Promoting Reflective Learning And Practice For The Education Of Professionals

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A b s t r a c t

The main aims of this project are to devise strategies for encouraging reflection and methods for assessing the kind of reflective thinking that students undertake in programmes for professional education. The rationale for this venture was that professional programmes frequently take the development of reflective practitioners as their main aim, but have no means of assessing whether students engage in reflective thinking in their courses or periods of professional practice. The project includes five courses in the allied health area with each course being the subject of an individual action learning study comprising an action learning spiral. As the courses are examined simultaneously, comparison is possible and lessons learned from one can be applied to others. This has led to an intertwining of the spirals and the identification of a sixth spiral which is a synthesis of the cyclical processes of the overall project. A number of sources have been used to gather data. These include students' reflective journals, student interviews, transcripts from tutorial discussions and reflections of the project participants. Journal writing is one of the most widely used strategies for promoting reflective learning. This study found that students require an introduction to and feedback upon reflective writing as it is different from other types of writing required in academic courses. It was also concluded that reflective writing can be used to promote critical discussion in small group tutorials by providing a valuable stimulus for discussion, and that the two in combination can lead to fresh insights for students and promote reflective thinking. In the course of this study it has been determined that reflection can occur through a range of stimuli and that the stimuli may be arranged or encouraged. Reflection can be a group or individual activity. Group discussion can serve well as a spur to reflection. Reflection can be encouraged to take place in an academic environment, including the theory part of the programme, not just the professional practice component. This paper will discuss the conclusions that have so far been drawn and also review ongoing progress towards developing a reliable coding scheme for measuring levels of reflective writing.

Introduction

The concepts of 'reflection-in-action' and 'reflection on reflection-in-action' have stimulated considerable interest since their formulation by Schön (1983). If the implications of the constructs are accepted they have considerable implications for professional education (Schön, 1987).

There is growing recognition that reflection-in-action is a concept which could do much to ameliorate many of the traditional problems of professional education (e.g., Wagenaar, 1984; Sparks-Langer et al., 1990; Powell, 1989). First, the construct of reflection-in-action provides a visualisation of how expert professionals operate and solve problems in practice. It is now widely recognised as providing a better model of the work of the expert professional than the previously predominant model of 'technical rationality' (Schön, 1983).

If reflection-in-action is accepted as a truer picture of the mode of operation of expert professionals, it has profound implications for the education of those wishing to enter a profession. Teaching technical expertise and systematic procedures in line with technical rationality is no longer sufficient or even desirable. The student needs to develop the ability to reflect-in-action and the confidence to reflect on his or her own practice. It would be of great benefit if reflective techniques were used to promote 'learning from experience' (Powell, 1989).

A period of professional practice is almost universally regarded as an essential component of any course for professionals. Yet, the incorporation of the practice component into academic courses has posed problems in many contexts and for most professional disciplines. In particular, there has been difficulty in meshing the theory taught in the classroom with the practice of the professional setting. A potential solution to this problem is to encourage students to engage in reflection upon their professional practice and its relationship to the theory taught in the classroom. The use of reflective journals can assist the instruction in meeting the high level cognitive objectives (Wagenaar, 1984).

Research Issues

While the concept of reflection-in-action has excited considerable interest among professional educators, there are still many unresolved issues as to how to best design and implement courses which aim to encourage reflection-in-action. There are also more theoretical concerns over the interpretation of the reflective process as well as the distinction between reflective action and non-reflective action (Mezirow, 1991). This study has four aims designed to address identified issues associated with incorporating reflective learning into curricula.

1. How should a course be formulated if it is to promote reflection-in-action and reflection on reflection-in-action? The use of student diaries, reports, discussion sessions and regular disclosures have been investigated. The problematic issues of assessment and the access of the supervisor to reflections have also been included.

2. What are the major obstacles to students engaging in reflective practice and how can they be overcome? Do particular types of students have greater difficulties in becoming reflective? In the construction of an ideal learning environment for highest reflectivity, what educational factor(s) — e.g., class size, workload, course structure, evaluation methods, etc. — should be taken into account? Boud et al. (1985) suggest that the 'allocation of specific time' and 'allowing adequate time space' would enhance the reflective process. What is the appropriate time space that educators should allocate to strengthen the link between the learning experience and the reflective activity that follows it?

