RADAR

www.brookes.ac.uk/go/radar

OXFORD BROOKES UNIVERSITY

Directorate of **Learning Resources**

Crossing the threshold from description to deconstruction and reconstruction: using self-assessment to deepen reflection.

MARY SAMUELS [a*] and JAN BETTS [b]

[a] *Oxford Brookes University, UK;* [b]*Leeds Metropolitan University, UK*

Abstract

Research has shown that when students are learning to reflect, their reflection is mainly descriptive. The literature describes a variety of ways to help students start reflective thinking and writing, however there are fewer suggestions for supporting them to progress from descriptive to analytical levels of reflection. This small-scale action research study examines the use of a structured self-assessment tool to deepen reflection. Data are drawn from a group of student teachers who kept reflective journals during an initial teacher training programme over one academic year. They used the tool, which provided a framework of questions about their reflective process, to assess and develop their reflective writing. In this article we discuss the effectiveness of the approach and how it promoted deeper reflection. The results indicate that the change seemed to happen through four mechanisms: revisiting reflections, using structure, taking responsibility and metacognition.

Keywords: Reflective Practice; Reflection; Self-assessment; Levels of reflection

---

[*] Corresponding author. Westminster Institute of Education, Oxford Brookes University, Harcourt Hill Campus, Oxford, OX2 9AT, UK.
Email:msamuels@brookes.ac.uk

Introduction

Experiences, whether they are in the context of work, study or personal lives, have the potential to be rich sources of learning. Through reflection we can explore our experience so that it becomes a mental 'event' we can play with, re-live, and develop into future actions. There is the potential to reflect on intentions as well as actions, thoughts and feelings.

But how and how often is the potential of reflection realised? Research has shown that when students are learning to reflect, their reflection is mainly descriptive (Bain et al., 1999). Such reflection may fail to recognise significant factors in the experience. The focus is on what happened and what may be done differently. Deeper questions of how and why may be left unasked. To realise the full potential of reflection the reflector must deconstruct the experience to see multiple stories and thus be able to reconstruct the story differently.

Deconstruction takes apart the elements of an experience to examine each part and its relationship with other parts. In doing this, a new way of understanding those parts and their relationship may be seen. Deconstruction can be thought of in a number of ways, including critical discourse, where issues of value and power are examined (Betts 2004). Johns (1995, p.226) suggests that a process of "personal deconstruction and reconstruction" is required to help practitioners confront issues raised by reflection and to reframe of their thinking and behaving. Mannion develops a post-structuralist approach to supporting and assessing journals, stating: " It is the intention of deconstruction to create openings for different thinking outside the epistemologies of certainty" (2001, p.110). Kember et al. (1999, p.384) suggest that through such deep and rich reflection, learning will progress beyond a "pre-existing meaning scheme and perspectives". Hatton and Smith (1995, p.48) indicate that the

reflection will be analytical and involve "stepping back" and "considering alternatives". Each of these proposes that reflection can be done at different levels with differing outcomes.

In this paper we consider the need for reflection in trainee teachers. We examine how a group of students were offered frameworks to assess their own reflective writing, as an aid to moving towards a level of meta reflection rather than description. We consider what factors might be effective in that movement.

Promoting deeper reflection – a brief review of the literature

Why reflect?

Bean and Stevens (2002, p.206) highlight the potential of reflection "to engage students in a critique of their beliefs and practices". Johns (1995) points to the opportunities reflection provides for exploring and resolving differences between espoused goals for practice and actual outcomes. Brockbank and McGill (1998) suggest that through reflection we create personal meaning from experience and take a critical stance towards our meanings and interpretations. Brookfield (1995) gives emphasis to critical reflection to support the challenging of assumptions. For Schön (1983) reflection, both in-action and on-action, supports professionals in dealing with the uncertainties and dilemmas of the workplace. In Kolb's (1984) model of the learning process reflection is a transformative process that enables the learner to review personal experience and its significance in order to integrate new learning into existing patterns of thinking.

The purposes, value and outcomes that are ascribed to reflection in these models would seem to require a level of reflection that moves beyond description. However research has shown that students' reflections are often descriptive (Bain et al., 1999). In addition, Risko et al.'s

study with pre-service teachers (cited in Bean and Stevens, 2002, p.207) concludes that the act of practicing reflection and reflective writing, in itself, does not increase the level of reflection and may lead to "routinization of the practice". This indicates that an intervention is needed to support a deepening level of reflection.

