ASSESSMENT

Learning Journals and Logs

Author: Jennifer Moon

Email: J.Moon@Exeter.ac.uk

Date: 20th January 2010

Learning journals, logs and reflective diaries are terms often used interchangeably. However, the purposes of them may differ slightly. When keeping a learning journal, the emphasis is on making explicit and recording the learning that occurs. Reflective diaries, as the name suggests, are more concerned with demonstrating reflection on an experience, while logs are a record of events that have happened. They usually, however, all have an aspect of reflection in them.

For the purposes of this document they will be dealt with together, under the title of learning journals, but while reading please bear in mind that the terms can be used to distinguish between similar but different documents.

The sole contributor to this document is Jennifer Moon (J.Moon@Exeter.ac.uk) BSc MPhil MEd MSc PhD, who works in staff and learning development in the Staff Development Unit, University of Exeter. She has considerable and recent experience as learner, and as a teacher both in higher education and continuing professional education, has run a wide range of courses including many in personal development and journal writing. She has published books on reflection in learning and professional development, on learning journals and on running short courses and workshops (all Kogan Page).

What is a Learning Journal / Reflective Diary

Journals, logs, diaries, portfolios are containers for writing that is recorded over a period of time. The writing may accompany a programme of learning, work, fieldwork or placement experience or a research project. The journals / logs and diaries can come in many different guises and be used to fulfil different purposes. Work on profiling and recording achievement can incorporate journal techniques and this web page will cover many ideas that are common also to work on developing and managing portfolios.

Learning journals / diaries and portfolios are increasingly used in higher education as means of facilitating or of assessing learning. They have many different purposes and the structure that is introduced needs both to relate to their purpose and to the style of the learner. Generally speaking, they seem to be helpful in personalising and deepening the quality of learning and in helping learners to integrate the material of learning - such as that from different modules or theoretical and practical learning. They may be highly structured or 'free' and they have been used to improve learning in virtually every subject area including mathematics and the sciences, and particularly in professional development.

Learning journals

Learning journals are not one thing. They come in all shapes and sizes, including tapes and videos and in electronic forms. While the focus of this article will be on pen on paper journals, it is interesting to speculate on how the use of different media might affect the process of writing and the learning that results.

Generally speaking what distinguishes a learning journal from other writing is that it focuses on ongoing issues over time and there will be some intention to learn from either the process of doing it or from the results of it. This suggests that it is not, simply, an events diary or a record or log.

A learning journal is usually a vehicle for reflection. It seems reasonable to assume that all adults and older children reflect, but some more than others. For some, reflection represents an orientation to the way they live their lives. Others reflect when there is an incentive to reflect, or when guidance or conditions in their environment are conducive to reflecting. A learning journal might be seen as a particular accentuation of the right conditions for reflection and for learning from the process. There are many different words that may mean the same as a learning journal such as log, diary, common-place book, think-place and many portfolios include reflective writing that is similar to the description above.

As journal writing becomes more common in higher education, there might well be assumptions that the process should only be of interest to those working in disciplines that are, in some way, literary. This is not the case. Journal writing can be of use at most stages of education (from five or six up), across any discipline and can benefit any situation in which someone is trying to learn something. In higher education, most work on journals seems to have been done by teacher educators, but the value of writing a journal can be as great to physics or maths students. This is particularly the case since there may be additional benefits to gain from the practice of writing itself as well as other learning

A Learning journal is:

- diverse;
- not necessarily written - but most of the time assume written format;
- generally reflective and accumulated over a period of time with the intention to learn, i.e. not purely descriptive;
- flexible (it can be structured or unstructured)
- a useful back-up to learning;
- something that accentuates favorable conditions for learning - e.g. space, time, reflection.
- applicable to all disciplines (not just literary).

Why write learning journals?

'Why write a learning journal?' The question means both 'What will you get out of it?' and 'For what purpose is it set?'. We consider the first question by providing something of the essence of journal writing, through the comments of writers.

