PAPER
08

Reflection for everyone

Adelle Bish and Bob Dick (1992) Reflection for everyone: catering for individual differences. A paper prepared for the *Reflective practices in higher education* conference held in Brisbane 11-13 July.

Over the last eighteen years a fourth year university subject in social consultancy has evolved into a highly experiential and participative class. Over time, as it became more experiential, the learning gradually became less visible. To remedy this, several different mechanisms were developed to help class members monitor their learning and make it explicit. These mechanisms evolved with the subject. In the language of current theory they can be identified as reflective mechanisms.

A recent evaluation of the reflective mechanisms was carried out by a staff member, in part using the methods of participative action research. The evaluation revealed that multiple reflective mechanisms are beneficial overall, and especially allow for individual differences in learning styles. Further, the quality of relationships amongst peers, and between peers and staff, is also important. The reflective mechanisms are briefly described, and some design principles are identified.

The object of our attention is a university subject in *Advanced social consultancy.* Its code is PY479, and for convenience that is what we will call it. The "PY" indicates that it is offered within the Department of Psychology. The "4" says it is a fourth year subject.

An experiential and skills-oriented course, it sits a little uneasily within a traditional university psychology program. It forms the fourth year component of a social consultancy stream stretching from second year into the coursework masters. Those who enrol in it are most often people who hope to work in fields which require consultancy skills; these include some areas of organisational psychology, training and development, community development and the like. It comprises a fifth of their honours year.

One of us (Bob) took over as course coordinator for the course in 1973. Since then it has been run as an informal participative action research project as reported in Dick (1991). In 1990 and 1991, the other of us (Adelle) joined the staff of the course. She chose in 1991 to evaluate it for the dissertation component of her coursework masters in organisational psychology (Bish, 1992). This paper outlines the results of 18 years of improvement, and the more formal evaluation. The emphasis is on mechanisms for reflection.

A brief history and description of the course

Bob begins the story...

From the start the content of the course was a matter for collective decision. The structures and processes were those expected: seminars, lectures and discussions. The class was small enough for much of this to be informal. The course history since the early days has four phases, each with a different emphasis.

1   In the earliest phase, I directed most of my attention to *increasing participation* and involvement. This inadvertently but sometimes dramatically raised the anxiety of class members.

2   Phase two was characterised by attempts to *decrease anxiety*. This was done mostly through increased small group activity and greater clarity about class goals and structures. In addition, instead of choosing the course content from the beginning, other staff and I adopted a "standard package" which incorporated the gains of previous years. This was renegotiated by each class and by the individuals in the class.

3   The more we succeeded in reducing anxiety, the less visible the learning became. The emphasis, then, was on *making the learning more visible*. It was during this phase that many of the reflective mechanisms first developed.

4   *Continuing improvement*, always a goal, became a particular focus. Building more evaluation into the class led to more frequent reviews of class activity. It also added gradually to the mechanisms for reflection, and those for social support.

As the class is now, staff run the first three weeks. There is a very strong emphasis on building relationships and clarifying individual and collective goals. In week four, staff facilitate a design activity; at the conclusion of this, class members have determined content, structure and timetable. In week five, they formally assume most of the responsibility for running the class.

For the most part the class operates as a "workshop". Each session, some class members run activities to teach skills to their peers. Other class members take other roles: coordinators look after overall timing; process observers keep notes on what occurs, to be reported back during the review session.

There are three important points to be made from all this.

First, an emphasis on regular review leads to improvement in the class structure and process from week to week.

Second, the advances of previous years are retained to some extent in a renegotiable "standard package" so that the course can improve from year to year.

Third, almost all of this was done without recourse to the literature.

I wanted the course to be an almost-independent experiment in effective learning. It is only in recent years that I have tried to use the literature to improve the course further. I found that the course had developed an eclectic mix of a number of adult education approaches.

As for reflective mechanisms, their number has increased from year to year, largely as a results of suggestions from the class. Their effectiveness also tends to increase within each year as people learn to make better use of them.

Those reflective mechanisms which were intended as such are summarised in Box 1.