What is deeper reflection?

There are a number of different interpretations of what constitutes deeper reflection. Maykut and Moorhouse (cited in Dart et al., 1998) focus on a difference in level as evidenced in the content of the reflection progressing from practical to wider professional and ethical issues. In other cases, such as Boud, Keogh and Walker (1985), deeper levels of reflection are associated with completing all stages in a reflective process.

Kember et al. (1999) and Kreber (2004) distinguish between different levels of reflective thinking which progress from descriptive to analytical and critical. The extent to which personal meaning making and the development of new perspectives are evident, deepens with each level. They draw on the work of Mezirow (1990) distinguishing between reflection on content, process and premise and emphasising the type of thinking and knowing involved in each of these.

Bain et al. (1999) identify five levels of reflection. In the first three levels, reporting, responding and relating, the reflector is focused on what happened and what lessons can be learnt to apply in other situations. There is no in depth analysis of how or why the experience unfolded as it did. The reflector reviews the event through his or her existing framework of thinking and beliefs. In the fourth level in-depth analysis occurs and may involve a challenge to existing frameworks of thinking. Where this happens alternative stories or ways of

interpreting what happened are perceived. The process of deconstructing the experience is completed and this creates the opportunity for reconstruction, the fifth level, where the application of learning is based on new frameworks of thinking.

Day (1993) considers that a challenge to the teacher's reflection, and the meaning created by that reflection, is needed to prompt deeper reflection. Moon (2004) introduces the notion of variation between the reflector's external and internal experience. Moon concludes "increasing depth in reflection relies on an increasing awareness, use of and sophistication in the use of variation in the internal experience" (Moon, 2004, p.98). For many students this will require the intervention and support of another.

Ways of supporting reflection

This highlights an important difference between interventions to support students in getting started with reflection and to support students as they deepen reflection. Bean and Stevens (2002, p.205) describe this supporting process as scaffolding and suggest that both cognitive and emotional support is needed. Feedback ensures success and motivation arising from achievement. Prompts, examples, metaphors and direct instruction may be needed to ensure that students have the underpinning knowledge and skills.

Dialogue has the potential to promote deeper levels of reflection. This can take a number of forms including feedback on journal writing (Bain et al., 2002) and the use of questions in oral or written dialogue (Rarieya, 2005). Bain et al. (2002) researched the impact of differing kinds of feedback on levels of reflection and show that high-level challenging feedback, focused on the process and levels of reflective writing in journals, is most effective.

Richert (1990) identifies that dialogue with peers enables students to clarify their ideas and challenges them to consider other points of view. Brockbank and McGill (1998) describe this as dialogue that "… engages the person at the edge of their current understanding and the sense of meaning they give to and with the world" (1998, p.57).

Modelling (Loughran, 2002) and the use of examples of reflective writing that show the differences between levels of reflection (Moon, 2004) may be an effective support. These indicate what is expected. Another way to do this is to provide some form of structure or framework to students, through templates, sets of questions, models and processes. Examples of these may be seen in the work of Griffin (2003), Hamlin (2004) and Cox (2005). Questions form the basis for these models and may trigger awareness of variation (Moon, 2004) as well as encourage a development of reflection from descriptive to analytical, evaluative and critical levels.

Using self-assessment

The explicit use of self-assessment to help students deepen reflection is not evidenced widely in the literature. In this research students used a model to self-assess their reflective writing. Bain et al. (1999 and 2002) provided self-analysis proformas for students to review their reflection. Initial results of their research indicate that self-analysis of the levels and process of reflection contributed to deeper levels of reflective thinking.

Self-assessment and reflection are two associated acts. As Brew states: "All self-assessment involves reflection, but not all reflection leads to self-assessment." (1999, p.160). Boud (1995) identifies the role self-assessment plays in increasing understanding of what is being assessed. The potential of self-assessment to develop students' autonomy and sense of responsibility to act on findings are explored by both Boud (1995) and Harrison (2001).

What is the way forward?

There is a pattern emerging from the literature that indicates a need to challenge students engaged in reflection to move beyond description to analysis that deconstructs what happened and why and to reconstruction that creates alternative approaches. This challenge may be in the form of feedback, dialogue, new experiences or structured questions and frameworks to stimulate reflection on reflection. In these activities the student is actively encouraged to deconstruct and analyse current thinking and reconstruct new patterns of thinking. It was with the intention of challenging students to challenge themselves that this study was designed.

