

## CHAPTER 1

# Promoting Reflection in Learning: a Model

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### Introduction

In the Introduction we presented some illustrations of the role of reflection in common learning situations. We are now in a position to present our own model of reflection in learning. We have been led to this by an analysis of examples of the kind discussed above, by our own experience of the processes of learning and the work of a number of authors who have considered reflection as a part of learning.

We wish to restrict our scope to what Tough (1979) terms 'deliberate' learning. That is, learning which is intentional in which learners are aware that they are learning; learning with a definite, specific goal rather than generalized learning, for example, to 'develop the mind'; learning which is undertaken in order to pursue this goal; and learning which the individual intends to retain (Knapper and Cropley, in press). Of course much of our discussion may also apply to other less conscious or less organized forms of learning, but these involve other considerations which would take us away from our main area of interest. Deliberate learning occurs within educational and training institutions, but a great deal takes place on a less formal basis away from these institutions (Tough, 1979). In addition we wish to focus primarily on experiential or experience-based learning (Boud and Pascoe, 1978) rather than what Coleman (1976) refers to as classroom learning which concerns symbolic or information assimilation, although we believe that similar considerations might also apply in these latter areas.

Reflection is a form of response of the learner to experience. In our model we have indicated two main components: the experience and the reflective activity based upon that experience. In the sense in which we are using the term, experience consists of the total response of a person to a situation or event: what he or she thinks, feels, does and concludes at the time and immediately thereafter. The situation or event could be part of a formal course, eg a workshop, a field trip, a lecture; or it could be more informal: an event arising from a personal study project or from the actions of a community group, or a totally unplanned occurrence in daily life. It could be provoked by an external agent or it could be an internal experience, arising out of some discomfort with one's present state. In

most cases the initial experience is quite complex and is constituted of a number of particular experiences within it. In the case of the child care student discussed in the Introduction, the learning experience would consist of the time spent within the classroom, but within that there would be many observations, thoughts, perceptions, reactions, awkward moments, and interchanges which would make up the total experience.

After the experience there occurs a processing phase: this is the area of reflection. Reflection is an important human activity in which people recapture their experience, think about it, mull it over and evaluate it. It is this working with experience that is important in learning. The capacity to reflect is developed to different stages in different people and it may be this ability which characterizes those who learn effectively from experience. Why is it that conscious reflection is necessary? Why can it not occur effectively at the unconscious level? It can and does occur, but these unconscious processes do not allow us to make active and aware decisions about our learning. It is only when we bring our ideas to our consciousness that we can evaluate them and begin to make choices about what we will and will not do. For these reasons it is important for the learner to be aware of the role of reflection in learning, and how the processes involved can be facilitated. Some authors (for example, Taylor, 1981) present reflection as a stage in the learning process which occurs after substantial other activity has taken place, towards the latter part of a one-semester course, for instance. While we accept that major periods of reflection may take place in this manner we also wish to include in our definition more modest reflective activities which may occur daily.

In our view, reflection in the context 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. It may take place in isolation or in association with others. It can be done well or badly, successfully or unsuccessfully. However, we wish to focus on what learners and teachers can do to ensure that it is a productive experience.

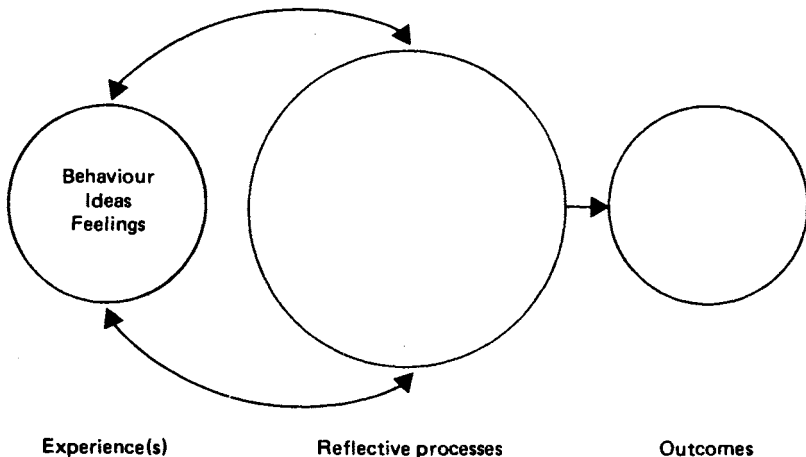
Probably, for adult learners, most events which precipitate reflection arise out of the normal occurrences of one's life. The impetus may arise from a loss of confidence in or disillusionment with one's existing situation. This could be provoked by an external event, or could develop from one's own reflection on a whole series of occurrences over time, causing a dissatisfaction which leads to a reconsideration of them. Boyd and Fales (1983) refer to this experience as an 'inner discomfort', and Dewey writes of:

a state of doubt, hesitation, perplexity, mental difficulty, in which [reflective] thinking originates, and . . . an act of searching, hunting, inquiring, to find material that will resolve the doubt, settle and dispose of the perplexity. (Dewey, 1933, p12)

Reflection may also be prompted by more positive states, for example, by an experience of successfully completing a task which previously was thought impossible. This may stimulate a reappraisal of other tasks and the

planning of new experiences. For someone who has acquired some facility in reflection, the personal affective aspect would be a more frequent impetus rather than particular activities planned by others.

We believe that the more teachers and learners understand this reflective aspect of learning and organize learning activities which are consistent with it, the more effective learning can be. The model points to the starting point and objects of reflection: the totality of experiences of learners, the behaviour in which they have engaged, the ideas of which learners are aware and the feelings which they have experienced. It designates the outcomes of reflection, which may be a personal synthesis, integration and appropriation of knowledge, the validation of personal knowledge, a new affective state, or the decision to engage in some further activity. It also points to the various intellectual and affective processes involved in reflection. These may be facilitated by individual learners or, in some cases, by others assisting them in learning. Figure 1 presents this diagrammatically.



