

Encouraging reflective learning: An online challenge

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The purpose of this qualitative study is to examine the application of reflective learning journals online. It evaluates the effectiveness of reflective learning online using a five point level reflection scale. The purpose of applying reflective journals was to develop critical thinking, help students to integrate theory, practice and experience and to relate presented theoretical knowledge to real life situations. As a consequence, students gained deeper understanding of the material learnt, managed to contextualise it and developed meaningful professional relationships with their teacher.

Keywords: reflective learning, on-line, reflective journal, construction industry

Introduction

In its simplest definition, reflection can be seen as “consciously thinking about and analysing what one has done (or is doing)” (Learning Development Unit, 2004). This is an everyday occurrence. Everybody does this to some extent. However, structured approaches that exist in learning situations enable students to understand their own learning process and may be applied in a programme where a significant part of delivery is happening online. In addition, reflective learning encourages deeper learning, and offers a relevant framework for development of professionals who will be lifelong learners, committed to continuous improvement of their practice.

In its broadest extent the term reflective learning refers to a raft of activities. These include:

- reflective learning journals/ logs
- learning contracts;
- peer and self assessment /debriefing;
- critical incident diaries;
- fieldwork diaries;
- personal development planners;
- reflective commentaries;
- action research;
- collaborative inquiry
- synoptic or ‘capstone’ modules.

Reflective learning, although initially developed in the field of education and medicine for helping professionals, has been taken up by a number of disciplines in tertiary education because of its relevance for development of new knowledge as opposed to a mere transfer of information from the teacher to the student. Student journals are extensively used in tertiary education “contexts as a means of facilitating reflection, deepening personal understanding and stimulating critical thinking” (Bain, Ballantyne Packer& Mills, 1995 in Bain et al, 1999 p.51). This paper outlines a distinct learning situation and examines the rationale, the perceived benefits and costs of reflective learning online.

What is reflective learning?

As early as 1933 Dewey defined reflective thought as “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and further conclusions to

which it tends" (Dewey, 1933 in Andrusyszyn & Davie, 1997, p.105). He believed that associating ideas was integral to thinking and that one had to search for deeper meanings through reflective thinking to capture and understand the core essence of something, to transform doubt into understanding and understanding into further action (Andrusyszyn & Davie, 1997).

When reviewing the literature to learn more about reflective learning, one is confronted with background theory that is both complex, and wide ranging, with various generic discipline perspectives presenting multiple interpretations of the processes involved. Most of this theory relates to perceiving reflection as part of a cycle of learning (Kolb, 1984). Reflection in terms of learning "is a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations" (Boud, Keogh & Walker, 1985, p. 7). The concept of reflective practice introduced by Donald Schon (1983, 1987) is the cultivation of the capability to reflect in action whilst doing something, and to reflect on action –after it has been done. This pedagogy creates an alternative to the first learn theory, and then put it into practice that forms the basis of traditional education. It utilises prior knowledge and focuses on constructing, deconstructing and reconstructing knowledge based on new experiences provided by learning environments which emphasise learner's responsibility for learning, and adult teaching and learning methods.

Before Kolb and Schon, Houle (1980) and Brookfield (1983) focused on the experiential aspects of reflective learning. Brookfield identified two contrasting experiences. On the one hand the term is used to describe the sort of learning undertaken by students who are given the chance to acquire knowledge, skills and feelings in an immediate and relevant setting. Experiential learning thus involves a "direct encounter with the phenomena being studied rather than merely thinking about the encounter, or only considering the possibility of doing something about it" (Borzak, 1981, in Brookfield, 1983, p.16). The second type of experiential learning is "education that occurs as a direct participation in the events of life" (Houle, 1980, p. 221). Here learning is not sponsored by formal teaching but by the students themselves. It is learning that is achieved through reflection upon everyday experience and is the way that most of us do our learning. The early reflective learning practitioners thus built on the concept of experiential learning.