Box 1: Intended reflective mechanisms

Mechanisms which were designed to increase reflection by class members

Diary. Each week class members submit a copy of a diary of about two or three pages indicating some critical incident or incidents from the class, what they learned from it, and what use they intend to make of that learning. At the end of each semester they submit the diary originals, a brief account of what they learned during the year, and an analysis of the aspects of the class that helped and hindered their learning

Home groups. Class members are organised for the whole year into "home groups" of about 5 or 6 people. Their explicit tasks are moral support, and helping each other learn. About half an hour towards the end of each class session is spent in these home groups

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Walk-talk pairs. At the start and end of each class, people meet in pairs to discuss what happened in the class. Ten minutes at the end of each class allows them to recollect the day's events and encourages them to think about what will go into their diary. In the initial five minutes each class they remind each other of what happened the previous week

Graded assessment. All pieces of assessment are designed to promote reflection and learning. In the renegotiable "standard assessment package" there are three main pieces of graded assessment, a written case study, a paper on individual-system interaction, and a portfolio. Any written assessment can be submitted early in draft form for comment

The case study, first run as a partial simulation during class time, is written up as a process plan for diagnosis and intervention. It is intended to encourage class members to apply the concepts and techniques they learn in class to an example of social consultancy

The major assignment requires them to think about the ways in which people and people, and people and systems, interact

The portfolio is a selection from a resource file of useful resource materials compiled by each class member during the year. Its main purpose is to encourage
people to begin to assemble a file of resources: workshop designs, handouts, useful energisers and icebreakers, and the like

Self evaluation of all they do. All activities, all assignments and the like are preceded by a plan and followed by a self-evaluation. The evaluation identifies the strong and weak points, and nominates what they would do differently if they repeated the activity and what they learned from it.

Daily debriefing. Near the end of each day, half an hour is spent recollecting the days events and reviewing the implications.

Personal development plans. In about week six each class member submits a personal development plan which sets out what they intend to learn from the class. It includes an assessment proposal which details what assessment package they want to negotiate, and how that fulfils their development plan.

Course evaluations.   The last day of each semester is devoted to a review of the semester, and collecting suggestions for future change. The evaluation at the end of first semester feeds into class planning for second semester. The results of the end of year evaluation are incorporated into the "standard package" and reported to the next year's class.

Mentors.   Every two or three weeks, small groups of class members meet with local practitioners to talk about what is happening in the class, and what the practitioners have been doing. Class members choose which practitioners they are going to approach, and negotiate with them how their time together is to be spent.

Meeting previous students.   Between the first and second week of class each year, intending class members meet with those who took the class the previous year. They talk about what the class is really like, and how the class members can get the most out of the experience.

You will notice that some of them are individual; others are intended for collective reflection, and are part of the self-improving aspect of the class. A selection of them are described in more detail below.

Some examples of individual reflective mechanisms

This section is intended to provide a glimpse of the reasoning which underlies the design of the reflective mechanisms. To this end, three are described in a little more detail below: diaries, small groups, and self-evaluation.

Diaries

Some years ago, several end-of-year evaluations indicated that it was difficult to know what had been learned. It was also apparent that many class members developed better process facilitation skills than they recognised. We were therefore seeking a way of making learning about process more evident. We had

heard of the use of "journals" as an aid in some training programs and thought that a weekly "process log" might help.

Initially it consisted of observations of process made during the class. When this proved too general to be of much use, we began to encourage the description of just a few important critical incidents. Finally, when this too proved inadequate, we developed the current form of the diaries.

Each week, therefore, each class member chooses one or two critical process incidents from the class. They describe the incidents, and what they learned about process from each. They then indicate what use they intend to make of that insight in their work and life in the near future.

This has the effect of completing a learning cycle for each incident (Figure 1). The incident itself provides the concrete experience (I am using the terminology of Kolb, 1984). Writing the description provides the reflective observation. Identifying the learning is equivalent to abstract generalisation. Developing a use for it constitutes the active experimentation, or at least plans for it. People are at liberty to use some other format if they find it more useful.
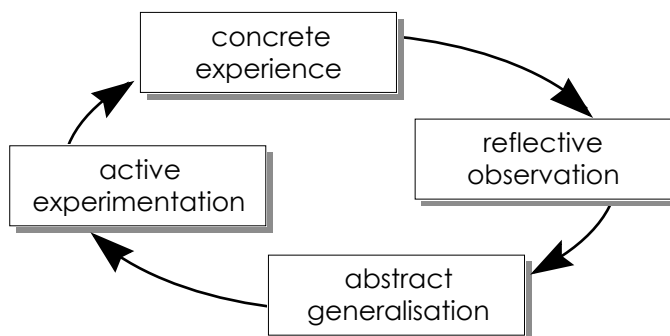

Fig. 1

The learning cycle (after Kolb, 1984)

For some, this format improved the quality of the diaries. Others found it difficult to distinguish the process (for example, how people interacted) from the

content (for instance, what they said). To increase their emphasis on process we began to comment favourably on any mention of process in the diaries.