Methodology

A new teacher-training programme was established for teachers in the post-16 sector in the UK. For the first time this award assessed students' work at higher education level and included the formal assessment of reflective journals. This raised questions for the teaching team regarding criteria for assessing reflective writing at this level and strategies to support students in meeting those criteria. Questions around the criteria focused on what characteristics of reflective writing are expected of students working at higher education level. Questions relating to strategies asked what students and tutors need to do differently to support the development of reflective writing from descriptive levels to deeper, more analytical levels. In order to meet this aim, we decided to adopt a self-assessment strategy and to examine the impact of self-assessment activities on students' reflective practice.

There were four reasons for adopting a self-assessment strategy. Firstly, self-assessment required students to take responsibility for their learning. Developing student autonomy was

a goal for the overall programme and a characteristic of reflective practitioners. Secondly, formative assessment of journals took considerable time. If students could monitor their own progress more tutor time would be available to provide other support. Thirdly, there was an indication in the literature that self-assessment could be a significant trigger for taking action (Harrison, 2001). Finally earlier study had indicated that self-assessment led to increased understanding of reflection and the requirements of reflective writing (Bain et al, 2002). The research could have used the process, content or level of reflection as the focus for self-assessment. We chose to focus on the process of reflection to provide support in the early stages of developing skills of reflection. The process selected was based on Kolb's learning cycle (1984).

In the research project nine students self-assessed their reflection using a self-assessment schedule (figure 1), which required them to assess the process of their writing against the stages in Kolb's learning cycle (1984). The schedule was composed of a series of questions drawn from Kolb's (1984) explanation of the thinking processes entailed in the cycle. These questions were intended to support students in recognising the gaps, strengths and weaknesses in their reflection and taking action to deepen their reflection.

The self-assessment schedule was introduced to students initially in a group session. Students were asked to record their reflections on a recent experience and then, with peer support, to review their reflections using the schedule. After this introduction, students were asked to carry out a self-assessment, in writing, for one or more entries from their reflective journal and to identify ways in which they could develop their reflective writing. The research process over the academic year is shown in figure 2.

Feedback from students at the end of the period indicated that some had resisted carrying out the self-assessment in writing, preferring to use it as a mental guide. This resistance could be understood in the context of students' concerns about the amount of written work expected for assessment, which they had not anticipated at the start of the first run of this new course. Four students completed the self-assessment in writing, submitted it as part of their reflective journal and used it on at least one other occasion later on the course. All students participated in a weekly review of reflections with a peer. This activity was introduced in response to positive feedback about the initial peer supported self-assessment exercise.

Figure 1. Self-assessment schedule

Self – assessment of professional development journal entries	
I am reflecting on an experience. Did I notice / register what happened? Did I record how I felt and how I responded? Did I pay attention to something significant that happened? Did I value my experience and my response as worth reflecting on and learning from?	
I am reflecting on ideas & concepts that I have read or heard about or thought of myself Am I making sense of the ideas by linking them to past experience or learning and to other concepts? Am I questioning ideas and concepts, testing them against experience and other opinions? Am I challenging my assumptions and my judgements. Am I prepared to think about ideas in a new way?	
Am I planning ways to try out new ideas in practice? Am I working out, thinking through action plans?	
Have I experimented with new ideas and ways of doing things? Am I consciously learning from my experiments?	
What have I discovered by self–assessing my journal entry and what do I want to do about this?	

Figure 2 showing the research activities during the academic year

Term 1	Students start their reflective journal writing Researcher/tutor carries out the initial assessment of the level of reflection shown in the journals
Term 2	Students are introduced to the self-assessment schedule through a peer supported discussion Students are encouraged to complete the self-assessment of one or more journal entries, in writing, using the schedule
Term 3	At the end of the course the researcher/tutor carries out the final assessment of the level of reflection shown in the journals Students discuss the efficacy of the self-assessment in the final course tutorials Two interviews are carried out with students who used the self-assessment schedule in writing

Methodologically, it was necessary to find a tool to measure the level of reflection in the research so that any changes after interventions through the self-assessment schedules could be seen. The levels of reflection devised by Bain et al. (1999) were chosen for this purpose:

- Reporting
- Responding
- Relating
- Reasoning
- Reconstructing

To assess the level of reflection each entry was read by the researcher and judged against the descriptions in the Bain et al. model (1999). A record was made of the levels evidenced in each entry and showed the highest level reached and the level reached most often – the characteristic level. Assigning the level raised some problems. How much evidence of the achievement of a level was acceptable? Some entries were predominantly written a one level and others just reached it. Making the decision was a subjective one and a larger study could have used several assessors to moderate the judgements.