In writing a journal 'we take something from inside ourselves and we set it out: it is a means of discovering who we are, that we exist, that we change and grow. The personal journal has been used for hundreds of years to articulate the human drama of living and to explore new knowledge.'
(Wolf, 1989)

'Journals allow a reticent student to establish an opinion about a topic before being asked to speak about it publicly....Journal writing turns students into active learners - it's difficult to fall asleep while writing! Journal writing also helps students to relax when they write and helps them to find their own voice and rhythm'
(Carlsmith, www)

'...that is what my journals are about to this day. Moments of being in the world that I want to save. Pictures of the world that I have witnessed.....To reread the journal is to see oneself seeing.'
(Grumet, 1990)

'Keeping a journal is a humbling process. You rely on your senses, your impressions and you purposely record your experiences as vividly, as playfully, and as creatively as you can. It is a learning process in which you are the learner and the one who teaches.'
(Holly, 1991:4)

'One of the most engaging uses of personal student journals is as a mirror of the mind. In this mode, journals invite learners to find language deep within self to array one's hopes, dreams, disappointments, concerns and resolves.....The result is that students often express astonishment and delight at the kaleidoscopic self-portraits which emerge from the pages of their notebooks as they journey through a course.'
(Bowman, 1983)

'Journal writing holds before the writer's eye one image after another for closer inspection: is this one worth more words, more development?.... In the academic world, where we teach students to gain most of their information from reading and listening, we spend too much time telling our students how to see or doing it for them. That's not how I would encourage critical, creative, or independent thinking. Our students have good eyes; lets give them new tools for seeing better: journal

writing is, of course, one of those tools.'
(*Fulwiler, 1986)*

'Finally....I would like to recommend some specific actions that learners might take to improve their learning and studying....to keep a reflective diary, making an entry at least once a week.'
(Hartley, 1998 - in the concluding remarks to his book on learning and studying).

We have made no attempt here to separate the quotations into those that arise from journal work in formal educational, professional development settings or those that are personal. There is often not a clear dividing line between them, even between those that are 'set' and those that are started from personal volition..

In terms of purposes for journals, a perusal of the literature might suggest that every time a learner chooses to write or is asked to write a learning journal, a different purpose for the process is given. In a review of over a hundred papers on journal writing I found around eighteen purposes for journal writing. (Moon, 1999). It is important to note that most journals will fulfill more than one purpose, and that the purposes set by a tutor are not necessarily the same as those that will be fulfilled or perceived by a student. An example of this comes from Salisbury (1994). The students studied by Salisbury perceived - rightly or wrongly - that 'self flagellation' was valued by tutors who set their journal work. They purposefully set out to provide plenty of confessional and flagellatory material.

The eighteen purposes are:
• To record experience
• To facilitate learning from experience
• To support understanding and the representation of that understanding
• To develop critical thinking or the development of a questioning attitude
• To encourage metacognition
• To increase active involvement in, and ownership of, learning
• To increase ability in reflection and thinking
• To enhance problem solving skills
• As a means of assessment in formal education
• To enhance reflective practice
• For reasons of personal development and self empowerment
• For therapeutic purposes or as means of supporting behaviour change
• To enhance creativity
• To improve writing
• To improve or give 'voice'; as a means of self expression
• To foster communication; in particular reflective and creative interaction within a group
• To support planning and progress in research or a project
• As a means of communication between one learner and another

Learning from Learning Journals

We focus on four means of learning from journals.

1. **Firstly**, we learn because journal writing is a process that accentuates favourable conditions for learning.

   - It produces intellectual space in which we can think.
   - It also encourages independent learning - you have to write your own journal and because you 'own' the learning, it is likely that it will be more meaningful to you (Rogers, 1969).
   - Writing a journal also provides a focusing point, an opportunity to order thoughts and to make sense of a situation or of information. -Learning from a journal enhances learning skills because it forces the learner to cope with 'messy information': ideas that are not straight forward. -It counteracts what might be seen as spoon-feeding with handouts and lecture notes on the www.