At the same time, we wanted people to write the diaries for themselves rather than us. We didn't want our comments to lead them to shape what they said to please us. We therefore developed the practice of giving favourable comments, written with some personal self-disclosure. When there was little we could commend, we offered negative feedback in the form of supportive suggestions.

Small groups

Much use is made of small groups throughout the year. In addition, some permanent small groups are set up early in the course, partly as reflective mechanisms.

Walk-talk pairs are pairs of people who meet for the first five minutes and the last 10 minutes each class. They have multiple functions, three in particular. They serve as a bridge from one class to the next, to help retain learning from week to week. They are a support mechanism, to give people a friend they can go to outside their home group. They are an encouragement for reflection, as the topic of conversation in them is what happened in the class time preceding them. They are asked to consider, for example, what topics they will discuss in their diaries.

Home groups are groups of about five people who meet in class time for about half an hour each week. Most of them also have contact outside this time. They are intended primarily as a support group, especially to help each other manage the stress and workload of fourth year. The members of a home group also assist each other with projects and assignment. In this respect they somewhat resemble the "learning sets" of action learning (Revans, 1983).

Self evaluation

Most aspects of the course content, structure and assessment are negotiable, both by the class as a whole and by individuals or groups within it. We insist, how-

ever, that every class activity is evaluated by the people designing or running or writing it. For graded assessment, the accuracy of the evaluation is taken into account in deciding the grade. In addition, people are encouraged to check workshop designs and the like with staff before putting the designs into action.

In addition, we use explicitly a model (of learning, of action research, of evaluation) which encourages preparation before action, and reflection after (Figure 2). The assumption underlying the model is that people are more likely to learn from an experience if they act with intention, and reflect afterwards on the success of the action. The self evaluation is an occasion for reflection.
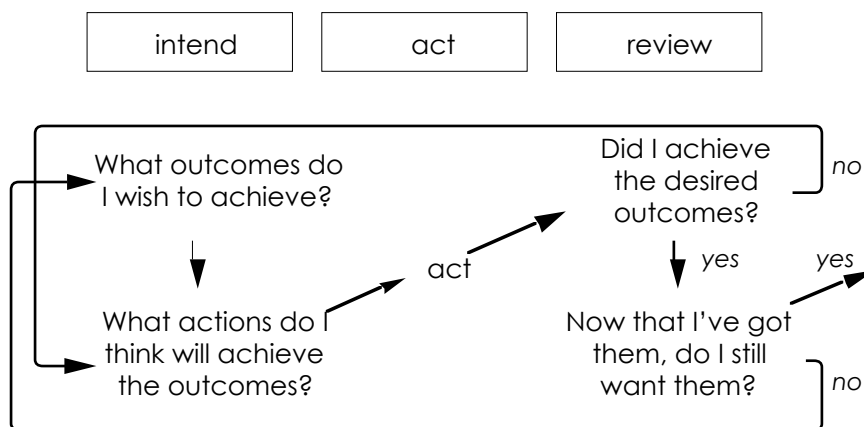

Fig. 2

A reflection model used in the course

For assignments, we provide marking and feedback criteria which (like the rest of the course) have evolved over time. Although these are negotiable, almost all class members use them as they are. For workshops and other class-run activities, the group responsible prepares a design beforehand, and reviews the activity and its achievements against that design. We also encourage them to consider what they would do differently, and why, if they did it again.

The main purpose of the self-evaluation is to encourage them to treat all activity as a learning experience. If they develop the habit in the classroom, we assume, they are more likely to do it in their professional life as practitioners.