**Figure 1** *A model of reflection in the learning process*

In discussing the model we will for the sake of simplicity refer to the initial learning experience as if it were a singular event; we will also assume in talking about reflection that a particular event has occurred which is the focus of reflection. Of course, in practice we all have a number of experiences over a period of time some of which will become the focus of reflection and some of which will not; often these will not be perceived as separate incidents and it may not be possible for us to identify a particular event which acts as a trigger. However, the general features of reflection in such circumstances are similar. Although we have defined the scope of what we term reflection, and we believe that this corresponds generally to current usage, other authors use different terms for this concept. For example, van Manen (1977) following the German tradition uses the word 'experience', and More (1974) uses 'learning'.

Despite all that has been written about reflection it is difficult to be precise about the nature of the process. It is so integral to every aspect of learning that in some way it touches most of the processes of the mind. As yet little research has been conducted on reflection in learning and that which has been undertaken offers few guidelines for the practical problems which face us as teachers and learners. However, it is possible to extract some principles from those who have examined their own learning processes.

John Dewey wrote a great deal about what he referred to as reflective thought and, in common with a number of philosophers who have discussed reflection (cf Ryle), he assumed it was highly rational and controlled. He 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 leads . . . it includes a conscious and voluntary effort to establish belief upon a firm basis of evidence and rationality. (Dewey, 1933, p9)

Dewey considered that reflection involves an integration of attitudes and skills in methods of inquiry; that neither attitudes nor skills alone will suffice (Zeichner, 1982). Although we acknowledge a great debt to Dewey, we do not fully follow his path. In particular we give much greater emphasis to the affective aspects of learning, the opportunities these provide for enhancing reflection and the barriers which these pose to it.

In order to explore this model in more detail we shall consider each aspect of it in turn and focus on those issues which in our view are important in ensuring that the process of reflection is an effective one. First, we will examine some of the characteristics of learners and the significance of these for their response to the initial experience. As by definition the experience which will be processed has to be experienced by the individual, what the learner brings to the event is essential to an understanding of what occurs. Second, we will look at what we regard as the three major elements of the reflective process itself: returning to the experience, attending to feelings, and re-evaluating the experience. These elements are concerned with how the learner works on the experience, links new knowledge with old, re-examines the initial experience in the light of his or her own goals, integrates learning into his or her existing framework, and rehearses it with a view to subsequent activity.

## **The Learner**

The characteristics and aspirations of the learner are the most important factors in the learning process. The response of the learner to new experience is determined significantly by past experiences which have contributed to the ways in which the learner perceives the world. The way one person reacts to a given situation will not be the same as others and this becomes more obvious when learners from diverse backgrounds work together.

Those who approach the new learning experience from a history of success in similar situations may be able to enter more fully into the new context and draw more from it. The person who is adequately prepared in the particular area of learning can approach it with feelings of competence and confidence and is more likely to find it a rewarding experience at the time and will be drawn into it more easily. A history of positive associations with teachers can also contribute to productive involvements in new learning experiences. The building of a good climate in which to conduct learning activities is directed towards bringing these positive attitudes to the fore.

It is also necessary to take into account negative experiences from the past. An example of the unique response of an individual and how this can affect teaching plans is shown by a recent incident. In one of our classes a group of adults was shown a film about the life of the German theologian, Dietrich Bonhoeffer. It was intended that this should stimulate discussion on some of the values implicit in his work. After the film there was a period of discussion in small groups focusing on a series of questions provided to help each participant formulate his or her own response to the values presented. After the exercise was complete the group commented on the activity. Most of them had responded to the film in the way anticipated by the teacher. However, in one case the entire experience had been quite different. During the film there had been very brief flashes of atrocities inflicted in concentration camps: these appeared to have been included to provide a background for the issues presented in the film. However, they were sufficient to arouse in one participant a reaction quite unlike that of the others. This person, as a child, had experienced at first hand atrocities similar to those portrayed, and the film's brief flashes of them had caused her to relive those past events. Her response to the intellectual values presented in the film had been drowned in the emotional upsurge that had been triggered in her. The teacher's facilitation of reflection on the experience of the film in no way related to what this person had experienced, and, for her, the whole exercise was of a dramatically different nature from that of the others.

This example may appear a little atypical, but in all situations we find that our perceptions of events are conditioned by past experience which has shaped our response to the world around us, and that knowledge of how this has affected us is unknown or unknowable to a teacher. Less vivid examples of the above occur every day in other ways. A student who has had unpleasant experiences in, say, a mathematics or science class may, when exposed to similar situations in the future, experience again the same feelings of discomfort. These can interfere with the process of subject-matter learning as the student may become so preoccupied with emotional reactions that the new information presented by the teacher is not clearly perceived. The learner does not relate to the mathematical or scientific content but rather responds covertly to the past humiliation and embarrassment. This emotional load can carry over into the learner's processing of the subject, and unless some way can be found of resolving

these feelings there will be no new learning of the content in question. Such negative reactions to formal classroom situations are more common than we usually care to admit. Of course, there are also the mathematics students who have had enjoyable experiences and for whom maths is fun. After the particular class is over they continue holding their positive attitude; they may be good at mathematics not because of any special natural ability but because they feel comfortable about learning it.

George Kelly (1955) in his personal construct theory refers to the individual and unique perception of each person. He highlights the differences in individual perception and response to the one event and identifies the need for teachers to be aware that what is in their heads is not necessarily translated to the heads of their students. In Kelly's view objects, events or concepts are only meaningful when seen from the perspective of the person construing their meaning. This suggests that techniques to assist reflection need to be applied to the constructions of the learner, rather than those of the teacher. A similar emphasis can be found in the work of Paulo Freire (1970) although he stressed cultural rather than psychological factors in learning. His team of literacy workers adopted the view that learners have a personal perception of the world which is culturally induced, so that their personal meanings or constructs can only be comprehended in their unique social and political context. Both Kelly and Freire highlight the centrality of individuals' perceptions in learning. As Abbs (1974) puts it, 'one must again and again return to the person before us'.