2. **Secondly** journal writing encourages reflection and reflection is associated with deep approaches to learning, or with deep learning. In deep learning, the intention of the learner is to develop a personal understanding of the material and to relate it to what is already known. The freedom of journal writing can support the learner's attempt to understand.

3. **Thirdly**, writing in a journal encourages metacognition, and the learning of those with a metacognitive view of their functioning is generally better (Flavell, 1979). It is likely that much free writing in journals will contain some metacognition and if journals are structured, then metacognition can be built in.

4. **Lastly**, the act of writing is associated with learning or the enhancement of learning. There is a considerable literature on the relationship of writing to learning, how it forces a learner to clarify her thoughts, how it is a powerful form of feedback to the learner, how it focuses attention and tells the learner if s/he does or does not understand. A particularly interesting consideration relates more specifically to the language that tends to be used in writing journals. People use expressive language in journals, a language more like conversation than most other forms of writing and, possibly, more like the language of thought. We may be able to learn better for this form of language than the formal academic language into which we are inducted in more advanced forms of education. Elbow (1981) tries to get at the meaning of this. When his students are working on journals, he describes them as working with power or voice, *I like to call this power "juice". The metaphor comes to me again and again. I suppose because I am trying to get at something mysterious and hard to define. "Juice" combines the qualities of magic potion, mother's milk and electricity. Sometimes I fear I will never be clear about what I mean by voice. Voice, in writing, implies words that capture the sound of an individual on the page...Writing with no*

voice is dead, mechanical, faceless. It lacks any sound'. (Elbow, 1981:286-7)

The Process of writing reflectively: Presentation and Deepening of Reflection

If we set reflective writing as a task, we should know what we mean by it. This is particularly important for two reasons. There are many reports that some students do not find it easy to write reflectively -perhaps either because they have the notion of academic writing so ingrained as a habit, or because they are simply not reflective. To teach students to write reflectively, one needs to know what one means by it. The second reason relates to assessment. Can something be assessed if there is not good knowledge of what it is, of its process?

Experience of introducing reflective activities in a work experience module has suggested that a two-stage guidance process to reflection may be helpful to students. The 'presenting reflection' stage utilises approaches that introduce the idea of reflection. A second stage of guidance focuses on deepening reflection. At both stages, multiple approaches providing different ideas and activities around reflection seem to be more successful than attempts at verbal instruction. Suggested activities / approaches are listed below with references to some resources in the Appendices.

Starting the process: The Presentation of Reflection to Students

The first stage -presenting reflection:

What is reflection?

Students need to know that they all can reflect, but that it may not be a habit that some use. It can be helpful to give them a simple definition such as that used earlier in this paper. If students feel that they do not know what 'being reflective' is, it can be useful to almost trick them into being reflective for a moment asking them, for example, to think about what they have learnt from experiences of paid work etc.

It may then be helpful to use the map of reflective writing (Appendix 3) as an indication of the kind of events that might be involved in the process of reflection.

Consider why reflection is being used to facilitate this area of learning?

The response will depend on the purpose for the work in which reflection is involved. The answer might include the following the idea that we use reflection in order to learn from situations in which there is no curriculum but where we have to make sense of diverse observations, ideas and data as well as personal research (e.g. by asking questions). Reflection is used to make sense of unstructured situations in order to generate new

knowledge. It is important to be clear that the activity might be introducing the skill of reflective learning or generating knowledge by using reflection to make sense of something.

Consider how reflection differs from more familiar forms of learning?

We tend to use reflection when we are trying to make sense of how diverse ideas fit together, when we are trying to relate new ideas to what we already know or when new ideas challenge what we already know (i.e. taking a deep approach to learning). Reflection is the process we use when working with material that is presented in an unstructured manner - not organised and purified as in a traditional curriculum.

The issues around the use of the first person - 'I'.