Collective reflective mechanisms

In addition to the individual reflective mechanisms, there are other mechanisms which are part of the design of the course as a self-improving system. Some activities are intended to serve both individual and collective reflection: the daily debriefing sessions are an example. Others, like the meeting with the previous class, are intended primarily for collective reflection. (Of course, they may also produce individual reflection.)

The underlying rationale can be described by the same model as for individual reflection, shown above as Figure 2.

Some of the collective reflection allows a particular class to review and improve its performance within the year. The debriefing sessions have this purpose, and the evaluation at the end of first semester. So do regular sessions in the timetable which are kept free so that emergent issues can be aired and resolved.

In other instances the purpose is to allow the gains of one year to be passed on to the next. The meeting with the previous class serves this purpose. In addition, the evaluation at the end of the year often generates a set of suggestions which are passed on to the next class. We consider these suggestions, and incorporate them into the standard package if we can. Some classes also offer specific suggestions to the members of the next class. If so, we pass on these comments when the course is being designed in week 4 of the year.

That concludes an overview of the relevant aspects of the course and its history. We turn now to the evaluation study.

The study

Adelle picks up the story...

To provide a preview of what is to follow, the primary findings of the evaluation I carried out were threefold. First, I identified a need to cater for individual

differences by providing a smorgasbord of reflective mechanisms. Second, there were evident benefits of social interaction in aiding the verbalising and exchange of ideas, and for social support in a stressful year. Third, the study affirmed the value of the provision of feedback by staff and peers.

For the practitioner these have implications for the design of suitable reflection activities which facilitate intrapersonal processes within a group setting. (I return to this later.)

The interaction of reflective mechanisms

During the evaluation the class members made it clear that the reflective mechanisms assisted learning in two primary ways. First, they catered for individual differences and in doing so they encouraged reflective activity. Second, they provided social interaction and support. An important conclusion of the evaluation was that the provision of a variety — a "smorgasbord" — of reflective mechanisms suited the strong individual differences which prevailed. At each action research cycle, individual differences in the use of reflective mechanisms were apparent.

Further support for the smorgasbord is to be found in the variety and number of reflective mechanisms which evolved over time. The number of mechanisms increased from year to year in response to the expressed needs of class members.

As Kolb (1984) and others have noted, people have different learning styles. As well, each class member approaches the course with different interests and different capacities to learn. We also encourage them to pursue different learning goals. People are able to choose the reflective mechanisms which best suit their learning style and are most appropriate for their learning goals. In the evaluation I carried out, all of the mechanisms were used to varying degrees of success by all class members. A smorgasbord approach acknowledged and catered for

individual reflective mechanisms, as well as increasing the use of several reflective mechanisms in combination.

Our role as staff members was to provide a package of reflective mechanisms. We left it up to class members to customise the package to suit themselves, which they did. In addition, they identified other features of the course which served as devices for reflection. These are listed and briefly described in Box 2.

A smorgasbord also acts as a safety net. If there are occasions when one mechanism, a diary perhaps, does not suit, there are other mechanisms which can serve to make the learning visible.

The multiplicity of reflective mechanisms creates an emphasis on reflective activity. The explicit design of the course as a self-improving system provides structure for reflection and on-going evaluation. Such an emphasis upon continual evaluation, both individually and as a group, adds to learning. The data from my study also reveal that the nature of the reflective mechanisms is as important as the variety.

Social interaction and support

The *nature* of some of the reflective mechanisms increased the learning benefits for many people. They claimed that the reflective mechanisms such as the home groups, which involved social interaction, verbalising and exchanging perspectives, were very beneficial to learning. Social interaction and support from peers were claimed to be important aspects of the reflective process. As we illustrated earlier, the support mechanisms in PY479 are another aspect of the course which has increased over time in response to the expressed needs of class members.

Therefore, reflection may be seen as having two dimensions, one individual and intrapersonal and the other interpersonal and interactive. Interpersonal interaction helps when learning is not at first evident enough to allow a class member to write a diary, for example. On other occasions writing a diary may

crystallise ideas before exchanging them with others. The two dimensions are not mutually exclusive, but reinforce and build on each other.

Box 2 — Other reflective mechanisms identified by class members

Mechanisms which, although not specifically intended for the purpose, were identified by class members as aids to reflection

Process observers.   Each week, two volunteer class members observe and take notes on what happens during the class. This is done because class members often miss a lot of what happens when they are immersed in activity. The process observers can therefore often provide useful information on the class process when they report to the whole class on their observations during the end-of-class debriefing each week. Their observations are both a valuable reflective activity for them, and a trigger for reflective activity by other class members.