The students' reflective journals were assessed at the end of the first term. This showed that the characteristic levels of reflection in the group were reporting and responding. These levels are descriptive. Evidence of action planning for managing future situations differently was shown in the three journals that reached a characteristic level of relating. At the start of the second term the self-assessment schedules were introduced.

At the end of the third term the levels of reflection in the journals were assessed again. All students were invited to comment on the efficacy of the self-assessment schedules in the final tutorial of the programme. The researcher facilitated these tutorials and recorded responses on the tutorial records.

Two semi-structured interviews were carried out to explore what had helped and hindered the students' reflection, how self-assessment had been used and to what effect. The interviews commenced with three open questions to elicit the views of the interviewees. Three focused questions explored students' experience of using the self-assessment schedules. The final four questions asked interviewees to comment on themes that had emerged from the data analysis about supporting mechanisms for reflective writing. Only two interviews were carried out due

to constraints of cost in travel and time. One interview was tape recorded and transcribed. Data from the second interview was recorded in note form. The interviewees had both completed written self-assessment schedules and were available and willing to be interviewed.

Data from all sources, including the self-assessment schedules and interviews, were analysed for themes, which might indicate whether the self-assessment had promoted deeper levels of reflection, how and why.

An ethical issue arose, because students had to reach a certain level of writing in their journals to pass the award and groups could not be seen to be disadvantaged. As a consequence, they were all given every form of support and had the freedom to choose those supports that were most effective for them. Therefore it was not possible to compare the progress of students using the schedules with students who did not use them. Conclusive results cannot therefore be drawn from the study that use of self-assessment schedules, alone, was responsible for the deeper levels of reflection evidenced in the journals at the end of the study. However what the students said, in interviews and tutorials and in their written self-assessment schedules, about the way they used the schedules and the learning processes they engaged in through using them, is interesting and highlights the potential value of self-assessment in raising levels of reflection.

Results

There was a change in the levels of reflection in students' journals at the end of the programme (see table 1). Four students showed a rise in one level at the characteristic and highest levels. One student showed a rise in two levels in both characteristic and highest

levels. One student remained the same but showed an increase of entries at the highest level, reasoning. Two students showed no change. One student did not submit the final set of journal entries until after the research was completed. Of the four students who used the schedules in a written form, one showed change immediately following the use of the schedule but did not sustain this, two increased by one level and one by two levels.

Table 1 shows the levels of reflection reached. Students marked with * used the self-assessment schedule in writing.

Student	Starting level of reflection		Finishing level of reflection	
	Characteristic level	Highest level	Characteristic level	Highest level
1	responding	relating	relating	reasoning
2 *	responding	relating	responding/relating	relating
3	responding	relating	relating	reasoning
4 *	responding	relating	relating	reasoning
5 *	reporting	responding	relating	reasoning
6 *	responding	relating	relating	reasoning
7	relating	reasoning	relating	reasoning
8	relating	relating	relating	relating
9	relating	relating	Defer – not yet submitted	

Other factors will have had an influence on the increase in levels. Students had greater experience of reflection, more practice and deeper understanding of the issues about which they were reflecting. However analysis of the entries for students who completed the use of the self-assessment schedule in writing showed an increase in level taking place in the entries written immediately after self-assessment and these increases were sustained in three of the four cases. For students 4 and 6 all the highest-level entries occurred after the self-assessment, including the one written immediately after. For student 2 three of the four next entries were at the highest level but this was not sustained. For student 5 the seven entries written after

self-assessment were raised by one level and this student then revisited and added to eight previous entries of which seven were raised by one level.

In the final tutorials we discussed the results of the journal assessments with the students to elicit their views on changes in their reflective writing. Table 1 shows that student 3 did not use the self-assessment schedule in writing but did achieve a rise in one level in the characteristic and highest levels of reflection. One factor that may have led to this result is that student 3 wrote up the journal entries initially in draft form, as notes, and at a later date returned to write them up fully for the final journal. This act of revisiting and redrafting may have contributed to the increased level of reflection and would be an aspect of the research to follow up in the light of the results from the interviews. Student 1 ascribed her development to the regular peer review, which was set up when the self-assessment was first introduced and maintained on a weekly basis.