3. To determine whether students are engaged in reflective practice, it is necessary to have some means of identifying reflective thought and a measure of the depth of reflection. Several measures of reflectivity have been proposed but there is no widely accepted and clearly formulated procedure. The project group is investigating means to formulate reproducible procedures for monitoring reflection.

4. Examining reflective writing against the facets of a model of reflection provides a test of the explanatory power of a model. Different models have been reviewed and a model based on that described by Mezirow (1985, 1991, 1992) is currently being refined.

This paper will discuss the first two aims listed above: the formulaton as well as the obstacles of reflection in action and reflection on reflection in action. As the third and fourth aims concern issues that are still in progress, they will be the subject of ongoing reporting.

Courses Examined

The project examined five professional degree level programmes in the allied health sciences discipline area. These included four undergraduate programmes for Nursing, Physiotherapy, Occupational Therapy and Radiography as well as a postgraduate course for Clinical Educators.

The evaluation concentrated on 'courses' within the programmes which were particularly concerned with reflection on practice. The term 'courses' is used rather loosely. The Nursing and Clinical Educators courses were discrete courses within a degree programme. The remaining courses refer to elements within degree programmes, mainly associated with the clinical practice component, though not necessarily constituting a specific course in the handbook.

The project is still in progress. Like many action research projects, it is difficult to define distinct starting and finishing points. Most of the courses or sub-projects have gone through at least two action research cycles. Relevant aspects of the five courses are summarised in Table 1.

Table 1: Summary of courses

Target group	Post experience nurses	Clinical educators	Physiotherapy undergraduate	Occupational Therapy undergraduate	Radiography undergraduate
Programme level	BSc	PgD & MSc	BSc	BSc	BSc
Type of students	Registered Nurses	Post-experience clinical practitioners	Undergraduates	Undergraduates	Undergraduates
Mode	part-time	part-time	full-time	full-time	full-time
Number of students	79	6 & 30	160 (in 2 years)	100 (including 2 years)	70 second year students
Number of staff/ facilitators	3	3	6 lecturers and 3 clinical supervisors	2	6
Length of module/subject	1 subject in a 2-year course	14 weeks (1 Semester in 2 years study)	12 weeks	1 semester	2nd year in a 3-year course
Frequency of sessions	4	1/week		Weekly tutorial	4 per course
Focus of reflection	Contemporary nursing issues	Clinical teaching, experiential	Client management & learning contract	Clinical visit & class activity	Clinical experiences
Method of journal keeping	Journal submission at regular intervals, 4 journal entries and final paper submitted	Weekly entry in logbook	Tape record or write in logbook before, during and after the clinical placements	Write on a specific topic after several meetings	Reflection before, during and after each clinical placement

Frequency of sharing journal entries	4 sharings	Once per week	Aim to have short weekly sessions	Two feedback sessions in a semester	During and after clinical blocks
Time allocated to reflection discussion	2(hours) x 4 (sharings)= 8 hours	1.5 hours per session	About 30 minutes per session	2 hours per session	1 hour per session
Tape recording of discussions	Yes	Yes	No	No	No

Journal Writing And Small Group Discussions

Many courses encourage or require students to individually reflect upon their practice, usually through the writing of a journal. Of these courses, a significant proportion includes a further stage in which students share some element of their written reflection with fellow students and/or tutors. This discussion normally takes place in a tutorial or seminar, with the journal entries serving as a starting point or focus for the discussion.

Journal writing in itself is viewed as a valuable stimulus to encourage reflection upon practice (e.g., Bean and Zulich 1989; Cameron and Mitchell, 1993; Hahnemann, 1986; Wagenaar, 1984). Discussion of reflective writing can add further dimensions to the experience. First, the students share ideas — they benefit from the insights of their fellow students as well as their own. Many of the students also perceive the discussion sessions as providing feedback upon their written reflection. Finally, if the tutorial gels, the critical discourse will serve to develop collective understandings.