The act of reflection, according to LaBoskey (1993) results primarily in new comprehensions, such as an improved ability to carry out the act of reflection, a changed belief, an attitude or value, or an altered emotional state or trait. Reflection "can occur quite passively by simply allowing things to surface in the course of daily life or it can be structured using discussions with others, journals, self assessment exercises or reading, or a combination of these things to trigger one's thoughts" (Maclean, 1987, p.141) Journal writing is an intentional reflective design strategy that has been used in traditional (face to face) learning environments to facilitate the integration of new dimensions. "Meaning making, according to constructivists, is the goal of learning processes; it requires articulation and reflection on what we know". (Jonassen, Davidson, Collins, Campbell & Haag, 1995, p.11). As a reflective method, the journal can promote growth, help reconcile the personal with the professional self, and document the writer's growth, development and transformation (Diamond, 1991). Learning now reaches a new dimension. Grennan (1989) noted that they could be used in both traditional and non-traditional education programmes since the process is not discipline specific.

Barbour (2004) suggested that the introduction and continued spread of e-learning exacerbates the separation of academics from students and leads to the expectation that courses can be successful with no face to face interaction. "Learning can become contextless, fact based and increasingly dissatisfying to all concerned. Metaknowledge, knowledge about how knowledge and practice is organised, conveyed, and advanced, because it is difficult under the best of circumstances, may be dropped from disciplinary curriculum" (Barbour, 2004, p.1). According to Lauzon (1992) the challenge for online educators is to "search out means for reducing structure and increasing dialogue so that learners may move from being simply recipients of knowledge to actively embracing and working with objective knowledge to make it their own" (p. 34). In effect, "much distance education is rooted in a transmission model of learning that inhibits the development of critical thinking" (Bullen, 1998, p. 2). Learners passively assimilate knowledge rather than critically examine and construct it, based on their own experiences and previous knowledge (Burge, 1988; Lauzon, 1992; Garrison, 1993). The introduction of online reflective journals may go some way to ameliorating the problem, if indeed a problem exists by transforming high tech – low touch programmes into integrative, collaborative educational processes which utilise technology and promote communication and contextualisation of knowledge.

Case study – Facilitating reflection through an online interactive journal

Learning to learn is important in any profession where technology and the proliferation of online information threaten to overwhelm the individual. This is particularly so for construction industry professionals where sifting through the volume of information generated may preclude meaningful reflection and construction of knowledge. The need for reflective education has been argued on the grounds that it facilitates the linking of theory and practice, develops the expertise of students to critical evaluation and enables them to take a more active role in their learning. (Bain, Ballantyne, Packer & Mills, 1999). Individual reflection is an important strategy that may enhance the development of insight, heighten cognitive awareness, promote critical thinking, and engender personal transformation (Andrusyszyn & Davie, 1995). The development of skills and habits of reflection may be seen both as a means of improving professional practice and as an end in itself, (LaBoskey, 1993; McIntyre, 1993) a valid outcome of construction industry professionals.

Method

Information Management [CONS5503] is a first year Bachelor of Construction, ‘English communication’ course for Construction Economics and Construction Management majors. The course topics cover a range of transferable skills, effective communication, critical and reflective thinking. It is envisaged that an interactive online journal (Reflective Journal [RJ]) will encourage deep learning and help students to contextualise learnt material. Each student is provided with a secure site on Blackboard [Bb]. The ability to express personal thoughts freely is seen as an imperative for the exercise. Security is achieved by setting up a Group Forum for each student, thus restricting access to the student nominated and the lecturer.

The discussion board within each ‘Group’ forum provides two way communications between student and lecturer. Over the twelve week course the students are required to complete 10 reflective journal entries [RJ’s]. Through this asynchronous messaging form of online communication the old adage of any place - anytime that is convenient to the student is maximised. However, more importantly students are able to take the time they need to reflect on the weekly RJ, then to provide a coherent narrative. Valli (1993) distinguishes between ‘deliberative’ reflection in which knowledge “about the topic is used to inform practice” (p. 13), and ‘dialectical’ reflection, in which externally driven knowledge “about the topic is less important and reflection is more personally grounded as the student draws upon personal knowledge to transform or reconstruct their experience” (p. 13). Dialectical reflection is the objective for CONS5503 students. The individual RJ topics are based on face to face learning modules or readings. The students are then asked to reflect on an aspect of their own experience and to project how the learnt knowledge could be utilised in a possible future professional situation.