One of the most important areas of learning for adults is that which frees them from their habitual ways of thinking and acting and involves them in what Mezirow (1978, 1981) terms 'perspective transformation'. This means the process of becoming critically aware of how and why our assumptions about the world in which we operate have come to constrain the way we see ourselves and our relationships. He suggests that there are two paths to perspective transformation: one is a sudden insight into the structure of the assumptions which have limited or distorted one's understanding of oneself and one's relationships; the other is directed towards the same end but it proceeds more slowly by a series of transitions which permit one to revise specific assumptions about oneself and others until a stage occurs in which the assumptions become transformed. Freire (1970) has used the term 'conscientization' to describe the process by which one's false consciousness becomes transcended through education. In a similar context Reed (1981, cited in Cunningham, 1983) discusses what he calls 'the empowering learning process' which assumes that problems for individual learners may have their source in the structures of society. In Reed's view 'the essence of such an empowering process is the transformation of social consciousness' and this involves focusing on the social experience of learners and the historical development of society. Lessons are drawn from these in order to improve learners' own practice.

## **The Learner's Intent**

The intentions of the learner are particularly important; often a desire to learn for a particular purpose can assist in overcoming many obstacles and inhibitions. Intentions also influence a learner's approach to a situation and the ways which are chosen to process experience. When the activity being processed is one which is shared with others the intentions of the group may be paramount and it will then be necessary to take into account the potentially divergent goals within the group.

The learner can choose to direct reflective activity to a variety of ends. These intentions can influence both the manner of reflection and its outcome. They can be directed towards exploring organized knowledge, towards self-exploration, or examining the natural and human environment or context in which the learner is operating. For example, in the case of the geology field trip discussed in the Introduction, the processing of the experience might be directed towards the study of geological strata, to the practicalities of working under field conditions, to the learner's response to these conditions or, indeed, to all of these. The outcomes of these might be an improved conceptualization of particular rock features, a greater awareness of the use of certain surveying techniques, the development of a lack of confidence in coping with the field environment, or a reappraisal of the desire to become a field-based geologist. The intent of the learner permeates every stage of the process from the choice to engage in a particular activity to the ultimate results of the reflective process. Recollection of the event itself will be affected by it because, in the replaying of the experience, particular attention may be given to those elements which appear to be relevant to the goals of the learner.

Intentions vary both between individuals and within an individual depending on the task at hand. Researchers who have studied university students have identified approaches to learning which they have classified as either deep or surface approaches. The deep approach is one in which students seek an understanding of the meaning of what they are studying, relate it to their previous knowledge and interact actively with the material at hand. In contrast, those who adopt a surface approach tend to memorize information and focus on the requirements of tests and examinations (Säljö, 1981; Gibbs et al 1982). Entwistle and Ramsden describe the deep approach as being characterized by an integration of formal learning with personal experience, the formation of relationships between parts of knowledge, and a search for meaning, and the surface approach as the treatment of tasks as unrelated, an emphasis on memorization and an attitude of unreflectiveness (Entwistle and Ramsden, 1983). However, these approaches are not constant in any one student and someone might adopt a deep or a surface approach depending on the circumstances and their intentions at the time (Entwistle and Ramsden, 1983). The adoption of a reflective approach is a choice which we can make or not as we wish, and is one which can be associated with the deep approach to learning.

The importance of intent has been recognized in modern work on

reflection. For Dewey (1916) reflection is a process which perceives connections and links between the parts of an experience. He thought that the context of reflection is uncertainty in the environment and that the learner's activity in that context is 'an intentional effort . . . to discover specific connections' which will improve certainty. For Jurgen Habermas (1974) an important reflective process occurs in a context of purpose which he calls 'critical intent'. He sees this as the disposition to investigate and reconstruct an aspect of the social and moral environment to achieve enlightenment and ultimately emancipation. In his view a group of persons with critical intent bringing their informed judgement to bear on the apparent issues or problem is an act of reflection. This process generates critical ideas or theories about the validity of the questions which are considered and the inferences which are drawn, and the reconstruction of new ones. Reflective activity with critical intent is, for Habermas, the heart of the process which frees the human mind.

Mezirow (1981) has used the framework of Habermas in his studies of adult learning and has given the concept of critical reflectivity a central role. Critical reflectivity plays a vital part in this demanding activity and Mezirow (1981) describes some of the major dimensions of this concept in his important theoretical paper.

At the first level there are the forms of reflectivity of our ordinary consciousness which Mezirow defines in the following way. *Reflectivity* is the act of becoming aware of a specific perception, meaning or behaviour of our own or of habits we have of seeing, thinking or acting; *affective reflectivity* is becoming aware of how we feel about the way we are perceiving, thinking or acting or about our habits of doing so. *Discriminant reflectivity* is assessing the efficacy of our perceptions, thoughts, actions and habits of doing things: identifying immediate causes; recognizing reality contexts (a play, game, dream, or religious, musical or drug experience, etc) in which we are functioning and identifying our relationships in the situation. There is also *judgemental reflectivity*, which is making and becoming aware of our value judgements about our perceptions, thoughts, actions and habits in terms of their being liked or disliked, beautiful or ugly, positive or negative.

There are also forms of reflectivity which pertain particularly to perspective transformation and to our critical consciousness. *Conceptual reflectivity* is becoming conscious of our awareness and critiquing it as, for example, when we question the constructs we are using when we evaluate another person. *Psychic reflectivity* is recognizing in oneself the habit of making precipitant judgements about people on the basis of limited information about them, and recognizing the interests and anticipations which influence the way we perceive, think or act.

These latter two aspects of critical consciousness may be differentiated from *theoretical reflectivity* which Mezirow believes is central to perspective transformation. *Theoretical reflectivity* is becoming aware that the reason for a habit of precipitant judgement or for conceptual inadequacy is a set of taken-for-granted cultural or psychological

assumptions which explain personal experience less satisfactorily than another perspective with more functional criteria for seeing, thinking and acting.