The aim of this phase of the study was to examine the interface between reflective writing and tutorial discussion. The main issue was that of how to best configure a course to generate stimulating, critical and fruitful discussion based upon students' reflective writing.

The project examined the impact of the following contextual variables on class discussions based upon written reflection:

- The relationship between journal writing and tutorial discussion;
- The dichotomy of making private written reflections public through tutorial discussions;
- Group size;
- The physical arrangement for discussions in class;
- Inter-group interaction;
- The relationship between and the interaction of educators and learners;
- Tape recording the discussion sessions.

Methodology

Data were gathered from student journals and reports in the five courses. Some class discussion sessions were tape recorded. Interviews were held to gather information about the effectiveness of the measures for promoting reflective behaviour, the difficulties students faced in engaging in reflective practice and any benefits the part-time students accrued from engaging in reflection-on-action in their professional practice. Members of the research team were involved as participant observers while research staff acted as observers, interviewers and participants as well as co-ordinators between members of the research team.

The data gathered were entirely qualitative. As five courses were examined simultaneously, it was possible to use what Miles and Huberman (1984) refer to as 'multi-site analysis'. In this instance a course was treated as a site or case. Each course was initially examined individually in terms of the teaching process and whether it encouraged reflection. Implications and findings from the five courses were then compared and synthesised. This methodology, therefore, addressed the widely recognised weakness of qualitative analysis with respect to the generalisability of the findings.

The project used the computer programme NUD1 IST (Richards and Richards, 1991) to handle the large amount of qualitative data that was gathered. The programme has facilities for indexing, text-searching, using Boolean operations on defined index nodes as well as combining data from several initially independent studies.

Typical quotations from interviews and journals are used to substantiate and illuminate conclusions drawn from the comparison of courses. Only a small proportion of the collected data has been used in this paper — the remainder will be used for other research questions.

Cycles of planning, action, observation and reflection were used to develop and fine-tune the curricula. As five courses were examined simultaneously, comparison was possible and lessons learnt from one could be applied to others. The research team themselves engaged in reflection upon the outcomes of the work. Fortnightly meetings were held by the whole team, which facilitated comparison between courses and served as a means of passing conclusions for practice from one course to another.

Relationship between Journals and Tutorial Discussion

Journal writing was utilised within discussion or tutorial sessions in each course. For the Nursing and Clinical Educators courses, journal writings formed the initial substance or starting point for discussion topics. The other three courses used journal writings more as a way of revisiting recent clinical experience sessions and collectively reflecting upon them.

Nursing students were asked to write about their experience, observations, and thoughts that were related to selected professional issues, and submit them as journals on the days of four group dialogue sessions. The dialogue sessions provided opportunities for students to share what they had written in their journals, while the discussion offered insights and opportunities to broaden their perspectives. The dialogue content very often appeared in the next journal and the final paper.

For the Clinical Educators, reading journal items formed a major component of weekly class discussions. Each class member was expected to read at least one item from his or her journal. Students found the discussion of journal entries useful as it could result in more profound insights into the topic. As one student reported:

> Take for example the discussion on the difference between deep and superficial learning. Actually, I have not thought about it before. But during the sharing of the reflective journal, someone talked a little about this. Suddenly, I just realised that, take for example myself, during my undergraduate study, I really learned in a very superficial way. And also, I linked it to some experience when I'm teaching students.

Tutorial discussion in the Radiography group was developed from experiences recorded by the students in their journals. Each student was asked to contribute one item they had noted for discussion within the group. The discussions were very free ranging. Not every student necessarily contributed an item though they are all encouraged to express opinions.

There was evidence that the combination of journal writing and discussion resulted in more effective learning outcomes than if the two elements were discrete. The quotation below was made by a Radiography student on the basis of his three years of experience in the course.

> If we cannot think of anything at that moment, that is the things which are not written down, we can find it during the discussion. At the same time, knowledge will be greater as we may think of something suddenly which we had not thought of before. Thus, I think if two of them are combined, it will be better. It may not be so effective if they are separated.