In the first week of the course students were given written and oral instructions in the objectives of journal writing. To ‘encourage’ participation student’s submissions were graded. The literature outlines a number of schemes for analysing journal entries. Valli’s review in 1993 suggests there are two main approaches – a ‘sociological’ approach and ‘psychological’ approach. In the sociological approach “evidence of the expanding scope or content of the inquiry is considered the most important indicator of reflectivity” (p. 13), while in the latter the “complexity and sophistication of the writing is considered most important. LaBoskey (1993) suggests the way to resolve this tension is to treat the ‘focus’ of the reflection and the ‘level’ of reflection as two separate dimensions. The journal entries in the current study were graded according to the level of reflection i.e. the extent to which the student worked with an issue and the level of analysis /reflection reached. Grading is based on a five point reflection scale proposed by Bain et al. (1999).

Bain et al.’s (1999) ‘Five Point Reflection Scale’ (Table IV p 60) is very detailed, and was discussed at length with the students before first RJ submission. Each level represents a degree in complexity from ‘reporting’ at level one to ‘reconstructing’ at level five (Table 1).

Throughout the reflective journals the ‘deep’ approach as opposed to the ‘surface’ approach to learning was emphasised. The students were awarded 5 marks for submitting the RJ within one week. Submission within one week facilitated assessment and timely feedback. Then, for each level reached the student is awarded 5 marks, giving a possible total of 20 marks for each journal entry. In addition to the ‘numerical’

mark out of 20 the mark is also displayed on a sliding scale marker. At the lower grades thinking and recounting in the RJ is very superficial but as the reflection progresses there is evidence of deeper knowledge and learning to make more meaningful connections. In addition to the quality of the reflection, the quality of the communication is also evaluated. This aspect is not overtly graded. However, the MS Word reviewing toolbar with comment bubbles is used throughout the body of the submission to suggest improvement to the written work, for queries, recommended alternatives, or comments. Comments at the conclusion of the submission cover general suggestions for improvement to the next ‘level’ on the Five point Reflection Scale and encouragement.

Table 1: Five point reflection scale
(adapted from Bain, Ballantyne, Packer & Mills, 1999, p. 60)

Level 1 - Reporting	The student describes, reports or retells with minimum transformation and no added observations or insights.	3/15
Level 2 - Responding	The student uses source data in some way, but with little transformation or conceptualisation.	6/15
Level 3 - Relating	The student identifies aspects of the data which have personal meaning or which connect with their prior or current experience. The student gives superficial explanation of the reason why something has happened or identifies something that they need or plan to do, or change.	9/15
Level 4 - Reasoning	The student integrates the data into an appropriate relationship involving a high level of transformation and conceptualisation and seeks deep understanding of why something has happened exploring the relationship of theory and practice in some depth.	12/15
Level 5 - Reconstructing	The student displays a high level of abstract thinking to generalise and / or apply learning. The student draws original conclusions from their reflections, generalises from their experience, extracts general principles, formulates a personal theory, or takes a position on an issue. The student extracts and internalises the personal significance of their learning and / or plans their own further learning on the basis of their reflections.	15/15

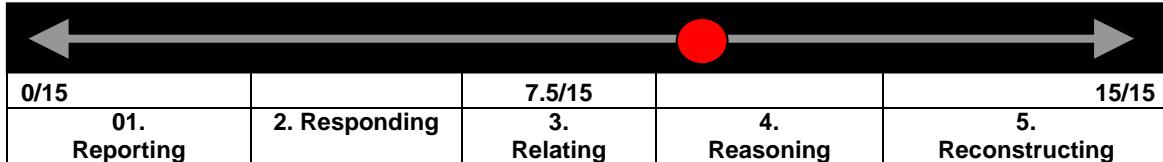


Figure 1: Sliding scale marker

Through this deliberate cognitive activity the students have the potential to intentionally connect thoughts, feelings and experiences related to the learning activity in which they will be engaged. Another benefit of a reflective approach is that it “encourages students to look beyond their academic accomplishments, to recognise the depth and range of other transferable skills learnt” (cws, 2004). The reflective learner needs to develop a continual self awareness of the situation and the learning while the communication is going on, as well as being able to sit back and assume the role of an external observer, after the event is completed. The feedback of the receivers also needs to be considered. This should be followed by the ability to describe and critically analyse the experience, breaking it apart to understand how it fits together and making connections with other situations. Finally, it is essential to have the ability to evaluate the practical aspects against a theory and then synthesise those ideas, to change and improve future communication. Further reflective testing of the new idea on future communication events confirms the improvement and the cycle continues.