Interview data and analysis of the written self-assessment schedules indicated that the change seemed to happen through four mechanisms, as described below.

Revisiting reflections

The schedule required students to revisit their reflections, which led to additions and extensions of initial thoughts. One student commented:

> I look at the early entries and realise that they were sketchy. Revisiting from time to time
>
> and dating the entries is a massive opportunity for improvement and development.

 After using the schedule this student revisited a range of journal entries and all deepened by one level on Bain et al.'s scale (1999).

Using structure

The structure of questions in the schedule challenged students to compare their process of reflection with Kolb's (1984) stages. The following examples show how the structured self-assessment questions increased students' understanding of the expectations and challenged them. The first student reported:

> I am probably still happy with the format, but will stay alert to other ways of doing it. I am not sure that it touches on any of these things in sufficient depth.

The second student identified:

> I tend to choose the more positive – I need to analyse things that went wrong, too.
>
> I don't think I'm questioning and testing and challenging against other opinions. What I am choosing to write about does not cause me to challenge my assumptions and judgements.
>
> I'm not questioning – I've not felt the need to do so. Is this because of what I choose to write about? I have a prompt in my journal to remind me to do this. I need to spend longer thinking this through and will do so in my next journal entry.

In the second example the student noticed a gap in the reflections and took responsibility for developing both the content and process of reflection.

Taking responsibility

The student who showed the most consistent achievement of the reasoning level after using self-assessment described how she took responsibility for deepening reflective writing. As a result of self-assessment she saw a need to add a challenging question to her personal reflective writing template. This became internalised into a question that she heard when writing future journal entries.

In this quote from her interview the internalisation of the results of the self-assessment and sense of responsibility to act are evident.

> I think you said to me – have I really got to the core of it? – so I put myself a question - have I **really**, you know, am I **really** saying why this is important to me? And once I had got that, it was good. It was almost like someone sitting there. I know what question they are going to ask me next so I am really going to think this through.

> But as soon as I had my little boxes, which prompted me to think about different things, it was fantastic because I read the format. I set that up. I knew what I was going to ask myself each time. It was like a person there saying what have you learnt from it?

Using metacognition

Analysis of the data indicated that students became more aware of their reflective processes. One student reported:

> I find that I am conscious of the fact that I want to reflect on what is happening, instead of just accepting that something has happened.

This student produced the most reflective writing and applied it widely in work and personal contexts. This student had no previous academic experience but after the initial self-assessment deepened the level of reflection from responding to relating, which remained the characteristic level, although by the end of the course two journal entries demonstrated reasoning.

Discussion and conclusions

This was a small-scale research project and it is not possible to generalise from the data. However the findings indicate that self-assessment could have potential as a support for deepening reflection. There are a number of questions to consider.

- How does self-assessment promote deeper reflection?

- What other factors played a part in the development of students' reflection?

- Why did some students' levels of reflection remain unchanged?

How does self-assessment promote deeper reflection?

Analysis of the data indicated that four mechanisms contributed to the increase in levels of reflection: revisiting, structure, taking responsibility and metacognition.

Self-assessment required students to revisit their journal entries. This had value in itself. Firstly students could see their development, which motivated them. Secondly, through revisiting students extended previous reflections. Revisiting may have contributed to student 3's development as she re-worked an initial draft of reflective writing into its final form. The additional value of the schedule was that it structured revisiting in the case of both written self-assessments and the peer supported reviews.

The structure, provided by the schedule, drew attention to the characteristics of deeper reflection and engaged students in making sense of these characteristics in order to use them for assessment. It provided a form of scaffolding (Bean and Stevens, 2002). This increased understanding of the requirements, as Bain et al. (2002) found in their study. The schedule highlighted the variations between the students' current understanding of reflection and what reflection could or should be. As Moon (2004) suggests, noticing the variation prompts further reflection.

Harrison's (2001) view that self-assessment stimulates a desire to act on the results is illustrated by student 4 who created a personal proforma to use when reflecting and took

responsibility for amending it when self-assessment revealed a gap in the underlying process. Taking responsibility is highlighted in the way the student internalises the prompt. This internalisation was identified through the final interview of the project and left the team with questions about how far it had been the experience of other students. If it was not their experience what caused this student to respond in this way? Is a certain level of taking responsibility required in order for students to internalise their learning in this way? The fact that this student had already devised her own structure to help her reflection indicates commitment and autonomy.