Coordinating the day's activities.   Another two volunteers are responsible for guiding the class through the day's program each week. They manage the timetable, engage the class in any decision-making about the day's conduct, and coordinate the efforts of those groups who are running class activities.

Informal discussions (in class and out).   There is a heavy emphasis on relationship building in small groups, and in the class as a whole, especially in the early weeks of each year. This tends to produce high levels of cooperation and social contact. The class activities make heavy use of small group work, and many of the course activities are designed and run by small groups. More than in other fourth year classes people seek to spend work time and social time together. Learning is triggered by the ideas and suggestions of other people in these groups.

Field trips.   Twice a year, early in each semester, the class spends a weekend away together, often under canvas. The weekend is half-work and half-play, with a relevant one-day activity being run workshop-style by staff. The activity is chosen to be something with personal and professional relevance to the class, and to engage them in thought about the class. Contact with each other outside a

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class setting encourages the formation of personal friendships, and engenders discussion about study in general and PY479 in particular.

Mini-lectures.   One of the weekly activities is a 15- or 20-minute "lecture" by one of the staff. In first semester this mini-lecture, which may be partly experiential, is on some theoretical topic which is relevant to what is happening in the class. For example, if the class is struggling with collective decisions it may be on decision-making. In second semester it is on some diagnostic or intervention technique in common use. In both instances, apparently it can trigger a rethinking of something that has occurred in class or outside.

Talking to staff members.   Class members are encouraged to have regular contact with staff outside class times. Assignments can be submitted in draft form for comment; workshop designs and plans for other activities can be checked out; mentors can be identified. During this contact, staff adopt a coaching role in which they frequently ask questions rather than provide answers. Their intention is to encourage thought and individual responsibility, and build confidence.

Reviewing notes.   Most class members take copious notes in class. In addition they write diaries and prepare other documentation from time to time, such as designs for workshop sessions they are going to run. They review these notes from time to time, especially when preparing assignments.

Critical incidents.   These are events, often unexpected, which occur in class and have to be resolved. They might include conflicts, discussions about activities which are not working, ambiguities and uncertainties. Some class sessions of two or three hours duration are kept free to allow these critical incidents to be raised and resolved.

Diary and other feedback.   The diaries which are submitted each week we return with our comments. The comments are affirming of people, as far as possible, and offer any negative feedback in the form of suggestions about what might be done differently. In addition, they often contain staff perceptions about what has been reported. Similar comments apply to staff feedback provided on other assignments and activities.

Combination of mechanisms.   Class members reported that the combination of mechanisms amplified the effects of individual mechanisms. For example, the diaries were often more useful because of discussions with other class members about the issues giving rise to the diary report, or the like.

For instance, the diary worked well as a reflective mechanism, and no class member thought the diary should be dropped. However, it did not suit all class members. A consistent theme in the evaluation was that the diaries were not easy to write, but were very useful in the long run if you persisted with them. Talking to others surfaced material to write about. By itself the diary is clearly an individual activity which requires introspection, time alone, and also the ability to articulate learning in some orderly fashion.

A consistent theme in the data was that reflection could take place through inter- action with others: not solely from personal introspection, but in conjunction with it. For many, such interaction was crucial and was cited as being very bene- ficial in the process of reflection. Social support was an important positive theme throughout the study. The support came from staff, home groups, walk-talk pairs, and the group as a whole. In the words of one class member, home groups...

> *"provide mutual support, exploration of ideas, feedback on behaviours, and were anxiety lowering."*

This support was often accompanied by an exchange of perspectives on experiences. Gaining different perspectives appears to be a component of an effective reflection process. As one class member claimed, it...

> *"helps to generalise learning, due to this bouncing of knowledge off each other"*.

This quote illustrates the benefit in being able to verbalise reflections to others. In fact, the data indicate that this coexistence of interaction and reflection is

important. A supportive home group environment enabled many people to discuss critical incidents and therefore assisted in making learning more explicit.

