

# Experiences of reflective teaching

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**ABSTRACT** This article describes a reflective teaching project initiated at the University of Sunderland. It identifies some of the staff development that was required to fulfil the aims of the project. Models of reflection are given: DATA; critical thinking; experiential learning; action research; critical incident; concept map; and story-telling. Methods of data collection are outlined: teaching observation; diaries/logs; and student feedback; and data analysis is summarized. The article discusses some of the critical issues identified by the project and suggests appropriate methods for starting the process of reflective practice by others.

**KEYWORDS:** *data collection, peer observation, qualitative research methods, reflective diaries, reflective practice*

## Introduction

Academic staff members in today's universities are increasingly required to evaluate their own professional teaching practice. Formerly, academic staff were often originally employed only because of their research background, with teaching largely seen as a peripheral activity. This climate has now changed with the impact of the Quality Assurance Agency for Higher Education (QAA) and the Institute of Learning and Teaching (ILT), both of which emphasize learning and teaching. Although some academic staff may never give teaching the same value and recognition as pure research, teaching ability as well as good quality delivery is now recognized, valued, supported, accredited and rewarded. Many of the former polytechnics have an environment in which teaching has been more valued than research, new academic staff are often formally trained in learning and teaching, and their ability to teach is evaluated and sometimes used for the purpose of promotion. This may be because polytechnics were once routinely inspected by external bodies and traditionally there has been a culture of observing and evaluating teaching. But what makes a good teacher? There

are various descriptions promulgated and many include the process of reflection. Indeed, the guidelines issued for the National Teaching Fellowship Scheme launched by the ILT in 2000 and for completion of the ILT membership application form itself, both stress the importance of reflective practice. But what is it and how do we do it?

This question arose at one of the University of Sunderland's annual learning and teaching conferences. The aim of the conference is to allow staff to disseminate and discuss innovative strategies or issues in learning and teaching with their colleagues and/or nationally recognized experts and practitioners. It was at one such conference that a comment was made that often lecturers are only stimulated to evaluate critically their teaching practice in response to an external quality monitor. That is, lecturers are frequently reactive rather than proactive and feedback is being used only to inform the teaching rather than to inform the reflection that should inform the teaching. Reflection has become little more than a mantra rather than a model of practice (Ball, 1994). This led to a discussion of the role of reflection in teaching and as a result of this some members of academic staff decided to develop their reflective practice skills by setting up a reflective teacher group.

This article describes how the group went about this process and discusses some of the issues identified by the group as the project was undertaken.

## **The project**

The project was aimed at lecturers who wished to develop their methods of evaluating and improving their own teaching. Beaty (1998) calls a project such as this an 'action learning set'. She describes action learning as a process that brings people together in small groups to work on an important individual and/or organizational issue. By working with others, the individual moves forward what otherwise might be intractable problems, learns and develops, and importantly learns about the process of learning and reflection itself.

The initial aims of the project were to:

- develop methods of reflective practice;
- develop tools for reflective practice;
- develop more effective learning and teaching methods at the university;
- produce evidence of effectiveness.

Importantly, the project and the group were supported by the university's learning development services who recognized the value of the project and who supported the project financially by organizing staff development workshops with an external educational consultant who acted as a facilitator.

Six workshops were organized over a six-month period. The first three concentrated on the process of reflection:

- what is reflection? Identifying a critical incident;
- methods of reflection;
- methods of data collection and analysis.

Discussion of the actual practice of reflection and the project itself occurred in the later workshops.

At the first workshop the participants, all of whom were experienced academic staff and regular attendees of staff development in learning and teaching, were asked to describe what they understood by the term 'reflective teaching' by completing the sentence

a reflective teacher is one who . . .

Typical answers are shown below:

- is intuitive/ imaginative/ takes risks;
- is self-critical/ open to new ideas;
- listens to students;
- acts on evaluation;
- is willing to change;
- is self-aware, cares, shares, prepares, has flair.