## **Promoting Reflection**

We want now to look at the process of reflection from the point of view of the learner and put special emphasis on the relationship of the reflective process to the learning experience and on what learners can do, with and without the aid of others, to enhance this activity.

In our view, one of the most important ways to enhance learning is to strengthen the link between the learning experience and the reflective activity which follows it. At the simplest level this link can be formed by incorporating into learning activities a specific allocation of time which can be used for reflection. This can be achieved, for example, by the scheduling of a debriefing period for a group or by setting specific time aside for keeping a diary of events and one's reactions to them. If we are exposed to one new event after another without a break we are unlikely to be able to make the most of any of the events separately. The link can also be formed through the application of various techniques to aid reflection during the time that has been set aside. We start from the position that it is useful for learners and teachers to have a model of reflection which points to some of the major processes which they should consider, for them to have their attention drawn to the importance of reflective activity, and for them to plan consciously for the reflective stage of the learning process.

Figure 2 lists the three elements which we believe are important in the reflective process. *Returning to experience* is simply the recollection of the salient events, the replaying of the initial experience in the mind of the learner or the recounting to others of the features of the experience. *Attending to feelings* has two aspects: utilizing positive feelings and removing obstructing feelings. Utilization of positive feelings involves focusing on positive feelings about learning and the experience which is subject to reflection. This may involve the conscious recollection of good experiences, attention to pleasant aspects of the immediate environment, or the anticipation of the possible benefits to be derived from the processing of events. Removing obstructing feelings is a necessary precursor to a rational consideration of events. This may involve expressing one's feelings when recounting an event to others by, for example, laughing through the tale of an embarrassing incident or through some other form of catharsis. It involves whatever needs to be done in order to remove impediments to a thorough examination of the experience.

This leads to the third stage of *re-evaluating experience* which, although it is the most important, is often not completed if the preceding two are omitted. Some form of evaluation might have taken place at the time of the experience and may in the learner's mind be part of the experience

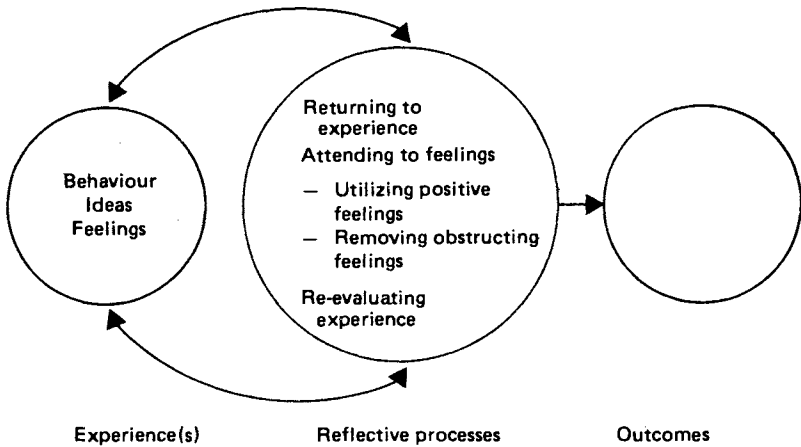


Figure 2 Components of reflection

itself. Re-evaluation involves re-examining experience in the light of the learner's intent, associating new knowledge with that which is already possessed, and integrating this new knowledge into the learner's conceptual framework. It leads to an appropriation of this knowledge into the learner's repertoire of behaviour. This can involve a rehearsal in which the new learning is applied mentally to test its authenticity and the planning of subsequent activity in which this learning is applied in one's life. Although we have separated these elements and stages within each it is not possible to regard them as distinct and unrelated. In general, the process may tend to proceed in the sequence we have described, but this may involve many cycles between stages, repetitions of important elements and lingering over particularly significant components.

#### *Stage 1 Returning to Experience*

One of the most useful activities that can initiate a period of reflection is recollecting what has taken place and replaying the experience in the mind's eye, to observe the event as it has happened and to notice exactly what occurred and one's reactions to it in all its elements. It may be helpful to commit this description to paper, or to describe it to others. By whatever means this occurs the description should involve a close attention to detail and should refrain from making judgements. As one replays the experience chronologically, details usually begin to emerge which were ignored at the time of the experience, or only noted in passing. As we witness the events again they become available for us to reconsider and examine afresh; we realize what we were feeling and what responses prompted us to act as we did. This description provides the data for subsequent processing and can help to ensure that our reflection is on

the basis of the actual events as we experienced them at the time, rather than in terms of what we wished had happened.

For example, the geology student may, at the end of the field trip, start to think about preparing a report and as a preliminary review her experience by recalling each day in the field. To aid her in this she may turn to her field notes to prompt her and help her reconstruct past events: 'why did I write this?', 'what was happening when I observed that?', 'I was really excited when that occurred'. Only part of this recollection will be of immediate use to her in writing her report, but the exercise helps her to focus on the experience and to extract from it what is important. Recollection may need to be repeated many times and from many perspectives; for example, once focusing on the external events, again noticing one's feelings, and again becoming aware of the ideas associated with it.

The simple replay of events and responses logically precedes any cogitation although in any given situation they may be interlinked. What takes place first is a clarification of the personal perceptions of the learner. The learner stands back from the immediacy of the experience and whatever personal challenge it may have been at the time and reviews it with the leisure of not having to act on it in real time. The learner can then start to view the experience from other perspectives, perhaps to see herself as others see her, or to stand back metaphorically to look at the wider context in which the event was situated. The review may not take long if it is done mentally; if it proves fruitful it can be developed to whatever length is desired.

The description of the experience should be, as far as possible, clear of any judgements as these tend to cloud our recollections and may blind us to some of the features which we may need to reassess. However, what can emerge in the descriptive process is the observation of judgements and interpretations which took place at the time of the experience itself or shortly thereafter. Often false perceptions can be detected by recollection alone. One of the main reasons for writing descriptions or reporting them to others is to provide a check on whether they are free from judgements. Debriefing is a technique which can be used for individuals or for groups which begins by a lengthy period of description and returns to the original experience before proceeding to any analysis (see Chapter 4).