Most students will have learnt that they should not use the first person singular in an academic environment. They can be confused if they are suddenly being encouraged to use 'I'. It may be helpful here to talk about the manner in which knowledge is constructed with the involvement of the individual knower. The use of the first person acknowledges this process.

Give examples of reflective writing -good and poor.

Students find real examples of reflective writing, learning journals, even published work (fiction or biography) helpful. Examples such as The Park and The Presentation provides an example of reflective writing to which we will refer several times in this section. It consists of three accounts of the same event, written at three different levels of reflectivity. It also provides some criteria that attempt to distinguish between the levels of reflection. At this stage of presenting reflection, it will be sufficient simply to present the accounts without the criteria (possibly just the first two) and use them as a basis for discussion. Students can be asked which is the most reflective and why.

Generate discussions of students' conceptions of reflection

It is useful at some stage (perhaps as a spin-off from another activity) to encourage students to talk about what they think reflection is. This will provide an opportunity for misconceptions to come to light For example, some students will consider that you only use reflection when something has gone wrong - deciding what could be done better next time.

Enable practice and provide opportunities for feedback

Students can be asked to reflect on their own performance in something - for example, their performance in giving a 5 minute talk. They talk and then write a reflective account of how their performance went, weaknesses and strengths, assessment against their expectations, relationships to presentations given before etc. The impact of the activity can be increased if they are asked to write a descriptive account of their performance before they write reflectively

Give a starting exercise that eliminates the blank page.

Blank pages are threatening to many (but exciting to some). It is a good idea to get students started on their reflective work by getting them to do some reflective writing before they know they have really started. This will mean the development of some structure such as questions that will stimulate reflective writing.

Have other tools available to help students to get started.

There are plenty of exercises to encourage reflective writing. The use of these exercises in occasional class situations can help students to expand the areas in which they are thinking and to begin to deepen their reflection. Expect to have to support some students more than others. It may be possible to develop a system of peer support.

Be open about your need to learn about this form of learning and how to manage it. Demonstrating that it is not only students who need to learn to reflect can be very helpful for staff and students. Staff might write a learning journal about the process of helping students to learn reflectively - and share elements of it with the students.

What are the problems with starting to write a journal?

Things to think about:

- planning
- purpose
- need to be seen to fit within course design
- get the title right
- is it voluntary or compulsory?
- will it be free writing or structured?
- how you will manage the demands of the class
- how, and if, it will be assessed
- issues of trust in assessment

- if there is to be any shared reading, think about privacy and confidentiality
- when is the journal to be written?
- evaluation
- medium
- format
- how will the students learn to write reflectively?
- will there be limits on length?
- how often will students write in their journals?

The second stage, deepening reflective work

The deepening of reflective activity depends partly on developing awareness of the constructed nature of knowledge and understanding, for example:

- that events can be conceived of differently according to the frame of reference; -the role of emotions in guiding our conceptions of events or people;
- that different disciplines rely on different structures of knowledge and have different ways of working with knowledge.

Use examples to demonstrate deeper reflective activity We suggested the use of material such as **'The Presentation'**. The focus now would be on the third account and the use of the criteria that distinguish the deeper account to the more descriptive accounts.

Introduce a framework that describes levels of reflection:
An example is Hatton and Smith (1995). The framework below resulted from work with students' reflective writing work and below it is in simplified form. It influenced the criteria used in 'The Presentation'

Descriptive writing: This is a description of events or literature reports. There is no discussion beyond description. This writing is considered not to show evidence of reflection. It is important to acknowledge that some parts of a reflective account will need to describe the context - but in this case, writing does not go beyond description.

Descriptive reflection: There is basically a description of events, but the account shows some evidence of deeper consideration in relatively descriptive language. There is no real evidence of the notion of alternative viewpoints in use.