For many it was the *combination* of discussion with others and individual diary-writing that worked well. It appears that even if particular mechanisms do not work independently, the combination can strengthen the weakness in any one of them. It may be, for example, that those who find a diary difficult are helped by talking to others and getting another perspective. If the diary were the only reflective mechanism its benefit for reflection would be minimised for some.

It does not seem to matter what reflective mechanism begins the reflective process. What is important is that all class members locate a mechanism which works for them in making learning visible. Talking to a colleague may spark off the process, with a subsequent diary entry providing another avenue to reinforce the reflection and learning. Again, by using a variety of reflective mechanisms, each can serve to reinforce the others. As staff members who read and commented on the diaries we also reinforced their effectiveness.

Feedback and the reflective process

Class members received affirming feedback from us on their weekly diaries. The importance of this feedback in the learning and reflection process was also a prominent theme in the study. The feedback continued the reflective process by encouraging future thoughts or actions and by providing yet another perspective.

In giving feedback we affirmed the importance of the conclusions people drew for themselves. We encouraged them to think and draw their own conclusions, and provided more encouragement when they did so. At the same time, we tried to disclose our own perspectives as personal disclosures.

In sum, even though reflection is an intrapersonal process, interpersonal processes aided it. Support from and discussions with peers and staff helped many in their reflection, especially when the learning was not so visible.

In partial summary, the evaluation highlighted the importance of individual differences, providing interaction, and giving feedback. These have implications for those of us involved in designing learning activities.

Designing learning activities

At times it seems that the activity of reflection in formal learning settings is so familiar that it is often overlooked. Assumptions are made about its occurrence and its effectiveness. It is easy to neglect it as something which cannot be directly observed, and which is unique to each learner. It is common for learning designs to incorporate inadequate time and structure for the reflection process.

Adequate and purposeful reflection will not just happen, at least not for all students. The recognition and use of learning relies heavily on a reflection (or "debriefing") process. However, becoming aware of the importance of reflection brings another problem in its wake: how do we promote an individual activity such as reflection in a group setting? This is a predicament facing many facilitators of learning in a variety of learning environments.

To design processes which encourage reflection, I suggest, be aware of what reflection involves and what promotes its occurrence. Be sensitive to the substantial individual differences which exist. Provide an environment in which the intrapersonal process of reflection can flourish.

A model of reflection

Boud, Keogh and Walker (1985) provide a model of reflection from an individual's perspective. It depicts reflection as a multi-stage process involving several distinct but related parts (Figure 3).
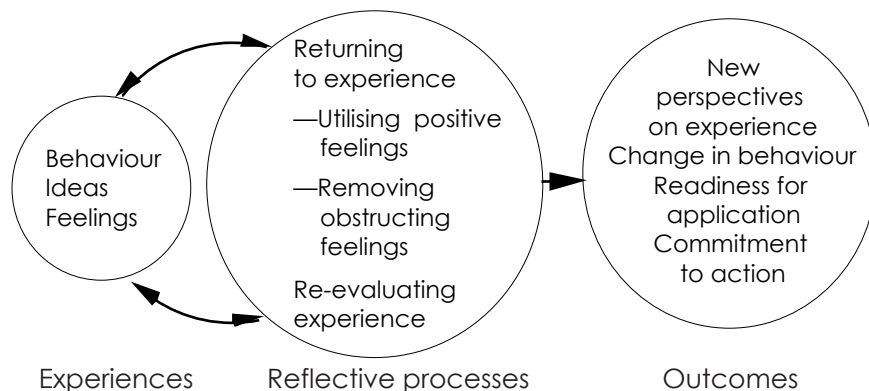
Fig. 3

The reflection process in context (Boud, Keogh and Walker, 1985: 36)

The process involves the three elements of returning to the experience, attending to feelings, and re-evaluating the experience. What I found in the evaluation was that, to assist in this process, the learner's environment has to provide reflective mechanisms which cater for individual differences and allow for the exchange of differing perspectives with others involved in the experience.

Just as we cannot assume that reflection is occurring, we also cannot assume that interaction will occur amongst learners. Just as a smorgasbord of reflective activities is usefully provided, so also is it necessary for structures for social interaction to be designed. The learner's interpersonal environment is as important as the intrapersonal environment during the reflective process.