Although all of these answers are notable and worthy, they are all definitions of what a good teacher should be and not what a good reflective teacher should be. This was the first problem we identified, how could we be good reflective practitioners if we didn't even understand what the term meant?

Part of the problem is the word 'reflective', which is open to many interpretations. In everyday conversation, it has been devalued to describe merely thinking about a subject without the element of query and enquiry.

We are not alone in this struggle. Since Schön first published his fundamental text on this subject in 1983 many have developed the concept (Boud et al., 1993; Caldehead and Gates, 1993; Morrison, 1996) but Stefani (1997) states that there is little agreement about what is reflection. The group used the definition from Boud et al. (1993), who considered reflection to be a generic term that describes the processes involved in exploring experience as a means of enhancing understanding.

A reflective teacher is one who compares their teaching against their own experience and knowledge of educational theory that predicts what might happen. Invariably these comparisons highlight differences between theory and practice, and the reflective process re-adjusts the theory until it accurately describes the practice. Therefore, reflective practice is about the *process* of teaching rather than about a simple evaluation of teaching, questioning

why we do something rather than how, and most important of all, learning by this process. This is a continual reiterative process, which can be visualized as an infinite line of connected loops with each loop representing a cycle of reflection.

At first, the group found this concept difficult both to grasp and to put into practice but everyone attempted it. Although the definition of reflection may be opaque to many, what was transparent right from the beginning of the project was that the process of reflective practice was and is difficult and sometimes painful.

### **Methods of reflection**

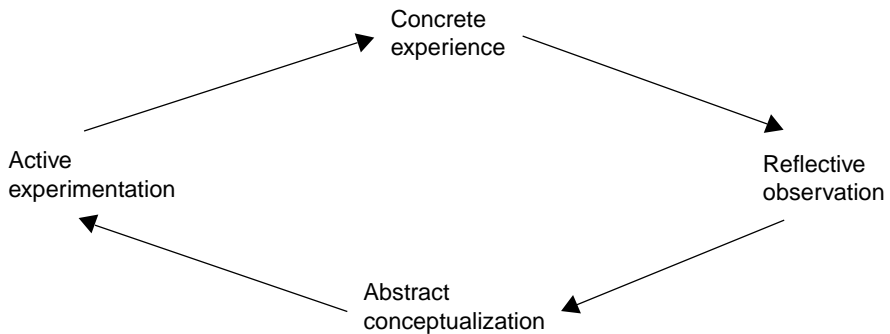
A wide variety of methods can be employed or adapted for use in reflective practice and the second workshop described seven methods that were of value:

- the DATA method;
- the critical thinking method;
- the experiential learning method;
- the action research method;
- the critical incident method;
- the concept map method;
- the storytelling method.

**The DATA method (Peters, 1991)** DATA stands for the four stages in the process: describe; analyse; theorize and act. Describe what it was that you did and what happened. Analyse why you decided to use this approach. Consider by reflection whether the theoretical assumptions behind your initial decisions provide a complete and accurate explanation of what happened. If not, revise the theoretical assumptions and repeat the four steps using the new theory. This minimizes any discrepancies between the proposed theory and the theory in use, and it occurs by further thought and reflection (Imel, 1992).

**The critical thinking method (Brookfield, 1987)** A trigger event is identified and appraised by recognizing the nature of the concern and translating this into a definition of the problem. An exploration of alternative ways of handling the situation occurs and the insights that may be gained from the new experience are considered. A synthesis is undertaken by reflecting on what has been learnt from the existing knowledge, attitudes and feelings and a new integrated theory is produced.

**The experiential learning method (Kolb, 1984)** This is more commonly used as a model for designing courses for adults but is also of value to teachers wishing to extend their reflective practice. It is based upon



**Figure 1** The experiential learning method

Kolb's learning cycle in which teaching is the concrete experience and knowledge is created through the transformation of experience.