Discussion brought out more from the journal entries both to the writer and to others in the tutorial group. The outcomes of the discussion was also seen as contributing to successive journal entries.

Making Reflections Public

Moving from journal writing to tutorial discussion involves somewhat of a dichtomy for students. They are encouraged to write personal feelings and impressions within their journals yet the discussion process requires students to make public these private thoughts.

The Clinical Educator course developed a strategy for dealing with this dichotomy by establishing a ground rule that students read and comment on at least one entry from their journals during the weekly classes. Students could therefore choose to keep some reflections private while still making a contribution to the class discussion. In practice the possibility of keeping reflections private was rarely used as students tended to read all their reflections. Possibly the small class size and the coherence it developed dissipated any desire to keep reflections private.

The Nursing course was divided into eight groups of eight to ten students for small group dialogue. Some students were at first quiet. The problem was overcome very quickly when it seemed to be a norm that everyone in the group had to speak before the session ended. There was variation between groups, with each group establishing its own ground rules and peer pressure ensuring that all students made some contribution.

Keeping reflections private did not seem to be a strong issue with the students. There seemed to be a recognition of the benefits of sharing reflections. They generally recognised that making reflections public not only benefited other participants in the group but also benefited the speaker. This is illustrated in the reflection of one student.

> ... I used to share what I reflected with somebody. It did not matter who, maybe you, maybe my students or maybe my husband or a friend. Discussion strengthens my points and thinking, and because I know that it is my weakness to find a way to express it. In that reflection, I reflect on that, too. So, it will lead me to a way of solving it.

Group Size and Arrangement for Discussions

The courses had a range of group sizes and differing arrangements for holding the discussion sessions. The size of the groups were more a function of available resources than conscious curriculum planning, though the variation between courses did permit us to examine the influence of group size on reflective discussion.

The Clinical Educators course had an unusually luxurious staff: student ratio, because the course was new and the lecturers volunteered to participate. When classes were held, the six students and three facilitators were involved in most journal reading sessions. The classroom was arranged so that chairs were in a circle and discussion could flow easily among all participants. Students were well satisfied with the group size which encouraged the interaction of participants. As one of the students stated:

...something that is very bad is because I speak too much. But the class is small enough. In fact I find it very good, a small group of about six students with three lecturers. And most of the time, they are there...

The Radiography group was divided into six tutorial groups, with the number per group ranging between nine and eleven participants, excluding the facilitator. The discussion sessions occurred the week following the end of the clinical placement period and were incorporated into regular tutorial groups. When students were asked about the optimal discussion group size, their preference ranged from six to ten participants. The statement below provides insight into the proposed arrangement from a student's point of view.

I think around five to six people, but it should not exceeded ten people. If it is over ten people, there is someone who is shy and may not be able to speak out.... Otherwise, there will be someone who will not say anything. They will not speak out even if they think of something.

The Nursing course had to adopt more formal arrangements through resource limitations. Unfortunately there were only three lecturers available for the class of 80. The class was divided into eight groups with approximately ten students in each group. Two of the lecturers had to go between three groups in one session, and the other one had to take care of two groups. This arrangement was hardly a satisfactory educational arrangement, as students were asked to take turns to chair their groups. Some groups functioned better than the others in this arrangement. Here are some opinions about the arrangement from two students:

I have mentioned that we often had group discussion without a tutor beside us. I think a tutor should stay with us during the discussion. May be our tutor had no time to do so.

You mean there are differences between group discussion with and without tutors present. (Researcher)

It is better if a tutor gives us stimulation at the right time during discussion.

The number of lecturers is limited. Furthermore, they have their own restrictions. For example, Tutor A was responsible for three groups. It was difficult for her to take care of each student's needs. They could not spend too much time with each group, so they could only get a very superficial understanding of each group's discussion and could not notice the direction of our discussion. As a result, the guidance they were able to give us was limited.