Of particular importance within description is the observation of the feelings evoked during the experience. On occasions our emotional reactions can override our rationality to such an extent that we react unwarily and with blurred perceptions or they may foster the development of confidence and a sense of self-worth that can lead us to pursue paths which previously may have been unavailable to us. It is useful to recognize that this is occurring even though it may not be appropriate to focus further on these at this stage. Acknowledging feelings, whether experienced as positive or negative, can enable us to enter into the second and third phases of reflection more easily. Learners who do not observe this affective dimension of their experience may undermine the value of

their reflections by restricting them to one aspect of their response to the world around them, thus placing artificial barriers on their response to experience.

At any stage insights might arise 'out of the blue'. They may be instantaneous or intuitive appreciations of an important truth, or enriched descriptions of the events. They cannot be planned, but they may signal the beginning of a new level of reflection which involves working with the insight as well as the recollections of experience and they may also involve re-evaluation and the making of judgements.

### *Stage 2 Attending to Feelings*

It has already been noted that describing events can bring us to an awareness of the feelings that were present during the initial experience. In the example given earlier about the reactions of a viewer of the Bonhoeffer film, the emotional response of the learner to the film drowned the response which had been anticipated by the teacher. Even though our emotions and feelings are a significant source of learning, they can also at times become barriers. Depending on the circumstances and our intentions we need either to work with our emotional responses, find ways of setting them aside, or if they are positive ones retaining and enhancing them. If they do form barriers, these need to be recognized as such and removed before the learning process can proceed.

Utilizing our positive feelings is particularly important as they can provide us with the impetus to persist in what might be very challenging situations, they can help us see events more sharply and they can provide the basis for new affective learning. Unless we believe in ourselves and our own capabilities we can constrain ourselves to such an extent that we deny ourselves learning opportunities and fail to extract what is available to us in any given situation. Our geology student would not be able to go about all the technical tasks effectively if she did not feel that she could cope well with the basic requirements of living in the field. Positive feelings can be enhanced through attending to situations in which we have been successful or in which we have felt good about ourselves. We can focus on what we regarded as good about the experience and appreciate those things we did which were worthwhile, creative or stimulating. If we can establish a positive affective state we are able to pursue both cognitive learning and to develop our emotional lives.

Sometimes in reflection we are not able to recollect events clearly, or we may be so rooted in one perspective or fixed on a given interpretation, that we give up reflection believing that we have reached an understanding of the experience. Commonly what has happened is that an affective barrier has been raised which has temporarily disabled us. Heron (1982) suggests that what is happening is that our 'human capacities' cease to respond flexibly and creatively to the current situation as it is'. When this occurs, the feelings in question need to be discharged or transformed in a way that enables us to regain our flexibility and creativity in responding to the current situation. It is not enough to repress these

distorting feelings. While this may remove them from our consciousness, it does not remove the potentially debilitating effects that they have on our mental processes.

These issues need to be handled sensitively. They need to be resolved in a way that will remove their undesirable influence and will facilitate continued support for future learning. They can be discharged by being expressed openly in a sustaining environment, for example on a one-to-one basis or within some kind of support group, so that an emotional obstacle can be removed through, for example, laughing, animated speech, anger or crying (Heron, 1982). Some people can discharge them, in the view of Rainer (1980), through forms of writing. Through such approaches learners can be freed from the mental bonds which were acting as constraints on them and they may be able to respond freely, flexibly and creatively once again. Not all authors, however, would regard discharge as the most appropriate avenue in the situations we can consider. An alternative way is through the transmutation of emotions through various meditative techniques (Heron, 1982).

We should acknowledge that most people are unaware of the internal processes that are active within them and cannot give sensible reports of what governs their learning (Nisbett and Wilson, 1977). The stages of description and attending to feelings are not intended to raise individuals' awarenesses of their own processes, although this may occur to a limited extent, but rather to draw attention to the role that these processes play in experiential learning and what individuals need to be able to do to manage their own reflective activities.

### *Stage 3 Re-evaluating Experience*

It might seem that this third stage, re-evaluating experience, should follow more closely on the learning experience itself. Surely it is natural to move straight from the experience to its evaluation? We have suggested two steps in between: returning to experience and attending to feelings. It is easy to jump from the initial experience to evaluation and judgements are often a part of the original experience. However, we suggest that, except in the special case of insights, it is usually not profitable to do so as we can potentially lose a great deal of value. We may find ourselves operating on false assumptions or reflecting on information which we have not comprehended sufficiently. Attention to description and feelings does not guarantee against this but it can help to minimize the possibility of it occurring.

We now proceed to examine some of the elements of the process of re-evaluation. We have distinguished four aspects which may need to be considered. These we believe can contribute to reflection and enhance its outcomes. They are: first, association, that is, relating of new data to that which is already known; integration, which is seeking relationships among the data; validation to determine the authenticity of the ideas and feelings which have resulted; and appropriation, that is, making knowledge one's own. These aspects should not be thought of as stages through which

learners should pass, but elements of a whole. However, some elements would tend to follow others.

All of these stages are influenced by the intent of the learner. As learners, we do not wish to subject all of our experiences to the same level of reflective analysis. Indeed, there are some events in our lives which we would prefer to forget and others that we would like to cherish as simple memories. When we do desire to process our experience and to extract consciously some learning outcomes from it, the way in which we do so will be influenced by our goals and intentions. In many cases our intentions will be quite clear especially when we are involved in a formal learning task and these will guide both our experience and our forms of reflection. In others our intentions may be hazy and ill-defined and only become apparent to us as we proceed. Under these latter conditions close description becomes particularly important. We need to consider then what the experience has to offer to us as we are not able to select those aspects that are directly relevant to our purpose.

