

Designing assessment to promote first year and disciplinary novice success in critical thinking

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Abstract

This paper reports on the first stage of an initiative within the Business Faculty of an Australian university, adapted an assessment strategy used to teach critical thinking to second year, disciplinary novices for students in first year. Unit curricula and assessment were re-designed to develop first year students' capacity for proposition testing, or critical evaluation, as a component of essay research. Specifically, it required them to focus on the validity of premises and the relationship between premises and conclusions. Whilst student performance for both first and second year units improved compared with previous iterations prior to the initiative, the initiative was more successful for students in the second year politics unit than for first year students. This paper will examine some possible explanations for this, including cohort profiles, prior learning and overall unit curriculum design. It will also critically discuss the use of the essay as an assessment tool for developing students' critical thinking skills.

Introduction

Critical thinking is one of the hallmarks of a university education in Australia and internationally. However, because it is complex and multi-dimensional there is still debate about its definition and how best to teach it. This paper describes an assessment-based initiative, which was first developed in a second year politics unit, but adopted more recently for a first year unit within the business faculty of an Australian university. The initiative was designed to address the tendency for students in both first and second year units to find and uncritically present information to support their essay argument. Initial findings from both units, including a comparison of student work before and after the initiative, interview data, and interdependent review of student scripts showed that second year disciplinary novices were better able to demonstrate evidence of evaluation or proposition testing than first year students. Although these results are not unexpected, this paper will briefly examine some possible reasons for this difference including cohort differences, the effect of prior learning and the effect of overall unit curriculum design. It will also suggest that teaching students the 'essay as structured argument' model of essay writing may actually work counter to the development of some forms of critical thinking.

Background

There is broad acceptance that the capacity for critical thinking is a key feature of a university education. However, existing literature highlights a continued lack of conceptual clarity about how it is defined (Chanock, 2001; Deitering & Jameson, 2008; Jones, 2007; Moore, 2004; Mummery & Morton-Allen, 2009; Reid & Parker, 2002), and how best to approach its development (Kirkpatrick & Mulligan, 2002; Paul *et al.*, 1997; Phillips & Bond, 2004; Vandermensbrugghe, 2004; Wilson *et al.*, 2004). This lack of conceptual clarity is of particular concern for first year students and disciplinary novices since they may be

unfamiliar with critical thinking processes that underlie the scholarship in their chosen discipline (Deitering & Jameson, 2008, p.58). There is also the tendency for academic staff to adopt the written essay as a vehicle for the development of critical thinking, even though first year students often nominate essay writing as one of the more challenging forms of assessment at university (Krause, 2001, p.150).

Critical thinking can be defined as the learner's development of 'effective reasoning, interpretation, analysis, inference, evaluation and the monitoring/adjustment of one's own reasoning processes' (Mummery & Moreton-Allen, 2009). Because of the multiplicity and variability of available information for any given topic under study, critical thinking is also associated with ability to deal with a certain level of confusion and ambiguity (Deitering & Jameson, 2008, p.59). Some have argued that the that different forms of critical thinking are specific to particular disciplines (Bath et al., 2004; Ballantyne et al., 2004; Christensen & Cuffe, 2002), and that different disciplines test propositions or evaluate claims in different ways (Alfino *et al.*, 2009, p.85). Whilst others argue that critical thinking should be seen both as a generic skill and as discipline specific modes of thought (Davies, 2006, p.180). This work of this paper reflects this more 'infusionist' point of view since it focuses on issues that are specific to disciplines but also more generic skills such as critical evaluation.

This study focuses on the re-design of existing curricula and assessment in a first year politics course based on a 'proposition testing' model, which had previously been used, with some success, in a second year unit. Proposition testing develops students' critical reading and research skills by asking them to focus on the validity of premises and the relationship between premises and conclusions (Alfino *et al.*, 2008). This change in assessment practice accords with Nicol's (2009, p.337) recommendation for enhancing the first-year experience in that it requires that students spend more time, 'on task', developing their critical thinking skills. In each case, the re-designed assessment consisted of two or three stages. In early stages students were asked to evaluate a claim by attempting to find any evidence to support or refute it, and summarise the author's arguments within a reading. In both cases students were expected to re-apply their proposition testing and critical reading skills to research and write an essay. Essay criteria and descriptors were adjusted to reflect the different standard of performance expected for first and second year students. Supporting audio-visual resources, exemplars and templates were provided for all stages of the assessment.

