

Essay Writing in Biology: An Example of Effective Student Learning?

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Abstract

The views of first-year biology students ($N=337$) on an essay writing assignment were evaluated by means of a questionnaire. The students were asked to reflect on the strategies they employed, the number and type of resources used, their areas of difficulty and to evaluate their own performance. The data were used to elucidate possible areas of discrepancy between the approach taken by the students and that suggested by the Biology Department via information in student manuals and evaluation criteria. The data were also compared to similar studies on student writing previously reported for students of psychology and history. Finally a series of recommendations is made to help staff to allow their students to develop improved writing strategies, minimise the possible difficulties encountered and allow the writing exercise to fulfil its desired outcome, that of being an integral part of the process of learning.

There is a generally held view that essay writing, or perhaps assignment writing in general, is a demanding and difficult task for most commencing tertiary students. This has resulted in the recognition of writing skills as an important component of the academic curriculum at most Australian tertiary institutions, but the teaching of these skills is still often approached in a rather *ad hoc* fashion. There are a considerable number of recent studies on writing in a tertiary context, from the perspective of both the teacher and the learner (Anderson & Poole, 1994; Branthwaite, Trueman, & Hartley, 1980; Clancy, 1985; Clancy & Ballard, 1983; Hounsell, 1984; Mahalski, 1992; Marshall & Rowland, 1993; Nightingale, 1983, 1988; Norton, 1990). In the sciences, and in particular the physical sciences, though writing is seen as an important skill, it is sparingly taught in a formalised way and is often seen as something mainly reserved for other disciplines. Writing strategies for the sciences have often been devoted to the more technical or demanding aspects of writing, such as that required for a thesis or for publication (Burkett & Dunkell, 1983; Pratt, 1984; Ebel, Bliefert, & Russey, 1987; Smith, 1990; Day, 1991). Writing for undergraduate students in science had its genesis in the "writing across the curriculum" program that was popularised in the USA during the early 1980s. Only more recently has attention been paid to undergraduate writers in particular disciplines within science (Beall & Trimbur, 1993a, 1993b; Garratt & Mattinson, 1995; Moore, 1992, 1993; Saul, 1984; Shires, 1991; Sublett, 1993; Van Orden, 1990).

The present study owes much to the previous work of Branthwaite, Trueman and Hartley (1980) who looked at the writing strategies of psychology undergraduates at Keele University and found a disparity in the criteria used by staff in assessing student writing and those of students when approaching the writing task. Similarly, Hounsell (1984) interviewed history and psychology students in an effort to interpret their writing strategies and found there was a critical difference in the students' conception of what an essay was and what writing an essay actually involved. Hounsell identified three key elements involved in writing: the data, organisation and interpretation. The author also concluded that successful student writing necessitated an understanding of the planning strategy in relation to the students' concept of writing. Many writing texts offer a type of formula for the writing process and present it in the form of a linear progression from reading to planning to composing and editing, leading ultimately to final submission. Jackson (1991) recently pointed out the fallacy of this approach