It appears, then, that the time and effort we devote to initial relationship building in PY479 has benefits beyond those we intended. The social support interacts beneficially with the reflective activities. It is also useful that we give attention to establishing interaction among all class members. This enhances the likelihood that differing views are shared, and individual differences more readily acknowledged and accepted over time.

In the PY479 context there are many vehicles for the setting up of social networks. Much of the first three weeks of the course are spent in relationship-

building activities in the whole class and a variety of small groups. The walk-talk pairs, the home groups, and ad hoc groupings continue over the year. All contribute to support, and learning through reflection. This attention to social networks may be useful for other designers of learning situations.

These findings about the importance of the interpersonal environment suggest an addition to the Boud et. al. model of reflection.

Adaptations to the model

An individual has an experience, and then engages in the reflective process by returning to the experience, attending to any feeling invoked, and re-evaluating it. This process is helped if a variety of reflective processes are available. It is further enhanced by access to feedback, social support, and the discussion of insights and emotions.

The interaction of these interpersonal aspects with the corresponding intrapersonal process leads to more beneficial outcomes. Social support and feedback may continue to encourage any new perspectives or changes in behaviour. Coaching from staff members and peers may provide the added momentum to prepare an individual for future applications of learning, as well as furthering their own commitment to action.

In brief, the Boud et. al. model can be extended by incorporating those interpersonal aspects which aid intrapersonal reflection. They may be summarised under the following headings...

Support.   Social support and discussion, and insights derived from peers.

Smorgasbord.   Having a smorgasbord of reflection techniques available, to cater for individual differences

Structures.   Providing structures and mechanisms for purposeful reflection.

Affirmation.   Coaching and affirmation from staff and peers.

To this we would add a further condition: that people enter an experience with some prior expectation of what they intend, and how they intend to achieve it. Contrasting the reality with their expectations can give more point to their experience. The learning cycle is thus incorporated in the model, shown as Figure 4.
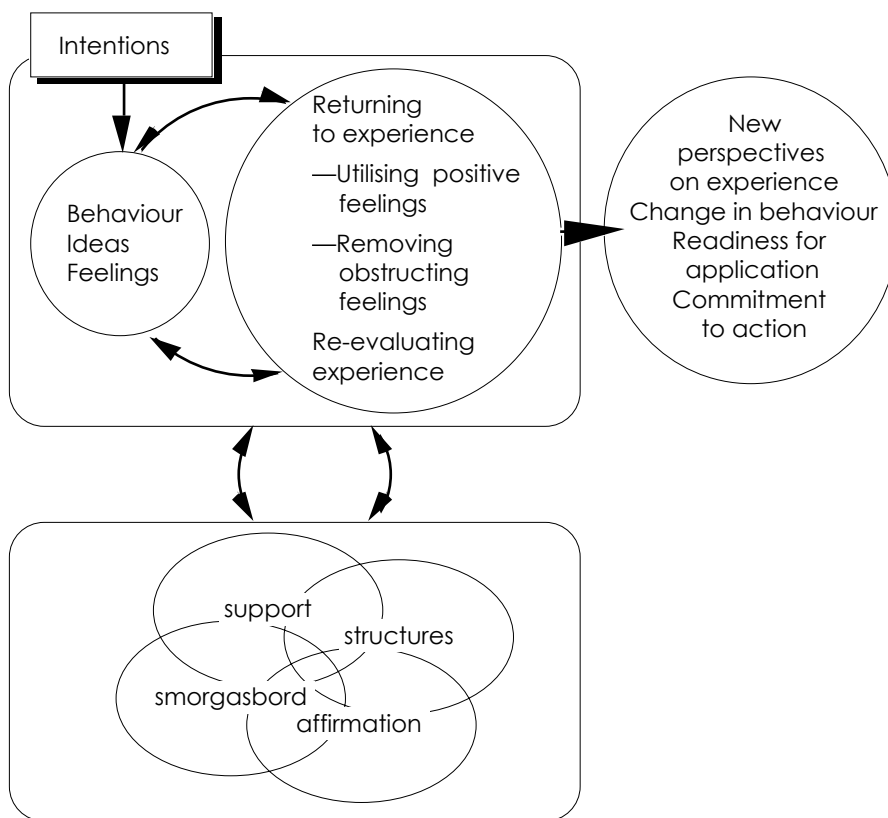

Fig. 4

Additions to the Boud et. al. model of reflection

And now...