#### ASSOCIATION

Association is the connecting of the ideas and feelings which are part of the original experience and those which have occurred during reflection with existing knowledge and attitudes. It is necessary that the new ideas and information be related to, or associated with, those elements of the pre-existing knowledge relevant to it. Many learning theorists (eg Ausubel, Bruner), particularly those from the information processing school (Lindsay and Norman, 1972), regard this linking of new conceptions to our existing cognitive structure as one of the central features of the learning process.

New associations are facilitated by positive attitudes and a responsive state. The new input linked with our existing knowledge and feelings can challenge us both intellectually and affectively. This aspect of reflection can lead us to the discovery that our old attitudes are no longer consistent with new ideas and feelings, that re-assessment is necessary and, in the cognitive area, that our earlier knowledge needs modifying to accommodate new ideas. It is useful that as many associations be made as possible. Often it happens that an obvious connection sets us reflecting in a particular area with the result that we do not recognize or we neglect other, potentially more fruitful, associations. Immediate associations might not be the most profitable and might only pursue a well-worn path which does not lead to new conceptions. It is well known that many creative leaps in the sciences have occurred through previously unrecognized associations, but this process is also relevant in the more modest learning tasks which face all of us.

There are techniques which can assist us at this stage and help us ensure that we take time to search out those aspects of our prior knowledge and the new experience which may fruitfully be linked. The most common of these is the classic psychoanalytic technique of free association whereby

we suspend our rational and analytical judgements and allow ourselves to explore freely whatever associations, whether images, thoughts or feelings, pass through our mind. We can do this in writing, through drawings, on tape, to another person or in whatever way seems to be the least constricting at the time. Rainer (1980) discusses a number of other approaches through writing which can be used. In groups working on similar problems this can be done through the technique of brainstorming (Osborn, 1953; Davies, 1971) in which ideas are generated without criticism, evaluation or comment prior to subsequent appraisal. The greater the number of associations which can be generated at this stage the greater will be the potential for integration.

### INTEGRATION

Associations need to be processed to examine whether they are meaningful and useful to us. If they can be integrated into a new whole, a new pattern of ideas and attitudes develops. Association brings together ideas and feelings in an almost indiscriminate manner; integration begins the process of discrimination. There are two aspects to integration. The first of these is seeking the nature of relationships that have been observed through association. The second is drawing conclusions and arriving at insights into the material which we are processing. Synthesis is the characteristic of this integration phase in which we seek insight, which is the basis for further reflective activity. Boyd and Fales designate this phase as 'resolution':

The individual experiences a 'coming together' or creative synthesis of various bits of the information previously taken in, and the formation of a new 'solution' or change in the self – what might be called a new gestalt. (Boyd and Fales, 1983, p110)

The methods which can be adopted to assist us in this phase depend on our circumstances, the particular issues we are considering and our preferences. The generation of brain-patterns (Buzan, 1982), concept maps (Novak, 1977), or Venn diagrams (White, 1982) may be useful when dealing with complex cognitive material. These involve portraying visually the links, interconnections and overlaps between ideas, concepts, and phrases. They provide a way to assist us to clarify our thoughts by writing them down and making connections between the perhaps disparate bits of knowledge we have so that we can visualize relationships between them. In areas of knowledge which do not lend themselves to visualization in this way, the use of analogies, similes and metaphors is more appropriate. In the domain of interpersonal relationships repertory grids have been extensively used to help individuals to identify their perceptions and constructions of others who affect them in their lives (see, for example, Chapter 7).

### VALIDATION

In validation we are subjecting what we have started to integrate to what we might call 'reality tests'. We are testing for internal consistency between our new appreciations and our existing knowledge and beliefs, for consistency

between these and parallel data from others and trying out our new perceptions in new situations. If any contradictions present themselves we have to reappraise the situation and decide on what basis we should proceed. The results from these tests of truth or worth are not necessarily right or wrong. Just because a new perception is not consistent with that held by others it does not necessarily imply that we should reject our own. The idea may be breaking new ground and there will be little to contradict it or we may wish to hold a certain position regardless of conventional wisdom.

One of the techniques which can aid in validation is rehearsal. This can help us relate the knowledge which we believe we have integrated to its applications in our lives. It can take place internally or through literal enactment. At the simplest level we might think through the stages involved in putting our plan into practice. This can be quite a demanding activity which places great weight on concentration and discipline. It can be aided by making written notes, or through a more systematic form of mental rehearsal based on guided imagery. In guided imagery the learner is led by another through a series of steps which require the learner to visualize in detail all the steps required to enact the plan which is being pursued: who will be involved, what will be said, what will be written, what actions follow, what responses will be made, what will upset it and how distractions will be dealt with. As we visualize what might happen, we can correct discrepancies which might emerge and reorient our plans accordingly. This can give us confidence that our plan is capable of being implemented. Guided imagery requires no overt response on the part of the learner, but in some situations where action of a complex or interpersonal kind is required it is useful to rehearse it through various simulations and role-playing activities. These usually require someone to facilitate the process (eg van Ments, 1983), but may also be done in leaderless groups (eg Gibbs, 1983).

### **APPROPRIATION**

For some learning tasks it may be quite sufficient for us to have integrated the new knowledge which has arisen from the experience into our own conceptual framework, but in many areas a further step is required. The new information which has been integrated needs to be appropriated in a very personal way if it is to become our own. Some learning can become so related to the self that it enters into our sense of identity and can have a considerable importance and become a significant force in our lives. Significant feelings can come to be attached to this type of learning and any learning experience which touches this area can give rise to strong emotions that may need to be taken into account in future reflection. Tart has analysed this process and comments:

adding the ego quality to information *radically* alters the way that information is treated by the system of consciousness as a whole. (Tart, 1975, p130)

Rogers also points to this reality when, in talking of the experiential character of learning, he writes of:

the student who says 'I am discovering – drawing in from outside and making that which is drawn in a real part of me' . . . (Rogers, 1969, p3)

Not all integrated and validated knowledge is appropriated in this fashion.