Dialogic reflection: This writing suggests that there is a 'stepping back' from the events and actions which leads to a different level of discourse. There is a sense of 'mulling

about', discourse with self and an exploration of the role of self in events and actions. There is consideration of the qualities of judgements and of possible alternatives for explaining and hypothesising. The reflection is analytical or integrative, linking factors and perspectives.

Critical reflection: This form of reflection, in addition to dialogic reflection, shows evidence that the learner is aware that the same actions and events may be seen in different contexts with different explanations associated with the contexts. They are influenced by 'multiple historical and socio-political contexts', for example. (Hatton and Smith, 1995)

Introduce exercises that involve 'standing back from oneself'.

E.g. students write about their own processes of learning using a semi-objective and critical stance.

Introduce exercises that involve reflection on the same subject from different viewpoints of people / social institutions etc.

E.g. students could be asked to reflect (or talk / present) on an event in a shop from the point of view of the supervisor, customer, counter assistant, onlooker and so on.

Introduce an exercise in reflection on the same subject from viewpoints of different disciplines

In terms of different disciplinary standpoints, students might be asked to describe a child's pet dog from the point of view of practitioners in sociology, psychology, medical sciences, English, art and so on.

Introduce an exercise that involves reflection that is influenced by emotional reactions to events

Students can be asked to describe a real or imaginary event and to write fictitious reflective accounts at periods after the event, each account illustrating a change of emotional orientation to the event. The important point here is that emotional state influences the manner in which a subject is viewed. If the state changes, the view may change.

Collaborative methods of deepening reflection - e.g. critical friends and group, activities etc.

Some methods involve small group or pair work. The groups will need to have common ideas about methods by which to deepen reflection and to see themselves as peer facilitators. The groups or pairs may work together over a period, learning how best to help each other by prompting and asking questions, querying frames of reference and so on.

Second-order reflection

Second order reflection is represented in any technique that requires a student to look through previous reflective work and write a reflective overview. One of the most convenient ways to do this is the double entry journal. Students write only on one page of a double spread or on one half of a vertically divided page. They leave space blank until at another time, they go through the initial material writing generating further comments that emerge from their more coherent overview of the initial work.

Journals in disciplinary contexts - some examples of their uses

The uses of journals are described below under discipline headings, but many could be applied in much broader fields.

The sciences, engineering and mathematics

Selfe, Petersen and Nahrgang (1986) studied the manner in which journal writing could help mathematics students. Initially the intention was to compare the test grades of a group who were asked to write journals with another group using traditional methods, however, they found that the influence of journal writing was more subtle. The general finding in the initial investigation was that journal writing was no better nor worse than activities involving testing or quizzes at promoting learning. On a subsequent more subtle investigation, journals appeared to facilitate learning in a number of ways. By encouragement to think in a manner that was their own and to use their own language, the students were able to develop personal conceptual definitions which were much more understandable than technical definitions. The concrete nature of this thinking facilitated comprehension and application of abstract concepts and they began to evaluate or appreciate the usefulness of the concepts. The other two effects relate to the ability to solve problems. There was evidence in the writing that students were recording strategies that they found helpful in problem solving. Furthermore, in writing about problems instead of just working on calculation, they were coming to solutions through the writing. An excerpt from the writing of one student illustrates well the last point:

'I see nothing in common with the three functions except that the derivative has a power of N-1 just like all the other derivatives have. Oh - wait a sec, now I see how you did it. You took the derivative of the first term and....' (Selfe, Petersen and Nahrgang, 1987:200)

Selfe worked also with engineering students (Selfe and Arbabi, 1986), with a primary intention of introducing more writing into the course. The students, in a structural analysis and design class, were asked to write at least a page a week on their experiences of the course. While their initial reaction was negative, and for a few (around 10%) it remained negative, most found that 'it helped ..(them to)...clarify their thoughts, work out strategies for solving engineering problems, understand the important aspects of the structures course and identify areas in which they needed more help' (p185). In contrast to a control group, those who had written in journals wrote final reports that 'were generally more coherent, organized and complete and in their description of methods used to solve engineering problems were more complete. Instructors felt much more informed about their students' processes of learning.

