh realities and a willingness to place differing worldviews into perspective, and visionary in terms of using CT to see the ‘big picture’. Similarly, Bailin and Siegel (2002) view the conceptualisation of CT in terms of skills as mistaken, relying instead on a conceptualisation based on ‘reasoned judgment’.

By contrast to the views of Ennis, John McPeck has been a major spokesperson for the CT ‘contextualists’, describing courses designed to teach generalised CT skills as “both conceptually and practically empty” (McPeck 1990, p. 47). He argues that skills taught in isolation are not readily transferable to specific contexts. His ultimate argument is that CT requires a depth of discipline knowledge.

Purpose and approach for the nuts & bolts presentation:

It is the purpose of this nuts & bolts presentation to put forward the arguments of both sides in this debate and use them as a basis for assessing the relative benefits and disadvantages of a number of curricular approaches used at USQ to develop CT skills in undergraduate students. These are:

1. generic skills subject taught as part of an Indigenous preparatory program;
2. generic skills subject taught in a foundation diploma;
3. generic skills subject taught as part of an undergraduate business program;
4. CT skills embedded in academic subjects using first year psychology as an example;
5. CT skills addressed through academic learning support (ALS) programs offered through the extra-faculty Learning & Teaching Support Unit; and
6. a specialist subject in a Psychology program.

This presentation therefore aligns with the Conference Theme of ‘Design for student success’, and is applicable to the following subthemes:

- ‘Strategies for supporting wider participation in higher education’, by virtue of critical thinking representing a core skill for undergraduate student success and progression.
- ‘Institutional innovation and the FYHE’, through the use of a Foundation Diploma program as (i) a strategy for achieving open access pathways which articulate into degree programs while allowing faculties to tighten entry standards directly into mainstream programs; and (ii) embedding transition strategies into the Diploma program to improve successful transition following articulation into a degree program.

Questions or issues for the audience:

- Which strategy or combination of strategies is best for teaching CT effectively? and why?

- **(An underlying question:** Is the teaching of CT as a general education subject in the Foundation Diploma developed by OAC and the faculties at USQ an effective and worthwhile strategy for developing CT skills in students?)

Session outline:

- A short (10 minute) powerpoint presentation will be used to describe different strategies for teaching CT in an undergraduate context – as highlighted by specific approaches employed at USQ – and to provide an overview of the CT literature, as a basis for discussion.
- A one-page handout listing both the benefits and disadvantages of USQ's five strategies will be provided to participants.
- A large group discussion will be facilitated to review and verify the information on the handout leading in to a discussion to assess the relative merits of each approach and identify which strategy or combination of strategies is likely to be the most effective.
- During the discussion, notes will be taken on an electronic whiteboard or on butcher's paper as a record of the workshopping process.

Desired outcomes

- The results of the discussion will be used to assess the perception of the participant group on how effective the approach taken to instilling CT skills in USQ's Foundation Diploma program is likely to be, compared with alternative curricular strategies available. These perceptions can then be compared with the outcomes as realised in practice.
- More broadly, the discussion will provide the basis for teasing out the major issues concerned with the debate in the literature on general education versus discipline-specific approaches to the teaching of CT in FYHE, which remain largely unresolved despite the fact that, in practice, general education approaches have proliferated.

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