Appropriated knowledge becomes part of our value system and it is less amenable to change than other knowledge which we accept and work with but do not make our own to the same degree. Such knowledge people will express as their own and they may feel a strong degree of possessiveness about it. It has a special place within our integrated knowledge. This gives it a higher priority and other integrated material may be interpreted in the light of it.

Miller and others refer to this as an holistic approach, a unity of feeling and intellect. Appropriating new ideas and attitudes leads people to experience:

a sense of wholeness; [they] can exercise [their] intuitive and imaginative faculties as well as [their] rational capabilities (Miller, 1976, p5)

which Bettelheim (1971) refers to as 'the informed heart'. We usually cannot predict which learning will become such a central part of ourselves. All that we can hope for is to select those experiences which are significant to us and ensure that we have processed them in the best way that we can find.

## OUTCOMES AND ACTION

While reflection is itself an experience (More, 1974) it is not, of course, an end in itself. It has the objective of making us ready for new experience. The outcomes of reflection may include a new way of doing something, the clarification of an issue, the development of a skill or the resolution of a problem. A new cognitive map may emerge, or a new set of ideas may be identified. The changes may be quite small or they may be large. They could involve the development of new perspectives on experience or changes in behaviour. The synthesis, validation and appropriation of knowledge are outcomes as well as being part of the reflective process. New links may be formed between previously isolated themes and the relative strengths of relationships may be assessed. Again, a significant skill in learning may be developed through an understanding of one's own learning style and needs.

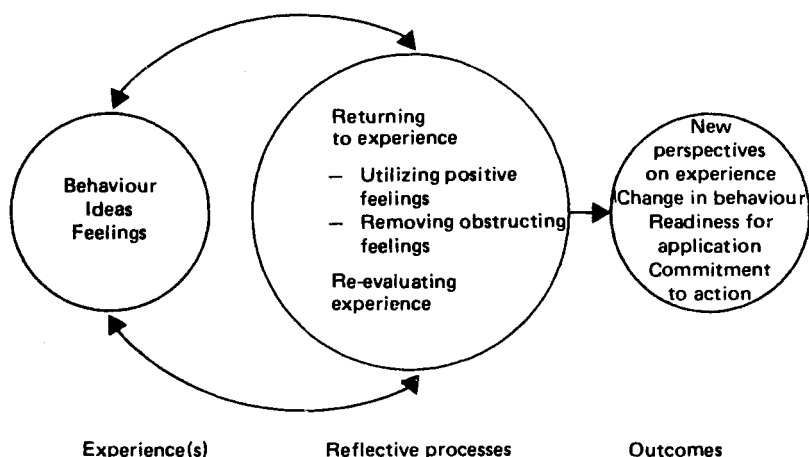
Outcomes of an affective nature enable us to continue on to future learning as well as involve changes in our emotional state, our attitudes or sets of values. They could include a positive attitude towards learning in a particular area, greater confidence or assertiveness, or a changed set of priorities. In any given situation it will be difficult to distinguish between cognitive and affective outcomes and, at any point in time, it may not be possible to articulate what has been learned. In the case of the geology student the outcomes of that experience and reflection on it may have been a recognition of the complexity of the field situation and its conflicting personal and intellectual demands, increased skills in the

recognition of various rock types, an awareness of the limitations of underground mapping in the field, and the identification of problems in delimiting boundaries of strata. The student might develop a negative attitude towards field work after experiencing some of the discomforts, but end up with an enhanced sense of his or her own personal capacity through having engaged in hard physical labour.

Some benefits of reflection may be lost if they are not linked to action. Although some of the outcomes are long term and often intangible, such as the appreciation of a work of art, others are more prosaic and can be consolidated by application. Application and action need not necessarily involve acts which can be observed by others. What is important is that the learner makes a commitment of some kind on the basis of his or her learning. What has been rehearsed must face the test of reality. Action ends the reflective process for the time being. Action can obviously occur at any stage of the learning process and it may itself precipitate a new phase of reflective activity.

Unfortunately translating thoughts and ideas into action is not as straightforward a step as it might appear. Argyris (1976) has reported a study which makes gloomy reading for those interested in changing their own behaviour and in facilitating learning for others. He had developed a theory of experiential learning which emphasized the need for learners to question regularly their assumptions about how they act and the purposes they are pursuing, what he terms 'double-loop learning'. He had designed programmes which aimed to make people aware of the ways in which they act towards others and to help them modify their actions in order to achieve their goals more effectively. In two courses Argyris was successful in training the participants (architecture students and educational administrators) in recognizing the dysfunctional aspects of their own behaviour and in being able to identify what they needed to be able to do in order to respond effectively as double-loop learners. They were, however, unable to put this into practice in role-playing situations. Argyris and others have developed his idea in a number of publications and have identified some things which can be done to overcome the difficulties faced in the study above (Argyris, 1982; Argyris and Schön, 1974, 1978; Heller, 1982). What their work points to is the complexity of the learning process in real situations and the need for both teachers and researchers to acknowledge its complexity. Change is hard won; we can desire to do something and believe that it is possible, but still it is difficult to do. Maintaining a positive attitude towards ourselves as learners is a necessary prerequisite for us to overcome some of the problems that Argyris has identified.

The elements of reflection are not as clearly defined in practice as we have suggested earlier and as they are summarized in Figure 3. We have represented them diagrammatically as an aid to exposition. They do not proceed in a simple linear sequence and they are not independent of each other. We have separated them in order to draw attention to some of the features which we believe are often overlooked by both teachers and



**Figure 3** *The reflection process in context*

learners. To do justice to the full complexities of the process would involve a description which indicated the continual cycling back and forth between elements, the omission of some stages at times and the compression of some of the elements we have described. Nevertheless if learners are having difficulties in reflecting, it can be useful to think about the stages we have described and examine whether any of them have been omitted.