Grumbacher (1987) focused on the ability of physics students to solve problems. She observed the writing processes of students whom she considered to be good problem solvers. They articulate the problems clearly, use visualization and verbalization in the solving and they are aware of the relative appropriateness of their responses. More significantly 'they use their learning logs to synthesize their new knowledge about physics with their prior knowledge and experiences' (p325).

English and allied subjects

Lindberg (1987) applies the use of journals to help learners to gain a deeper understanding of texts in English. He uses a double entry journal. This is a form of journal where one side of the page - or one column - is for the descriptive writing and the other column is for reflective observation or further processing of this type. In Lindberg's journal design students write their observations of and reactions to the text on one side of the page. These may include 'times when your reading changes you are surprised or puzzled...something just does not fit...your first impression of the ending'. When the story is read, they are asked to go back and make sense of the observations in the other column. These journals are discussed in a planned series of one to one 'conferences' with tutors.

Assessment is of a paper that students write on the basis of their journal entries

The humanities and social sciences

Wagenaar introduced a journal in sociology in order to encourage students to relate the theory taught on the course to their own observations and experiences (Wagenaar, 1984). In so doing he suggests that 'the journal assignment can assist the instructor in meeting the higher level cognitive objectives in her or his course'. He describes it as 'An intellectual exercise in reflexivity' which exploits the higher order functions of evaluation, application (Bloom 1956). Students were not asked to write about their feelings but from the examples given, feelings were present and acceptable in their expressions. The process of journal writing was relatively simple. Two elements were to be present - the observation of behaviour and the discussion in theoretical terms.

Baltensperger (1987), working with geography students describes a similar element in his work with classroom journals. He posed a question to students and asked them to write their responses first. He would then ask the question again, requesting oral reports based on the written ideas, and then would open the discussion for more general comment. He found this a valuable means of combating problems of poor response to oral questions posed in class.

In two papers, separated by 14 years, Hettich advocated journals in psychology (Hettich, 1976, 1990). Journals help students to connect course learning to their real experiences and observations. The emphasis is on the course material and instructions indicated that entries could contain 'examples that show comprehension of the concept; application or experimentation with principles; and analysis, evaluation and synthesis of course concepts'(Hettich, 1990).

In a project to investigate the impact of different forms of writing in anthropology, Creme (1999) describes three different uses of journals in a social anthropology department. Project logs accompanied a first year course which introduced the theoretical and conceptual basis to anthropology research. Logs accompany a research project and contain recordings and reflection on the records. The second form of log is called a record of study. Students develop an account of their learning from different sources throughout the course with a focus on the development of 'understanding of central course concepts'. The third type of journal was used in a first year multidisciplinary course on death. In their journals, students explored their reactions to various accounts of death and to their personal experiences.

Languages

Mulhaus and Loschmann (1997) discuss issues relating to foreign language learning in modularized higher education. The change from integrated programmes to the accumulation of modules means that students enrolling on a module are likely to have diverse backgrounds in relation to the subject matter. A distance learning approach was

adopted with students using workshop time for advice and progress checks. With this approach, the writers considered that students needed to give attention to their learning strategies and they used journals to address that need. Journals included the written work of students - video summaries, vocabulary lists, worksheet tasks and self-reflective comments. A marking scheme assessed 'the interaction with the material and the depth of the learning process as evident from the students' vocabulary lists, translations and comments'(p25).

Arts subjects

One form of journal that is a natural accompaniment to the creation of music and drama is the project type of journal where the development of ideas is recorded and considered reflectively. The aim is to enhance the thought processes that contribute to the project.

With art and design students, Davies (1998) sets a similar journal that accompanies project work, but where the main aim is one of assessment. Davies suggests that there can be too much focus on the outcome of art student work and not on the all-important process of it. The journal is a location for the recording of thinking processes.