The cycle can be entered at any stage but the stages must be followed in sequence. In this model, there is no need to identify the theoretical assumptions underlying the initial actions and thus it may be of value in situations in which none have been perceived. An event is selected for reflection and a record of the experience kept. Using the record, the experience is analysed in terms of what happened and why, what was expected to happen and what does it mean? A meaning is abstracted from this experience, which may result in a theory or a personal record of what has been learnt and, in the final stage, what has been learnt is tried out and the cycle repeated.

**The action research method (Hopkins, 1993)** Elliott (1981) defines action research as 'the study of a social situation with a view to improving the quality of action within it'. Action research is carried out by practitioners seeking to improve their understanding of events, situations and problems in order to increase the effectiveness of their practice (McKernan, 1996).

The Kemmis and McTaggart (1988) model of action research is based upon the repeated application of plan, act, observe and reflect. Planning involves identifying the problem, formulating a hypothesis about the situation, identifying the theory in use and planning the action to be taken. The action is undertaken and observed with data collected. The final stage is reflection, which relates to what the experience means and what can be learnt from it, how can practice match theory, whether the theory needs to be adjusted and whether teaching will change next time. The whole process is repeated until the theory accurately predicts the practice.

It has been suggested that teachers who engage in action research become more critical and reflective about their own practice (Oja and Pine,

1989; Street, 1986) and attend more carefully to their methods, perceptions, understandings and their whole approach to the teaching process (Johnson, 1993).

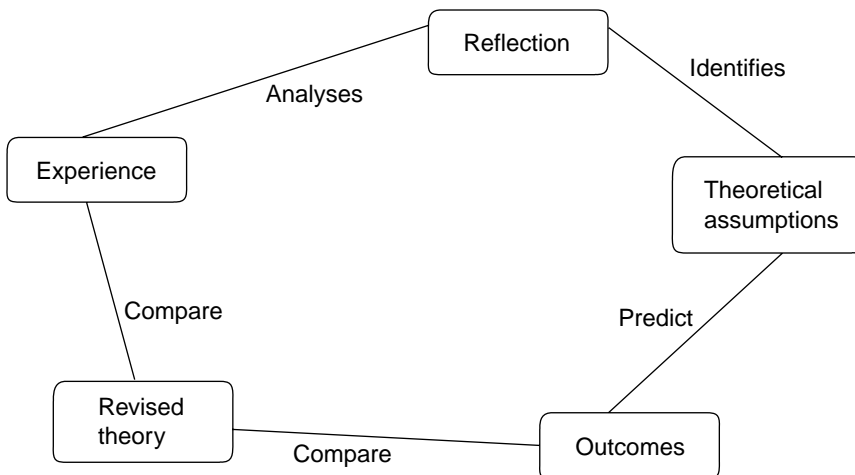
**The critical incident method (Brookfield, 1990)** The critical incident is a significant event in the professional life of a teacher; it may be significant because of its success or because of its failure. The incident is described to others and the question ‘Why was the incident critical?’ is asked.

The assumptions made by the teacher about the students’ learning prior to the teaching session are identified and subsequently reviewed after the teaching session is completed. These are discussed by the others in the group and a new set of assumptions is derived. These assumptions are subsequently tested when the teaching session is repeated. The cycle may be repeated until the assumptions match the reality, i.e. the theory and practice are identical.

**The concept map method (Deshler, 1990; Novak and Gowin, 1984)** A concept map is a visual representation of meaningful relationships between concepts in the form of propositions. Propositions are two or more topics linked by verbs that describe the relationship between them.

A chosen topic or concept is placed at the top of a blank sheet of paper. All of the other concepts that relate to it are written down and linked together with verbs that describe the relationship between cause and effect.

Deshler (1990) suggests that concept maps can be used as a method of reflective learning by reflecting on and answering the following questions:



**Figure 2** The concept map method

- are the most general concepts at the top?
- do the relationships appear correct or do they need altering?
- are there any concepts missing?
- are there any relationships missing?
- are there any contradictions in the map?
- does the map fit in well with your current knowledge or beliefs?
- what are the assumptions that underlie the shape of the map?
- do the links accurately imply cause and effect?

