



## Reflective journals and critical thinking

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**Abstract:** *This paper considers the efficacy of using reflective learning journals to encourage critical thinking, both for English speaking background and non-English speaking background students. The paper is a preliminary study into 122 journals based on qualitative research into some 750 learning journals completed over the past seven years for the first year Faculty of Economics and Business unit of study 'Communication and Critical Analysis', which has both English and non-English speaking background streams. It was found that the use of learning journals very much enhanced the understanding of critical thinking in a course centred on critical analysis from the perspective of history and philosophy of science and the language used to express such analysis in English.*

### Introduction

There are many definitions of critical thinking. Ennis (1987) defines it as “reasonable reflective thinking that is focused on deciding what to believe or do”. The 1990 Delphi Report, compiled by an expert panel from a number of different disciplines, saw critical thinking as a “purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, and contextual considerations upon which that judgment is based. . .” (Facione 1990). Paul (1992) did not bother so much with a precise definition but put forward the concepts of weak sense critical thinking, which involves such factors as argument analysis, synthesis and evaluation, and strong sense critical thinking, which also incorporates an ethical sense of fair-mindedness to negate any ego-centrism. These considerations of critical thinking put it in line with the scientific postulational, experimental, modeling, taxonomic, historical derivation, and probabilistic thinking that have marked the beginnings and continuation of modern rational thought (Crombie 1994) along with the understanding of subjectivity of observation as pointed out by the sociologists of science.

The importance of reflection in learning was first advocated by the renowned philosopher of education, Dewey (1933), who argued that experience alone does not necessarily lead to learning. Since then reflection has become integral particularly to the tertiary educational process, and learning journals have been especially used extensively in professional academic courses such as teaching (Francis 1995; Bain, Ballantyne, Packer and Mills 1999), nursing (Riley-Doucet and Wilson 1997; Wong, Kember, Chung and Yan 1995) and management (Varner and Peck 2003; Loo and Thorpe 2002). However, there seems to be little research on journal writing fostering critical thinking on a course devoted to the teaching of critical thinking and its relationship to academic discourse. This paper aims to redress this imbalance by a qualitative study of 122 learning journals written for the unit of study, Communication and Critical Analysis, a first year undergraduate course in the Faculty of Economics at The University of Sydney.

### The unit of study Communication and Critical Analysis

The unit of study, Communication and Critical Analysis, was developed as a stand alone academic communication skills course for the Faculty of Economics and Business in the University of Sydney. It was developed initially as a compulsory unit for the undergraduate Bachelor of Commerce (Liberal Studies), a degree which was first offered in the Faculty in 1998 with a set intake of fifty students. It is a practical academic discourse skills unit of study with a knowledge base rooted in rudimentary history and philosophy of science. I say rudimentary because even though Lakatos, Kuhn and Popper were not mentioned at all in the unit, I used their ideas on proof and refutation, paradigm shifts and hypothesis testing to give the students an understanding of one of the main *raison d'etres* of a university, the understanding of and addition to the continuum that is knowledge, and the effect that this continuum has on the style of discourse.



The student cohort for the unit was limited to one hundred and twenty five because of limited resources with twenty five students per two hour workshop/seminar each week for thirteen weeks. Topics for discussion included: Argument and Proof; History of Argument in Ancient Greece and China; Convention, Fact, Opinion, and Preference; Judging Assertions; Deductive and Inductive Proof; Validity and Proof; Refutation; Fallacies of Argument; Connotation and Denotation; Art of Rhetoric; Hypothesis Formulation; Paradigm Shifts in Knowledge; and Critical Analysis. These were supplemented with the more skills-based topics such as Grammar of an Essay; Grammar of a Paragraph; Citation as the Basis of Academic Writing; and Difference between Written & Spoken Texts.

The students in the unit of study self selected into English and non-English speaking backgrounds (ESB and NESB) streams. The NESB students would undertake the above workshop/seminars in with the ESB students but would also attend an extra one hour tutorial focussed on higher-level English grammar, especially of sentences, to enhance the fineness of meaning of their academic writing. The streaming was entirely self selecting although after the diagnostic summary some students were encouraged to enter the NESB stream.

The assessment for the unit of study included a five sentence diagnostic summary task (*Science and Ethics* by Bertrand Russell), and two argumentative essays on contentious social topics such as exploitation and pornography, the relationship of the environment to economics, and gender and power; further assessment tasks were a twenty minute seminar paper and a reflective journal. For the reflective journal, each student was expected to write a weekly journal entry of approximately one A4 page. In this, the students were asked to reflect on their learning in class, its impact on their other units of study, their experience of the university as a whole and their world outside of university. The effects these external factors have on learning in class were also to be considered. Thus, the highest marks were to be given to those students who reflected on all four levels, i.e., the class → the university, the class → the outside world, the outside world → class, and the university → the class.