Business subjects and law

November (1993) comments of his subject - commerce - that the study environment is not conducive to deep approaches to learning. He uses journals in order to deepen the quality of learning in a final year course. In his experience, the best results occur with there has been considerable guidance on the journal writing given. One method is to ask students to write a list of problems or issues of concern, and then to examine each in a systematic manner. Every-so-often he asks students to reflect on questions that are raised in their writing.

The Assessment of Reflective Writing

There are many who argue that journals and reflective writing should not be assessed. This comment from convinced proponent of journals sums up some of the issues.

'How can you mark an individual's own personal development? I think it's a right and proper part of education for us to encourage students to express their feelings so that they know it's alright to have those feelings. However, for me to mark those feelings seems inconsistent and incongruent. Marks can also create a barrier or obstacle to the person finding his or her own voice...'
(Sister Craig cited in Dillon, 1983)

In terms of research, Sumsion and Fleet (1996) question the assessment of reflection in more general terms.

•	They note that there is no evidence that a reflective professional is more effective than a non-reflective professional or that programmes that promote reflection lead to better outcomes.
•	In a series of experiments they sought to explore the issue in their work with final year early childhood education students.
•	They faced the difficulty of finding a suitable set of criteria by which to code the 'reflectiveness' of the students' work.
•	They reviewed and rejected a number of instruments because they were too complex or they were composed of too many categories to obtain sufficient inter-coder reliability.
•	They concluded that there is no good means of assessing reflective writing at present.

It is very easy to go along with arguments that assessment of reflective writing or journals is intrusive on personal development or is too difficult. However:

•	we do need to develop means of assessment while, at the same time, taking a broad view of the process. Students are being assessed on journals and reflective writing. Even where journal writing is a assessed on the basis of 'competent' or 'not yet competent', or pass or fail / not yet pass, the criteria being used are often 'gut reactions' or personal interpretations and this quality of marking is not fair to students. When refection and reflective practice are so highly esteemed in some areas of education and professional development, we should be able to do better than this.
•	The second justification is based on the observation that, even able learners may not find reflective writing in a journal easy (Wildman and Niles, 1987). Unless teachers have an understanding of the task that they are setting and the qualities in it that constitute a good performance, they will not be able to help these learners.
•	Thirdly, reflective writing is rooted in the nature of the higher education system as it seems to exist. The rise of the 'strategic' student is well documented (eg Kneale, 1997). The 'strategic student' is bound on success in her studies for the minimum output and will therefore not put effort into tasks that are not assessed. If we believe that journals contribute to learning, then the assessment of journals may be necessary in order to ensure the requisite student effort.

Issues in assessing journals

The first question to be asked in assessing journals is whether we are looking to assess the process of reflection or the product of learning. For example, Selfe, Petersen and Nahrgang (1986) describe the use of journals with mathematics students. The aim of the work is not to develop reflective skills in these students, but to improve their learning.

The quality of their reflection is incidental. An essay or viva will test the learning. Alternatively parts of the journal could be re-written in summary at assessment time to focus on the learning. In contrast, journals used in teacher education are often to encourage the process of reflection and the learning that results is relatively less important.

It is very important to remember that assessing journals has an effect on the manner in which the journal is written because students will try to write what they think is required. They may be wary of revealing personal difficulties or concerns.

Assessing the reflective process of a journal

Assuming that it is the reflection that is important, how do we approach assessment? Some general criteria can helpfully indicate adequacy. A list might include:

Length, Presentation and legibility, Number of entries or regularity of entries; Clarity and good observation in presentation of events or issues; Evidence of speculation; Evidence of a willingness to revise ideas; Honesty and self-assessment; Thoroughness of reflection and self-awareness; Depth and detail of reflective accounts; Evidence of creative thinking; Evidence of critical thinking; Evidence of a deep approach to the subject matter of the journal Representation of different cognitive skills (synthesis, analysis, evaluation etc); Relationship of the entries in the journal to any relevant coursework, theories, etc. Match of the content and outcomes of the journal work to course objectives, learning outcomes for the journal or purposes that the journal is intended to fulfill. Questions that arise from the reflective processes and on which to reflect further.