Once all of the questions have been answered, the map can be redrawn to include reflections.

**The storytelling method (Mattingly, 1991)** Storytelling is something that most people do informally on a daily basis with colleagues. It can also be done more formally as an aid to reflection and Mattingly (1991) has developed this process with teaching professionals. This is done by constructing a narrative demonstrating what happened and why, what was expected to happen, what it meant to the narrator and how it would have affected future teaching. This helps to make sense of an experience and aids reflection.

### **Methods of data collection and analysis**

The third workshop concentrated on how data would be collected and analysed. This assumed that little quantitative data would be collected by this project and the data would be mainly qualitative. Three methods of data collection are described:

- teaching observation;
- diaries and logs;
- student feedback.

More information on data collection and analysis can be obtained from McKernan (1996) among others.

**Teaching observation** Teaching observation is a very sensitive issue among many academic staff because it is often used to make a judgement rather than to inform a process or disseminate good practice. In terms of this project, observation was not used for assessment but as a collaborative process between colleagues to inform reflective practice and to support development.

Hopkins (1993) suggests five key principles of observations:

1. A climate of trust needs to be established between the observer and the observed, before the observation starts.
2. The focus of the observation needs to be clarified. If broad, the

observer may lack specific criteria on what to record and the observation may become subjective and data difficult to collect.

3. The criteria for what is to be observed and recorded need to be agreed between the parties before observation begins. Data collection schedules should be produced by the observer to ensure the collection of appropriate data.
4. Observational skills are critical to this process. The observer must remember to create a climate of trust with the observed by non-threatening, objective and supportive behaviour.
5. The feedback between the observer and the observed should be prompt, preferably immediately after the teaching session but certainly within 24 hours. The feedback should have the following characteristics:
  - it should be based on careful and systematic recording (see later);
  - it should be based on factual data that should be interpreted with reference to the agreed criteria;
  - interpretation should be invited initially from the observed and a two-way discussion should ensue.

By using these processes, the lecturer should be able to build on what has been learnt.

According to Hopkins (1993) data collection during observation can utilize a variety of methods:

- open observation using a blank sheet on which the observer records everything that happens;
- structured observation using a tally sheet on which the observer records the number of times a specified item of behaviour occurs, or records everything that is happening at predetermined intervals;
- systematic observation using published scales and data collection devices.

He concludes that focused data collection on terms agreed between the observer and the observed is usually more appropriate to inform reflective practice.

The observer need not just write down the observations but may also audio- or videotape their observations. In addition, the observed can collect data by the use of field notes or brief jottings during and after the teaching session. This will help to inform reflection and may form the basis of a diary, log or teaching record.

**Diaries and logs** Diaries can help to organize thoughts, feelings, reactions and ideas but it must be remembered that important descriptions



are about the events and the narrator's reaction to them. In this context, they should not be used for the analysis of particular personalities or to make personal comments about colleagues (Beaty, 1998). In terms of reflective practice, it is useful to formally identify categories of what to observe in the diary and how these will inform reflection. The benefit of keeping a diary is that it forces one to reflect, describe and evaluate daily encounters but it may be time-consuming if kept properly.

A log is more of a record of transactions and events but it can serve as an aide memoire for later reflection.

**Student feedback** A third source of data arises from the students' perspective of the teaching session. Feedback from students will help the observed teacher to understand the impact and effectiveness of the teaching session. Data can be collected from the students by means of questionnaires or interviews but these must be focused if they are to support reflection.

Triangulation as a means of data verification can be used by collecting data from three (the observer, the observed and the students) different perspectives of teaching. These can be compared through discussion after the event. The events can be analysed in terms of agreement and disagreement, and an analysis of why the accounts may differ often informs reflection (McKernan, 1996).