Discussion

The design of the personal Reflective Journal is part of an iterative process. In the previous year an open forum (Bb discussion board) was trialled. Graybeal (1987) observed that the open forum process has many of the benefits of traditional journal writing, such as integration of course material, independent wondering, and connecting thoughts. She also perceived additional benefits “which result from writing for an audience of peers. Team journals make possible an ‘exchange’ of energy that is virtually impossible in a journal written ostensibly for the student herself or himself, but actually handed into and evaluated by the instructor” (p. 307). Graybeal observed that students begin to make sense of themselves and the world around them through a co-operative shared venture. After Graybeal (1987) the forum was called a ‘Team Journal’. Students were required to submit a ‘meaningful’ contribution to the forum at least once a week. Marking was problematic in so far as quantifying the quality of a ‘starter’ submission as opposed to a simple or considered intermessage. In addition, as Andrusyszyn & Davie (1999) state “whether learners intentionally and independently make an effort to review transcripts in an attempt to reflect upon the shared knowledge and draw personal relevance and meaning rather than simply for responding remains unanswered Although reflection may take place in the online environment as an outcome of the time those learners take to construct responses, encouraging learners to shift beyond perception to deeper, more insightful meaning making may be more challenging” (p. 105).

With the move to a personal reflective journal the students may have lost some of the benefits expounded by Graybeal (1987). However in terms of personal growth and development of metaknowledge the exercise was worth the extra effort required by the lecturer [six to seven hours per week for a cohort of 53 students]. The rationale for the personal RJ shifted slightly from shared knowledge and reflection to align more with the stated course outcome: ‘To enable students to distinguish and apply the basic skills for effective academic and professional communication’.

This is the only exercise in the student’s course of study that is of such a cyclical repetitive nature. Because of the immediacy of the feedback students are able to incorporate the feedback in their subsequent submissions. The analysis of the pattern of grades over time can be instrumental in facilitating awareness, developing insights and promoting transformation. For students who submitted their RJs on a weekly basis, the greatest improvement in marks occurred between weeks two and four. Most of the students improved their journal writing over the twelve week course. By the tenth RJ the majority of student marks were at level 4 or 5, indicating a net improvement over time. Three themes were evident in the evaluation of the interactive journals: reflection as a personal process, as synthesis, and as a dialogical process.

The idea that a reflective journal is an intensely personal pursuit was borne out by several students who used the journal somewhat cathartically - sharing more than the lecturer felt comfortable with and maybe more than appropriate for an academic setting. This made marking difficult from an emotive perspective. However, Summerfield (1987) supports journal writing that is shared. It is suggested that a journal that is overseen is “in fact something better – a displaced serial conversation; the drafting of a possible meeting of minds ...” (p.34).

This method of learning was effective and overall student feedback on journal writing was favourable. As with any method some students never developed comfort with the strategy. The exercise certainly allowed the lecturer to establish a closer relationship with the students. Many students who posted their RJ’s on a weekly basis said that they enjoyed the immediacy of feedback. This was in contrast to other 12 week courses that required only one or two assessments where the feedback on the first assessment would often come after the submission date for the second assessment and the feed back on the second assessment at, or after the end of the course.

Even though a mark out of 20 was awarded for each RJ, it was reported that the position of the button on the sliding scale was a powerful incentive for improvement. Several students noted that this was the first thing sought when opening the lecturer’s feedback. This was visual confirmation of their ‘mastery’ of reflection. Student marks are posted in the gradebook on Bb which indicated their progress. Student marks fell into two distinct groups: the majority of student’s marks started low, and as they became conversant with the technique their marks improved. The other group’s marks hovered around the 10 – 12 out of 20 and did not show marked improvement. As a consequence of the relationship built up over this

and other courses, it appears that this group of students are less interested in the journey and more concerned with managing a tertiary education workload. These students were focussed on immediate results and not looking at the long term benefits of acquiring transferable skills.