The experiences of the different courses show that group size is important — if the group is too large reflective discussion will be inhibited. The conclusions we drew are in line with research into how the characteristics of groups alter with size (Rice, 1971; Jaques, 1991). Groups with six or fewer less members need little structure or leadership and tend to be very fluid. With more than six, individuals become less constrained by the norms of the group and more formal structuring and leadership emerges if the group is to be successful. Group sizes above about twelve are unsuitable for reflective discussion as full face-to-face interaction decreases and sub-groups begin to appear.

If normal class size is above twelve for resource reasons, it is better to split the class into smaller groups, if necessary without a tutor as a leader. The arrangement adopted in the Nursing course of a lecturer moving between two or three groups is not ideal but is better than attempting to generate reflective discussion in large groups.

Inter-Group Interaction

The extent of collaborative reflection is also an important issue. Deliberate arrangements were made to increase the extent of collaborative reflection in the Nursing course, from small group discussions to inter-group discussions. These inter-group dialogue sessions aimed to provide opportunities to share ideas as some of the groups had become rather restricted in the breadth of their discussions. In the inter-group sessions fellow students were invited to challenge the conceptual schemes that were presented. It was hoped that this would broaden horizons or bring forward new perspectives for the subsequent dialogue and journal writing.

In order to broaden the perspectives of students, and induce further stimulation, a combined group discussion, called inter-group dialogue was planned. The large class was originally divided into eight small groups, each concentrating on one theme in their reflective learning. In this instance the eight groups were brought together in a large class setting. Each group would have 15 minutes to present their learning and insights about the particular theme with which they were dealing. They had the freedom to choose the method of presentation or the number of group members involved. The common practice usually involved a few members speaking on behalf of the group, but all group members would be present on the stage to respond to questions and comments in the 15 minutes after the presentation. After the group had the chance to express its ideas and reflect to the class, the class would engage in dialogue with the group, raise questions, challenge their viewpoints or share similar experiences.

This arrangement was found to have achieved at least two effects. One was that the group themselves had a chance to review and revisit what they had learnt in the process. This organisation of ideas by itself could be reflective, mapping out the analysis of the issue at hand. The second effect was that the large class could take an 'outsider' view, as well as an empathetic view of the issue. As an 'outsider' of the group, they could highlight viewpoints which were different from the orientation taken by the small group. However, very often members in the large class could also converge their experience with that of the small group. The former situation could serve the purpose of challenging assumptions, and the later, confirming hypotheses. These two acts were essential to higher levels of reflection.

Students also found the two types of discussion groups useful and their function different. The comment below was made by a nursing student when being asked about the impact of small group discussion.

> In different groups, our discussion was different. As our experiences are not the same, we are likely to express our own ideas....some classmates show their anger from their work, we then have better advice to each other. This can make us have a better discussion and let us learn more.

The inter-group sessions did seem to bring forward new perspectives.

> We can concentrate on subject matter in intra-group discussion. The ideas may not be creative enough. However in inter-group discussion, our ideas can stimulate the others to think from other points of view. That is why we have more new ideas in inter-group discussion. It helps us to think deeply.

Tape Recording

Tape recording of class discussions was originally introduced purely as an observation or research technique. In the Clinical Educators course, though, taping quickly assumed a function which had never been envisaged at the outset. The students saw the tapes as a valuable learning resource and requested individual copies. All journal disclosures and discussion sessions were recorded. The tapes eventually achieved such perceived importance that concern was expressed if recording was

halted for reasons such as the tape running out. The conversation would be halted until the tape was replaced in case valuable discussion was omitted from the tape.

The students seemed to view the tapes of their discussions as a substitute for lecture notes. There was little in the way of content delivery in the class sessions. There were set readings but the students soon came to see that the essential 'content' of the course was the collective critical reflections of the class discussion. They, therefore, wanted a full record of these discussions. Taping gave them a full and accurate record without restricting their participation, which note-taking might have done. The content of the tape recording could be used as a metaphorical stimulation for reflection and play a significant role in enhancing a breakthrough from routine, as one student stated in the tutorial session.

> ...These two days, I thought about teaching methodology. At first I could not reflect. Then I listened to the recording again and again. I quite agree that most of the students (the receivers) need to have extrinsic and intrinsic factors...