### **Assisting in the Process of Reflection**

Most of the examples we have given in the description of stages have referred to what individuals can do for themselves. However, there are limits to what each of us can achieve unaided and often the learning process can be considerably accelerated by appropriate support, encouragement and intervention by others. Indeed, reflection alone has many challenges as Habermas recognizes:

The self-reflection of a lone subject . . . requires a quite paradoxical achievement: one part of the self must be split off from the other part in such a manner that the subject can be in a position to render aid to itself . . . [furthermore] in the act of self-reflection the subject can deceive itself. (Habermas, 1974, cited in Grundy and Kemmis, 1982, p87)

We believe that if teachers and others assisting learners are to have an effective role in promoting learning that role is essentially to provide a stimulus for learning, to support the learner in the process and to assist the learner in extracting the maximum benefit from what occurs. Those who plan to set up a learning situation, whether it be formal or informal, cannot presume that the experience which they hope to elicit will actually take place. The nature of the experience will be determined largely by what the learner brings to the situation. Sometimes the outcome is

different from what was planned and the teacher can be placed in the unenviable position of attempting to work with an experience which the student did not have. Teachers need to be conscious of the priorities of learners in the process of learning, and need to appreciate that what emerges from the learning activity will be determined more by the learner than by the person who designed the activity.

Susan Knights in Chapter 5 discusses the fundamental importance of a listener in facilitating processes of reflection, but here we wish to indicate the role of others at each of the stages we have described above.

Not only can teachers or facilitators adopt the important listening role but they can also suggest a variety of techniques which may be appropriate at each stage. To provide this assistance the helper need not be in a formal teacher-learner relationship with the learner, substantial benefits can be gained by peer-assisted learning at a formal or informal level (Cornwall, 1979), and from support groups within a profession or institution (Kirschenbaum and Glaser, 1978).

At the initial stage of returning to experience, facilitators can assist the learner to describe as objectively as possible what has taken place in the experience and to help him or her to avoid interpretations and analysis. This is directly analogous to the debriefing procedure for pilots after a mission. The facilitator asks for a detailed account of what happened, draws out events which at first may have gone unnoticed and draws attention to unacknowledged interpretations and speculations. Listening skills are important in this and the facilitator needs a keen awareness of the ways in which learners use language to describe or interpret their situation. It is vital that facilitators offer no interpretations or analyses of their own. Learners themselves can also check out the objectivity of their perceptions with their peers, especially those who have experienced the same event.

In the second stage, attending to feelings, learners can be assisted by being encouraged to be aware of the feelings that were present during the initial experience and to bring these to their consciousness. Because some feelings can be a barrier to learning they need to be clearly understood. Not only do they need to be identified but the learner needs to work with them to understand their significance and to find ways of discharging, transforming or celebrating them. The single most important contribution facilitators can make is to give free and undivided attention to the learner and what Rogers (1961) describes as 'unconditional positive regard'. If facilitators are more experienced and more confident they can also draw the attention of the learner to his or her behaviour: the non-verbal signs which betray emotions, the missing elements of a description and the repetitions which appear to punctuate the recollection. Facilitators should be aware of the limits of their own skill and be prepared to put learners in touch with those people who can assist in a more sophisticated way if needed. The particular approaches which appear to have most to offer at this stage are those which employ techniques such as those used in co-counselling in which learners assist each other, either on a one-to-one basis or in groups. For the unaided learner both writing (Rainer, 1980)

and meditative (Heron, 1982) approaches have much to contribute.

At the re-evaluation stages facilitators have perhaps less to offer of their personal resources and need to draw on more of their technical skills than earlier in the process. They become a resource with access to various specialized techniques, but they must continue to offer their support and encouragement. They can help to clarify learners' intentions through the application of competency models (Knowles, 1980), providing criteria for performance, and generally through supportive questioning. They can provide technical assistance through the provision of repertory grids to clarify learners' constructs, through descriptions of free association methods, through leading brainstorming sessions to aid association and through introducing concept maps or the other devices mentioned earlier to aid integration. They can lead guided imagery sessions, initiate role-playing sessions and provide the context for applications.

Generally speaking, the role of those who assist the learner is to provide a context and a space to learn, give support and encouragement, listen to the learner and provide access to particular devices which may be of use. They may also at times act as a sounding board and help the learner clarify intentions and set goals. Of course, all this must be within the context of the learner's needs and interests. They also have roles to stimulate learning and initiate new experiences but these are beyond the scope of our present discussion. Perhaps one of their most important roles is to alert people to the nature of reflection in the learning process and provide ways whereby others can assist it at its various stages.

## **Conclusions**

We have given an account of the reflective process which draws attention to what we regard as some of the areas of learning which have, until recently, been overlooked by researchers and under-emphasized by teachers and trainers. Although we have focused on the individual in this we hope that the implications for group reflection and for more formal learning situations are apparent. Learning theory, despite some hopeful signs, has yet to make any substantial contributions to the kinds of learning tasks with which we are normally faced. However, we hope we have offered some clues which may be pursued by those of us in the education profession.

Much research needs to be conducted in all of the areas we have considered. Many of our remarks cannot be underpinned by the kinds of research we would wish for. To date most research on learning has not sufficiently respected the unique perspective of the learner and has not taken into account the affective dimension to which we have referred. Nevertheless, considerable progress has been made in recent years on clarifying some of the issues involved. The recent book by Dunlop (1984) is helpful in pointing to some of the issues involved in the education of feeling and emotion, and the forms of co-operative inquiry and action research discussed in Chapters 9 and 10 and by Reason and Rowan (1981)

who offer ways in which we might be able to conduct research in this area. The importance of reflection in professional practice is beginning to be recognized. The important book, *The Reflective Practitioner*, by Schön (1983), which came to our attention after completing this chapter, offers some useful directions for exploring reflection-in-action. If professionals are to develop skills in reflective thinking it is important that they be encouraged to do so in their initial training. One of us has been investigating the application of one aspect of reflection: self-assessment in courses of education for the professions (Boud and Lublin, 1983a, 1983b).

Many of the ideas introduced here are developed in greater detail in the chapters which follow and examples are given of techniques we have mentioned in passing.

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