**Data analysis and feedback** The complete analysis of qualitative data is beyond the aims of this article but has been subject to extensive comment on by others.

In terms of this project, which focused on a discrete teaching session, the model proposed by Miles and Huberman (1994) was adopted as it incorporates data collection, analysis and display together.

There are three steps in the suggested process:

1. Data reduction. This is done by deciding beforehand on what to record and only recording that. The record is then summarized and samples taken from it. The data can then be coded, classified and aggregated.
2. The next step involves displaying the reduced data. This can be in the form of a chart, matrix, map (concept map) or network.
3. The final step involves drawing conclusions and verifying the meaning that has been extracted from the data.

## The process

### Identifying the issues

Having undergone the appropriate staff development in the workshops, the project participants felt knowledgeable and confident enough to begin the process. The simplest beginning was to identify a small and discrete teaching session upon which to reflect. This would allow the group to become familiar with the process before translating it into everyday practice. In the first instance, all project participants selected a critical incident on which to reflect. Critical incident analysis was seen as a useful method to begin the process because the analysis and critique is less structured. Although the critical incident identified could have been something that either went unpredictably badly or unpredictably well, all selected an incident that went unexpectedly badly.

Once a critical incident had been identified retrospectively, it was described by the storytelling method to a partner in one of the workshops. Each member of the pair took it in turns to narrate a critical incident while the other listened as an informed observer. The incident was discussed, which allowed the dialogue to be focused and helped to identify a list of assumptions that the teacher had made before the teaching session had commenced.

For example, a science lecturer had used a video in a teaching session that described the evidence behind an important scientific finding but the lecturer found that the students did not achieve the predicted learning outcomes. What were the assumptions made by the lecturer before the session began?

- The students would find the scientific content of the video interesting.
- The students would be so stimulated by the video that they would be able to reflect on and discuss the issues raised.
- The students would use their knowledge of hypothesis testing and experimentation to criticize the methods described in the video.

This was compared with what had actually happened during the teaching session.

- The students did find the video interesting but only in that it held their attention.
- The students believed without question what they were told on the video.
- The students did not critically evaluate the hypothesis or the experimental procedures described to test the hypothesis.

Therefore, at the end of the teaching session the lecturer was disappointed with the apparently superficial discussion by the students and their tacit acceptance of the evidence.

In the reflective practice workshop, the lecturer was encouraged to reflect on this critical incident and revise the first assumptions made, on the basis of comparing the actual experience with what the theory and the lecturer's past experience had predicted would happen. A new set of assumptions was thus produced and an agreed plan of action devised for the next teaching session using the same video but with a different group of students.

The next step in our project was to repeat the teaching session in which the critical incident had occurred but with the partner from the workshop present to act as an observer. This would allow for an opportunity for learning beyond that of private reflection by the individual (Beaty, 1998). The observer would not be passive but would collect data during the session, analysis of which would provide the evidence to support or refute the revised assumptions made at the end of the first workshop, i.e. the theory would be compared to the practice.

After the observed session, the discussion in pairs was repeated and a second set of assumptions derived from the first set of data collected. New assumptions continued to be produced by repeating the process until they accurately matched the practice.

This helped to define both the term 'reflective practice' and the processes involved. The problem of the mismatch between lecturer's expectations and reality was more precisely identified and thus more easily resolved. At this point it was clear that students were learning in the teaching session and that the teacher was learning by reflecting on the process.

Reflection is part of our professional development but reflection alone is not sufficient for professional development to occur. Beaty (1998) believes that the real test is in developing practice. Reflection then becomes a middle ground where theories are brought to bear on the analysis of past action with the really important stage, planning, coming after this. Beaty (1998) suggests that to assess the significance of learning from experience the question 'So what?' should be asked, so that change can be planned.