I am still left with some unanswered questions. In particular, the role of facilitators of the learning process deserves more attention. The coaching role of staff in

PY479 appeared both to aid the reflective process and to help learners develop the confidence to draw their own conclusions.

This is a topic, I think, which will repay closer study.

And in conclusion

Adelle and Bob draw their joint conclusions...

To place this in a wider context, the cyclic nature of reflection can be emphasised. As in Figure 2 above, reflection is part of learning from experience. It leads to an intention to act differently in the future. When this intention is carried out, a different experience and a different reflection may result.

Further, the same cycle can be individual or collective. The diaries, for example, allow people individually to reflect on their behaviour and reach conclusions about the changes that might be desirable. The regular debriefing sessions at the end of each day allow collective reflection, and may lead to collective behaviour change.

Both these cycles, diaries and debriefing, occur over a cycle of a week. Both shorter and longer cycles are possible. The shorter cycles might consist of individuals or groups changing their workshop plans on the run in the light of experience or class reaction. The longer cycles include the semester review of the diaries for individuals, and the end-of-semester evaluation for the class as a whole. The presence of cycles within cycles allows more appropriate and responsive change.

The success of these, however, is influenced by the climate and structures within which they occur. The smorgasbord, the structures, the support, the affirmation — these provided a climate within which a learning cycle was able to flourish (Figure 5).
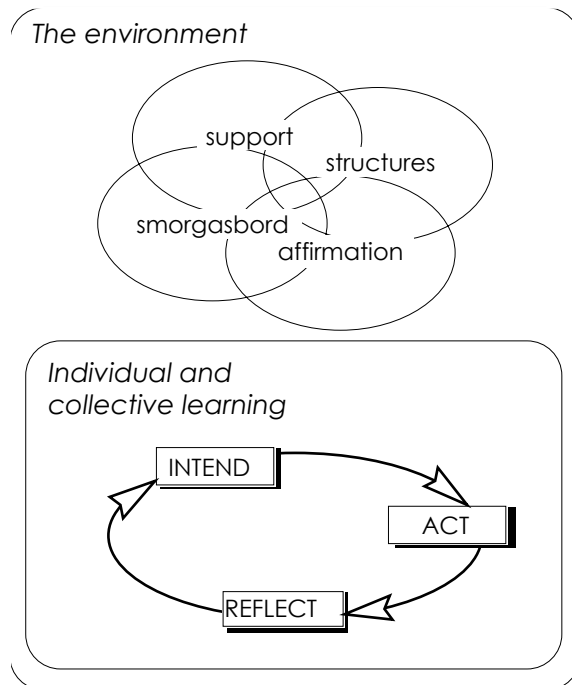
The environment

support

structures

smorgasbord

affirmation

Individual and
collective learning

INTEND

ACT

REFLECT

Fig. 5

The learning cycle, individ-
ual or collective, short-cycle
or long-cycle, depends for
its effectiveness on the cli-
mate and structures in
which it is immersed

As the results of the evaluation study came to hand we were surprised at the number and complexity of reflective mechanisms that PY479 had acquired over the years of its evolution. However, all had been in response to stated needs. And at any time, course members would have been able to remove some of them, or choose not to make use of them. All of them, intended and unintended were of use to some class members.

The importance of a number of factors has been identified previously ...

■   The pervasiveness and extent of individual differences is apparent. The availability of a smorgasbord of mechanisms provides something for every-one. The participative climate, and the ability to select from a standard pack-age, allows the individual to make an appropriate choice.

■   Structures for reflection and for interaction are both useful. Reflection occurs more often when there are structures to encourage it. So does interpersonal

interaction. These two features combine to enhance each other. The emphasis in the early stages on building a sense of community in the class, and involving class members in design of the course, appears to influence later learning outcomes.

■ Although less specifically studied, it appears that the role of the staff was important. In particular, the use of coaching, and the care to make feedback affirming, appeared to play their part in the course.

We can interpret these results against the background of a course which has been set up as a self-improving system. Many class features which emerged as part of that evolution are seen in the evaluation to be worthwhile. A fourth conclusion can be added, therefore.

■ The findings of the study provide validation for the concept of designing courses as self-improving systems.

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