Other courses either decided not to do recording at all, or made occasional recordings of selected discussion sessions for evaluation purposes. The rationale for not recording sessions was that discussion could be inhibited or that having a record of the discussion served no useful purpose.

There was some evidence of the inhibiting effect of the presence of tape recorders in the nursing course. In the initial stages of the course, taping of some sessions was attempted with unsuitable insensitive tape recorders. To obtain an audible recording, students had to hand around the recorder. When suitable equipment was used, however, students usually forgot about its presence after a time.

Given the value accorded the tapes by the Clinical Education students, it seems worthwhile asking students whether they would find tapes of their discussion sessions useful. No taping should be attempted, though, unless suitable unobtrusive equipment is available. The lecturers did find taping class sessions useful. The tapes provided a valuable stimulus for their reflections on their teaching and a valuable component of evaluations of the courses.

In the Physiotherapy course, tape recording of individual reflective thinking was used as a substitute for journal writing. Some students indicated their reluctance to write in journals regularly, due to difficulties they face in expressing themselves in English. It was decided that these students could choose to tape–record their reflections and if they preferred, use Cantonese.

Assessment of Journal Writing

The issue of assessment for grading purposes poses a dichotomy for courses intending to incorporate journal writing. Assessing journal entries can discourage the process of private reflection. There is also the obvious problem of what might have been written for the student alone becoming transformed into something quite different in an attempt to gain better marks. Assessing journal entries tends to discourage criticism and leads to polishing of work and a more academic style rather than spontaneous reflection.

However, if the written entries are not assessed, students tend to take journal writing less seriously or even do not do it at all. Students are highly assessment driven and course marking schemes are usually treated as guidelines for the relative importance of components of courses.

The quotation below shows this dilemma from the perspective of a Radiography student.

If marks are given, we will be more serious and more hard-working. Probably we will do more. If marks are not given, it is not saying we do it roughly, I think we will not be so hard-working. But if marks are given, it seems to be that it is not so good.

Why is it not so good?

It is because you dare not write something unusual. For example, something which is commonly seen and something which is definitely right, and you can ensure you are not going to get wrong. Also, I think it is not so good.

I think if marks are given, the things which can be learnt will be less ... The scope is not so wide. (Radiography Student)

The Nursing and Radiography courses recognised this problem of students failing to take reflective writing seriously if it was not assessed. Both involved arrangements which retained an element of freedom and privacy in journal writing while integrating it within the course and incorporating elements from the journal writing in the assessment.

For the Nursing course, students were required to submit four journals and a final reflective paper at regular intervals throughout the course. The journals were unstructured and not marked. They were handed in so that feedback could be given to students as guidelines for their future reflective activities. A final reflective paper, which was assessed, was to be submitted after the experience of all the dialogue sessions. The final paper was meant to be distilled from the four journals submitted previously. Students themselves also regarded marking as an effective and essential feedback to their assignments. In an interview at the end of the course, one student stated:

In fact marking is a good thing. Without it, I would not be able to know the quality of my journals. After they had read our journals, they told us whether the content was relevant to the topic during group discussion. But I think it was not enough for every one of us. I would be able to know my performance better if the papers are marked. (Nursing Student)

In the Radiography course, the reflective process was initially encouraged as an exercise separate from the clinical assignments that were already in place. The students were asked to keep journal notes on each placement they attended. They were asked to review the placement in terms of the objectives to be achieved, and to analyse their own success in fulfilling them.

After two cycles of clinical experience with students writing separate reflective analyses, it was felt that the separation of the reflective exercise from the more formal clinical assignments reduced student concentration on the reflection exercise. Rather than make the reflection exercise additional to the clinical assignments, it was agreed to reformulate the assignments to more clearly include the reflective process. At the first level, the assignments require the students to discuss their own ability to perform and assess the outcomes for the examinations and procedures they are analysing. Similar adjustments have been made at the second and third levels of clinical experience.

If the type of journal writing is loosely structured, the importance of examination and feedback is particularly high. For example, a Radiography student stressed the motivational effect of feedback when he talks about assessment of journals. The importance of the writing making a significant contribution to the assessment is also apparent.