## **What have we learnt from this process?**

Clearly, reflection is difficult. Any definition of a graduate includes the ability to evaluate critically but it is often painful for us as teachers to be self-analytical and self-critical. Many of us must evidence our evaluation for internal and external agencies but not to inform our own teaching. We frequently carry out the exercise in a superficial manner by using feedback questionnaires, which commonly concentrate more on the process of

instruction 'could you see/hear me clearly?' rather than on the students' understanding. If our evaluation and reflection are superficial, it is hardly surprising that sometimes the students' learning and understanding are superficial and that higher order skills are not being developed. By being reflective ourselves, we encourage reflection and critical evaluation in our students (Thorpe, 2000).

Reflection leads to self-knowledge and this is fundamental to the development of our professional practice. We are often experienced in reflecting on an event when it is novel or painful, but we rarely continue our reflection as our teaching becomes habitual. For example, all of the project participants chose a negative critical incident as a basis for reflection. No one selected an incident in which something went unexpectedly well, which enabled one to learn from the process.

Brown et al. (1999) argue that to prevent reflection from becoming 'navel-gazing' it should involve engagement and proactivity. As good teachers, we build this into our teaching so that learning takes place but we do not apply the same lesson to ourselves.

Using the video example cited earlier, on reflection, the students' lack of an appropriate response to the video was not unexpected. The lecturer had made the tacit assumption that the students had reflected on what they had observed on the screen and was disappointed when it became apparent that they had not. Reflection clearly takes time but none had been apportioned to the students after the video so the teaching session failed for both the students and the teacher. Experience tells us that this must be a common practice; teachers and students develop survival strategies because of time limitations, and time for reflection becomes shortened almost to the point of extinction.

Reflection is difficult when done in isolation. One of the advantages of the project was that as well as providing the time to consider the issues, it also provided an opportunity for discussion with like-minded colleagues. The sessions provided a break from teaching but not from learning. A critical factor in the success of the project was the formal staff development provided in the early workshops. This gave the opportunity to clarify the nature of reflective practice and to discuss how best it could be used to inform teaching and enhance the students' learning experience.

All of the staff who participated in this project and continued with it were staff who had many years of teaching experience but did not have a formal teaching qualification; a group of staff who are usually considered to be too experienced to take or require formal teaching education. Their understanding of the pedagogy came from a pragmatic perspective rather than a reflective approach. The group have now developed into action learning sets (Beatty, 1998), with individuals meeting regularly as a group and

working on real issues of teaching practice. Issues are identified from reflective diaries and discussed, using storytelling or analysis of critical incidents. This technique works best at an informal and practical level. Consequently, it is very valuable in regularly enhancing professional practice. It also enhances the process of portfolio production and evidencing, which has proved useful for promotion purposes and for membership of the ILT.

Although reflection works best in collaboration with others, if this is not possible, some of the techniques described in this article can be employed in isolation. For example, develop the practice of carrying out a self-audit of teaching sessions by keeping a diary to record events and issues. Alternatively, a list could be made of the assumptions of a teaching session beforehand and compared with the original assumptions afterwards and the differences reflected on.

Beaty (1998) suggests designing a personal learning contract for yourself with yourself. This can be used in appraisal to inform your personal development plan and identify formal training needs in the areas in which weaknesses lie. This may eventually lead to the production of a portfolio that could form the basis of evidence for recognition by one's own institution and/or the ILT.

In summary, did we achieve the aims of the project? We did develop and utilize methods to help us to become better reflective practitioners. We think that we have become better teachers as a result of this project and some of us have gained recognition for this through the QAA and the ILT. However, none of what we learnt from the project was subtle and profound, there was no immense intellectual challenge, no giant step for mankind. In terms of developing our practice using the five levels of progression from novice to expert practitioner (Brown et al., 1999; Dreyfus and Dreyfus, 1986; Eraut, 1994), we hope never to assume that we are experts, so we constantly strive to achieve the level five status where our practice is implicit and unconscious, and we are always open to examination and reflection.

The group found that all that was required for reflective practice to occur was one thing, time. This commodity is the rarest and hence the most precious in today's educational environment.

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