The potential value of internalisation is that students would not need to carry out self-assessment for every reflection but would be able to monitor their reflections at the time of writing. The benefits of deeper reflection could be experienced immediately.

A different example was seen in the case of student 6 who noticed that, having developed the practice of reflecting on reflection through self-assessment, she was aware of her reflective processes as she reflected. This indicates that self-assessment could trigger self-monitoring habits, which would obviate the need for regular use of the schedule. These habits would become part of the internal experience and support greater awareness of variation in experiences that prompts deeper reflection (Moon, 2004).

The self-assessment activities could be described as reflection on reflection (Brockbank and McGill, 1998), a process that involves metacognition. The examples of internalisation noted in the study show an awareness of the students' own reflective processes. This would indicate that the schedule has the potential to do more than increase understanding, prompt revisiting

and provide a structure that informs and challenges students learning to reflect. The ability to monitor oneself and take responsibility for one's own development could have greater impact.

What other factors played a part in the development of students' reflection?

The research highlighted the fact that not all students respond to the same support systems. Self-assessment can take different forms. Peer supported review of reflections, carried out verbally and structured by the schedule was valued by all the students. Two students identified this activity as the most significant prompt for their reflective development, indicating that part of the value lay in the alternative perspectives they gained and part in the peer encouragement and support. These benefits accord with Richert's (1990) findings.

The researcher's greater knowledge of the students' stage of reflective development allowed targeted feedback to be given. This knowledge stemmed from the use of Bain et al.'s (1999) framework for assessing the reflective writing. Following this study we are using Bain et al's framework as the basis for students' self-assessment. Initial feedback shows that this is helping students to recognise what is expected of them and where their current practice is lacking.

Why did some students' levels of reflection remain unchanged?

There was no change in either characteristic or highest level of reflection in the cases of students 7 and 8. The scope and length of the study did not allow for this question to be followed up systematically. However discussion with student 7, who showed a higher level of reflection throughout the study, identified that a significant mismatch between the teaching environment and the practice being promoted by the course provided a high level of challenge, which may have stimulated the higher levels of reflection. Student 8 had a well-

established pattern of reflection, developed through prior professional training, and possibly did not see the need to improve, concentrating instead on the development of teaching skills, which were new to her.

Avenues for future research

Although this was a small-scale project, the results have encouraged the continuing use of self-assessment. There are a number of avenues for further research.

One of these is to investigate the most effective focus for the self-assessment - on the content, process or level of the reflection. The timing of interventions is another area for research. In this study interventions were made at the same time with the whole group. Some students seemed more ready to act on these than others. This may be due to a readiness in terms of reflective skills or other factors such as working context or prior experiences. Variation (Moon, 2004) between prior experience or the expectations of current working contexts and the expectations of the course of study appears to be a significant trigger for reflection. This was observed in one instance in this research project.

It is of interest that no students in the study achieved the fifth level of reconstruction on Bain et al's scale (1999). This requires further research. Are there other interventions that can be made to help students achieve this or is a longer period of time required for reflection to reach this level?

The student who made the greatest progress in increase in level of reflection, developed a personal model for reflection and through this internalised the act of self-assessment. This provided the "… confrontation either by self or others…" that Day says must occur if learning

is to result from reflection (1993, p.88). There is a question to follow up as to whether the increase in this student's level of reflection was a result of developing the model and internalising the process or whether the increase in level was required before these steps could be taken. The significance of the internalisation of requirements, levels and processes for deepening levels of reflection is an area for further investigation.

The paper offers a contribution to the literature on deepening the whole reflective process for practitioners. While the context for this research is located in teacher education, in any situation where reflection and reflective practice contribute to learning there is potential to extend the learning through promoting deeper reflection. A self-assessment strategy may be one way to help reflectors do this.

Mary Samuels is a senior lecturer in Post-Compulsory Education at the Westminster Institute of Education, Oxford Brookes University. Her research interests are in reflective practice, individual learning plans and the observation of teaching and learning.

Jan Betts is a senior lecturer in Leadership and Management in the School of Education and Professional Training at Leeds Metropolitan University. Her publications and research interests are in reflective practice, organizational learning and aesthetic objects, space and power.