Conclusion

Journal writing is an intentional reflective design strategy that can be used to augment the traditional face to face learning environment to facilitate the integration of what often can be purely academic work. Its application online adds another dimension to it by promoting communication, creation of meaning and multiple dialogues, enhancing the development of insight, and promoting cognitive awareness and critical thinking. The findings suggest that the process of reflection may be actively facilitated through interactive journal writing. That reflective action extends learning in terms of depth and the personal learning process is stimulated through dialogue with oneself and with the instructor over time.

Whilst there was no particular angst, the decision to shift from the open forum discussion board to the private journal was not made lightly. It was anticipated that the reflective journals would create more lecturer involvement. In a cost / benefit analysis this was viewed, at the time, as a positive move. The number of hours per week was greatly underestimated. Regardless of the considerable benefits outlined here, the arduous lecturer involvement required may prevent the more widespread use of the journal unless a more streamlined method of marking and feedback can be devised. In terms of concluding whether the RJs were more effective in achieving the course outcomes than the open forum discussion board the shift in emphasis between the two precludes hard comparison. Previous research (Bain et al, 1999) stated that "Students receiving supervised dialogue did not attain a higher level of written reflection ...suggesting that significant benefits can be achieved through journal writing, without the intensive involvement of a reflective supervisor" (p. 70)

The evidence of utilising the online facility of Bb to stimulate critical thinking and other higher levels of learning is encouraging. However, there is a need to corroborate students' and teacher's perceptions with the evidence about the nature of reflection achieved and its learning outcomes utilising online reflective journals. The development of students' reflective capability indicated by a movement up Bain et al's (1999) reflective scale points to a development of both reflective skills (which can be loosely translated as 'critical analysis' - one of the course outcomes) and journal writing. This research did not attempt to separate these skills. In terms of benefits, there is only anecdotal evidence that the students' written communication ability has been enhanced. As this transferable skill is one of the learning outcomes for the course it warrants further investigation.

The RJ's provided opportunities for students to explore specific issues in greater depth, link theory to practice, further develop their writing skills, and to read and think more critically. It allowed analysis of the student's experience and facilitated learning from the experience. The reflective approach to learning provided a structured opportunity for students to recognise and value those past experiences. The serial aspect of the RJ encourages the development of critical thinking, a questioning attitude that leads, potentially, to greater learner autonomy. In addition, it is anticipated that learnt skills promote professional competence by developing the ability to continuously improve what one is doing by reflecting on effectiveness or ineffectiveness of actions taken and adopting or modifying them to new situations.

Consistent with other authors, for example Sparks-Langer et al. (1990); Hatton & Smith (1995) and Bain et al. (1999) the level of reflective analysis and complexity in the students' journal writing varies widely. They ranged from simple description (Level 1) where little if any reflection is evident to highly sophisticated (Level 5) where the student successfully displayed a high level of abstract thinking to generalise and/or apply their learning to current or future professional practice. In addition, they integrated the personal significance of their learning and/or planned their own further learning on the basis of their reflections.

Journal writing may help bring the process of reflection in an electronic environment into conscious awareness and enhance the meaningfulness of the learning experience by promoting critical self reflection and metacognitive awareness. Activities designed to facilitate reflection electronically may help learners extract meaning and develop personal insights from what they are learning (Andrusyszyn & Davie, 1997).

Journal strategies have successfully been applied in traditional learning environments and should be carefully considered in computer mediated arenas. In Schon's (1987) terms it is 'reframing' past experiences to see them in a new light that suggests new actions in the communication process. It reinforces the integration of theory with practice and promotes ongoing professional development and life long learning regardless of the content that needs to be learnt. Evidence is thus provided in this paper as a challenge to Barbour's (2004) views that online learning "can become contextless, fact based and increasingly dissatisfying to all concerned" (p. 1). The evidence of utilising the online facility of Bb to stimulate critical thinking and other higher levels of learning is encouraging.

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