Is it better to give marks or not?

As I said before, even if marks are given, it gives some sort of motivation to do it. The motivational effect, however, is not great. For example, if it carries five marks, I would be willing to hand it in. If I hand it in, at least, I might have three marks. The most serious problem is having no feedback. They have to show respect to the work of other people. They

need to go through, correct and talk with us when it is given back to us. This would be the most important question. For instance, even if they tell me I get full marks, I will not care much as I do not know where my paper is right now and they will not give it back to you. (Radiography Student)

Journal writing was introduced in the Physiotherapy course as a voluntary element, but the majority of students felt they had enough to do without having to keep a journal as well. However, a handful were agreeable to trying it. The plan for keeping reflective diaries on an on-going basis during the clinical placement raised little interest not only among students but, as learned later, also with staff. However, despite all that, most of the students tended to agree that reflection would assist with better understanding — e.g., of a problem or interaction — and hence could pave the way for improvement. The main reason given as to why the students (and some clinical educators) were unwilling to write journals on an on-going basis was because it would consume too much of their time which they desperately needed for finding relevant medical and other information so that they can treat patients properly, which will affect their chances of passing the placement.

There is no easy answer to resolve this dichotomy. The courses we studied provided examples of the influence of assessing or not assessing journal entries. We also evolved some intermediate positions in which the bulk of the journal entries remained private but work derived from them was assessed so that students had some incentive to participate in journal writing. In deciding if assessing reflective writings is appropriate or not, one should consider the format and the nature of the writings.

Conclusion

Of importance to the academic community is the recognition that reflection can take place in an academic context and not just in an environment of professional practice. For programmes of professional practice, reflection can take place in both the university setting and the professional practice component of the course. Indeed, if reflection is seen as a bridge between theory and practice, it is important that it is actively promoted within the theory section of the course and not confined to practice situations.

The paper has examined critical discussion based upon reflective writing. One conclusion is that the writing process can serve as very good preparation for a tutorial discussion. Indeed, given the levels of discussion within each of the five courses, it can be seen as a very good strategy for avoiding the perennial problems of students coming to tutorials and seminars with limited preparation so that there is little or no discussion.

The benefits, though, go well beyond ensuring that discussion takes place. Students found that the combination of journal writing and critical discussion with colleagues led to insights and knowledge which would not have come from either element alone. Reflective journals in combination with peer discussion proved to be a potent force towards students constructing their own understanding.

An important element of our approach has been its participative and collaborative nature. An aspect of this which has perhaps been understated has been the involvement of the students. Our writing has focused on the meta-project level at which we synthesised findings from five course-level action research projects. Student involvement has been much more apparent at the course level, where they have been contributors to each of the individual course projects.

Indeed it has been essential to have the involvement of and input from the many students enrolled on these courses. Student reflection on the course experience has directly or indirectly influenced

all of the strategies described. An example of the value of this input is given by the following suggestions on how to introduce the concept of reflection which will be incorporated into future cycles.

> I think if the lecturer lets the students in year two or year three or some graduated students to tell the year one students what is the importance or the significance of reflective journal writing, it will be more exciting than an introduction by the lecturer.... It may arose their interest and they will become more active... (Occupational Therapy Student)

> I think that the lecturer has to explain the main aim of reflective journals at the beginning of the year. And the lecturer may give some guideline to the student and use journals of past students for samples. And the lecturer may help the students to discuss in groups about some topics related to the lecture. Then, after discussion, we can jot down some notes and write the reflective journal to the lecturer. I think this is the best way. (Occupational Therapy Student)

At the meta-project level, the collaborative and inter-departmental nature of the project have been important. Collaboration complicated the logistics of the project, as even arranging a meeting time when all were free was quite difficult. However, the logistical difficulties were out-weighed by the benefits from the cross-fertilisation of ideas and experiences between courses and teachers.

The study is still progressing, and further initiatives are expected. The project team is currently working on developing a questionnaire to determine levels of reflective thought. Two trials have been completed and refinements are now being made. Further progress will be communicated as appropriate.

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