References

Bain, J. D., Ballantyne, R. Packer, J. and Mills, C. (1999) Using journal writing to enhance student teachers' reflectivity during field experience placements, *Teachers and Teaching: theory and practice,* 5(1), 51-73.

Bain, J. D. Mills, C. Ballantyne, R. and Packer, J. (2002) Developing reflection on practice through journal writing: impacts of variations in the focus and level of reflection, *Teachers and Teaching: theory and practice,* 8(2), 171-196.

Bean, T. and Stevens, L. (2002) Scaffolding reflection for preservice and inservice teachers, *Reflective Practice,* 3(2), 205- 218.

Betts, J. (2004) Theology, therapy or picket line? What's the 'good' of reflective practice in management education? *Reflective Practice,* 5(2), 239-252.

Boud, D. Keogh, R. and Walker, D. (Eds) (1985) *Reflection: turning experience into learning* (London, Kogan Page Ltd).

Boud, D. (1995) *Enhancing learning through self assessment*(London: Kogan Page Ltd).

Brew, A. (1999) Towards autonomous assessment: using self-assessment and peer assessment, in: Brown, S. and Glasner, A. (Eds) *Assessment matters in higher education: choosing and using diverse methods* (Buckingham, The Society for Research into Higher Education & Open University Press).

Brockbank, A. and McGill, I. (1998) *Facilitating reflective learning in higher education* (Buckingham, SRHE and Open University Press).

Brookfield, S. (1995) *Becoming a critically reflective teacher* (San Francisco, Jossey-Bass Inc).

Cox, E. (2005) Adult learners learning from experience: using a reflective practice model to support work-based learning, *Reflective Practice,* 6(4), 459-472.

Dart, B. Boulton-Lewis, G. Brownlee, J. and Mccrindle, A. (1998) Change in knowledge of learning and teaching through journal writing, *Research papers in Education,* 13(1), 291-318.

Day, C. (1993) Reflection: a necessary but not sufficient condition for professional development, *British Education Research Journal,* 19(1), 83-93.

Griffin, M. (2003) Using critical incidents to promote and assess reflective thinking in preservice teachers, *Reflective Practice,* 4(2), 207-220.

Hamlin, K. DeShon, (2004) Beginning in the journey: supporting reflection in early field experiences, *Reflective Practice,* 5(2), 167-179.

Harrison, R. (2001) Records of achievement: tracing the contours of learner identity, in: Paechter, C. Edwards, R. Harrison, R. Twining, P. (Eds.) *Learning, space and identity* (London, Paul Chapman Publishing with Open University Press).

Hatton, N. and Smith, D. (1995) Reflection in Teacher Education towards definition and implementation, *Teaching and Teacher Education,* 11(1), 33-49.

Johns, C. (1995) Framing learning through reflection within Carper's fundamental ways of knowing in nursing, *Journal of Advanced Nursing,* 22, 226-234.

Kember, D. *et al*. (1999) Determining the level of reflective thinking from students' written journals using a coding scheme based on the work of Mezirow, *International Journal of Lifelong Education,* 18 (1), 18-30.

Kolb, D.A. (1984) *Experiential learning (*New Jersey: Prentice Hall PTR).

Kreber, C. (2004) An analysis of two models of reflection and their implications for educational development, *International Journal for Academic Development,* 9(1), 29-49.

Loughran, J. (2002) Effective reflective practice: in search of meaning in learning about teaching. *Journal of Teacher Education,* 53(1), 33-43.

Mannion, G. (2001) Journal writing and learning: reading between the structural, holistic and post structural lines, *Studies in Continuing Education,* 23(1), 94-115.

Mezirow, J. and Associates (1990) *Fostering critical reflection in adulthood: a guide to transformative and emancipatory learning* (San Francisco, Jossey-Bass Inc.).

Moon, J. (2004) *A handbook of reflective and experiential learning: theory and practice,* (London: RoutledgeFalmer).

Rarieya, J. (2005) Promoting and investigating students' uptake of reflective practice: a Pakistan case, *Reflective Practice,* 6(2), 285-294.

Richert, A. E. (1990) Teaching teachers to reflect: a consideration of programme structure, *Journal of Curriculum Studies,* 22(6), 509-527.

Schön, D. (1983) *The reflective practitioner: how professionals think in action,* (USA, Basic Books Inc.).