In the journals, students were encouraged to identify their own values, attitudes and beliefs underlying their reactions to various learning situations and to reflect on how such values, beliefs and attitudes might affect their studies and their world in general. Thus, the students were advised that the journal should not be a mere summary of the information garnered from the classes. If there was evidence that a complete journal was written only in the last week of semester, it received a failing mark. Students were also told not to use academic style for the journal as it was a personal reflection and thus should be written as such. The journal assessment comprised fifteen percent of the final mark for the unit of study.

## Method

This research used the three levels of reflectivity defined by Mezirow (1981). In the first level, non-reflection, the writing of the student shows a lack of reflective thought. In this case this becomes obvious when a journal is a mere summary of each week's activities with no personal reflection at all beyond this summary. The second level of reflection indicates an awareness of observations, judgements and descriptions and an ability to assess decisions and plans. The third level is critical reflection where the student is aware that their routine schemata are inadequate with the need for a different perspective stemming from an understanding of the necessity for further learning.

The allocation of the journals to these three categories, i.e., non-reflector, reflector and critical reflector was relatively straightforward although those at the boundaries of each level posed some problems. When there was any indecision of this nature, the journals was counted at the lower level for consistency. Thus, for example if a journal was mainly reflective but also showed some critical reflection, it was considered to be at the reflective level, not the critically reflective level. Moreover,

there was no attempt to identify sub-levels of reflection through the identification of textual elements due to the lack of reliability of such a process as identified by Wong et al. (1995).

Furthermore, given that students from different language backgrounds were being compared, provision had to be made so that the assessment was not affected by the similarity or dissimilarity of the cultural backgrounds of the student and assessor. This was addressed to a large extent by the main research background of the assessor, which is the history and philosophy of science in China. This was used to see through superficial discourse markers to evidence of critical thought. Thus, for instance, neither the macro discourse structure typical of English academic discourse (here the mini-essay) nor grammatical correctness were used as indicators of critical thinking

## Results and discussion

The following table shows the distribution of non-reflectors, reflectors and critical reflectors amongst the 122 students in relation to their language background. There were ESB 88 students and 34 students in the NESB stream.

Student type	ESB no.	ESB %	NESB no.	NESB %
Non-reflector	6	6.8	6	17.6
Reflector	32	36.4	17	50
Critical reflector	50	56.8	11	32

From the above table it could be presumed that the ability to display depth of reflection is related to ability in the English language. However, closer inspection of the journals indicates that the situation is actually much more complex than it seems. One-third of the students in the non-reflector category used the journal as a personal diary and reflected on their life but very seldom in relation to the class. A further complicating factor was the entry level of the Bachelor of Commerce (Liberal Studies) students. The breadth, flexibility and comparatively small intake of this degree course made it popular amongst commencing students such that it quickly became the ‘flagship’ degree of the Faculty attracting students from the top 3 percent of students in relation to the New South Wales University Admission Index. Of the fifty Commerce (Liberal Studies) students in this cohort only five identified as NESB. Thus, the sample is not indicative of a normal Australian first year university cohort, and the addition of these fifty students skews the population somewhat. Moreover, of the 88 students that chose the ESB stream some fifteen were of NESB to varying degrees, and the journals none of these fell into the non-reflector group.

Furthermore, two of the most critical of the reflections came from NESB students. One Chinese international student in particular stood out. She summarised her experience in the class by writing on the last page of her journal:

“The other two important things I have learned from this course is how to critically evaluate the world around me and bring out my own argument to convince others. I have learn that university is a place to start build up my own value of the world, that things happen in the world is not simply good or bad, it is important to understand the story and the background of it, so that I can understand why it is happening and the other sides of them. Challenging professional people is not a wrong thing to do since it is challenge and doubt that help us bring up knowledge. Having my own stance is important because it represents a part of me.”<sup>1</sup>

<sup>1</sup> Written permission was received from the student to use this quote.



This is as good a statement reflecting the basic aim of the unit as any produced over the eight years that I was its co-ordinator.

## Conclusion

A qualitative study of 122 learning journals written for the unit of study, Communication and Critical Analysis, a first year undergraduate course in the Faculty of Economics at the University of Sydney indicates that reflective journals do help foster critical thinking, one of the basic aims of the unit. This became obvious in the differential between the beginning and ending pages of the journals. Moreover, there was some difference in the depth of reflection displayed by ESB as compared to NESB students but no firm conclusions can be reached from this because of the skew of the student cohort towards high achieving ESB students. However, this is only a preliminary study into the effectiveness of reflective journals in relation to learning critical thinking. It is expected that more extensive research, particularly into the difference in levels of reflection from the beginning to the end of the journals, will shed more light on the development of critical thinking skills in first year undergraduate students.

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