The study

The study used a grounded approach: identifying, issues or themes and deriving propositions from qualitative data. This included a summary of student results before and after the initiative and two rounds of semi-structured, interviews with a small sample of students from each unit: ten students overall for round one and six for round two. Open-ended questions focused on students' understanding of critical thinking as a key component of essay writing. Student work for each of the interview participants was independently assessed against criteria relating to proposition testing, and cross-checked with interview data against questions relating to the purpose of an essay, the definition of an essay argument, the role of an opinion, and the definition of critical thinking. An additional eight student essay scripts from each unit were randomly selected, two of each grade from a Pass to a High Distinction, and were analysed using the same criteria.

First stage outcomes

The overall review of student results by the course examiner, both before and after the initiative, showed that second year novices were more able to demonstrate proposition testing than first year students. This was corroborated by independent analysis of student essay scripts, which suggested that irrespective of whether they addressed other essay criteria, all disciplinary novices in the second year unit demonstrated at least one instance of proposition testing. Most of the first year students of whatever level of performance were unable to reach the level of evaluating evidence. Instead, there was a greater tendency, compared with previous offerings, to summarise rival positions and use examples as evidence, particularly at the Pass or Credit level. Better performing first year students, from both before and after the initiative, tended to focus on supporting their own argument with evidence but often omitted discussion of rival views.

Analysis of the interview data suggested that the perceptions of all but one first year participant shifted towards a view of essay writing that placed more emphasis on research, evidence, judgement, and validity. However, for first year participants even a reasonably clear, conceptual understanding of the type of critical thinking associated with proposition testing or evaluation did not necessarily equate with the capacity to demonstrate this in their work. With such a small sample of first year students, and with participants enrolling in more than one course for the semester under study, the interview findings are inconclusive and more research is required determine whether this would also be the case for other first year students.

Discussion and conclusion

Whilst student performance for both first and second year units improved compared with previous iterations prior to the initiative, the proposition testing method appeared more successful for students in the second year politics unit than for first year students. Therefore, it is important to briefly examine any differences between the two cohorts beyond the obvious difference in university experience.

One obvious explanation for this greater level of success, even for second year disciplinary novices, might be a greater level of familiarity with university-level essay writing. However, this must be weighed against the consideration that disciplinary expectations may differ in relation to essay writing, as acknowledged here by one second-year, interview participant:

Like with some psychology subjects you are really asked not to have an opinion without being able to reference it and back it up, whereas some subjects allow you to be a bit more creative.

Other differences between individuals in first and second year cohorts may also be at play, including their disciplinary background. Due to the inclusion of the second year politics unit within a Social Science major many second year students were also enrolled in other humanities or social science units. However, the first year politics unit is part of the first year Bachelor of Commerce core, so enrolled students are also mainly enrolled in other first year Faculty of Business courses. One advantage this provides second year students in this study is related to the greater likelihood that they will have prior experience in essay-writing. Another likely advantage may be that second year students receive greater encouragement to be critically literate by their Social Science lecturers, and by the more clearly contested nature of knowledge in their discipline (Kirkpatrick & Mulligan, 2002, p.80; Hammer & Green, 2011, p. 309). Interview data also offer the possibility that prior learning associated with the participant's occupation may have had an effect on their preparedness to engage critically

with chosen topics. Three participants were employed with local government authorities, and each talked about relating essay topics to their existing professional knowledge. One in particular argued that:

If it's a subject where it's very similar to what I've done in my own working life or something like that, I find it a lot ... [easier] ... to go to the next step and actually really apply something, or think where it actually applies. I think if it's a completely new subject, it is difficult to take that next step.

Whilst our preliminary findings suggest the importance of participants' backgrounds as learners, another point of differentiation included differences in curriculum and assessment design between the two units. The first year politics unit was designed around the theme of 'business acting politically' whereas the second year politics unit was designed around the theme of 'debate'; course readings for each topic were structured around the idea of a debate. Therefore, it is possible that the second year course modelled multiple viewpoints in a way that assisted students.

Finally, in reflecting upon the experience of first year students it is possible that the essay form presents a particular challenge for students for two reasons. The first is that, even disregarding the issue of critical thinking, the mastery of the essay form is a complex task in and of itself. Secondly, the fact that universities preference what Newkirk (1989) refers to as the 'thesis' controlled essay with its requirement that students support their thesis or argument with evidence may work against the development of critical thinking. As Bartholomae (cited in Newkirk, 1989) argues, 'The tyranny of the thesis often invalidates the very act of analysis we hope to invoke' (p.7).

Session outline

Whole group discussion (5 minutes): What types of critical thinking are associated with essay writing?

Presenter (10 minutes): Outline the critical thinking initiative and local results

Paired discussion (5 minutes)

a. How is an essay conceived in their own institutional and disciplinary context?

b. How essay writing is taught in their own context?

Presenters and whole group (10 minutes): Pairs report back; presenters and group draw together participant ideas and summarise conclusions.

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