There are a number of schemes of assessment criteria that are developed from the work of others. The example of Hettich (1976 and 1990) and his use of the Bloom's Taxonomy was given earlier. The six categories in Bloom's cognitive domain are (in order of increasing sophistication), knowledge, comprehension, application, analysis, synthesis and evaluation.

Wedman and Martin (1986) used Van Manen's levels of reflectivity (Van Manen, 1977):

Level 1 - technical rationality: effective application of technical knowledge in order to reach known outcomes.

Level 2 -practical rationality: teachers' ability to deal with practical actions where there are multiple factors in operation. There is an ability to cope with the confusion and make an assessment of the likely educational consequences.

Level 3 - In Wedman and Martin's terms, this level of critical rationality 'focused on

incorporating consideration of moral and ethical criteria into discourse about practical action. The central question at this level was which educational goals, experiences and activities led toward forms of life that were just and equitable.'

The work of Hatton and Smith (1995) arose from somewhat more thorough research than many of the studies described earlier. While the work derives from the context of teacher education, the descriptions of reflectiveness in writing are generally applicable. A summary of the framework with quotations from it is provided below.

Descriptive writing (which is considered not to show evidence of reflection), is a description of events or literature reports. There is no discussion beyond description.

Descriptive reflection: There is description of events but some justification in relatively descriptive language. The possibility of alternative viewpoints in discussion is accepted. Reflection may be 'based generally on one perspective factor as rationale' or, presumably in a more sophisticated form, is based 'on the recognition of multiple factors and perspectives'.

Dialogic reflection: 'Demonstrates a "stepping back' from the events and actions leading to a different level of mulling about discourse with self and exploring the discourse of events and actions'. Uses the 'qualities of judgments and possible alternatives for explaining and hypothesising'. The reflection is analytical or integrative, linking factors and perspectives. It may reveal inconsistency 'in attempting to provide rationales and critique'.

Critical reflection: 'Demonstrates an awareness that actions and events are not only located within and explicable by multiple perspectives, but are located in and influenced by multiple historical and socio-political contexts' (Hatton and Smith, 1995)
An interesting question that emerges concerns the degree to which learners can be coached to write at these different levels. For example, Dart, Boulton-Lewis, Brownlee and McCrindle (1998) used the Hatton and Smith descriptors (above) as an assessment tool in their research on the increase of knowledge from the use of learning journals. Most of their subjects produced writing gauged to be 'descriptive reflection'. If the subjects had been coached in the different degrees of reflectiveness in their writing, would they have or could they have functioned at a more sophisticated level, then, perhaps changing the result of the experiment?

The forms of assessment of reflective writing above mostly serve their purpose within the context of their use. They are probably as reliable as any other form of assessment in higher education but there are some remaining questions of their validity if we are unsure what really happens when students write reflectively. With a framework for the process of reflective writing and taking the literature of reflection into account, it is possible to consider development of criteria for assessment purposes. It also becomes possible to show students why just descriptive work is not 'reflective' in that it only covers a small

part of the overall process.

Example of assessment indicators for reflective writing
Purpose. The learner demonstrates: - awareness and understanding of the purpose of the journal, using the purpose to guide selection and description of event / issue on which to reflect. The learner identifies: - her or his own purpose for the journal or journal entry.
The description of an event or issue: - is present. The description: - provides an adequate focus for further reflection; It includes: - a statement of observations - comment on personal behaviour; - comment on reaction / feelings; - comment on context.
Additional ideas: - are present. The learner demonstrates: - the introduction of (any) additional ideas to the description; the addition of: - further observations; - relevant other knowledge, experience, feelings, intuitions - suggestions from others; - new information; - formal theory; - other factors such as ethical, moral, socio-political context.
Reflective thinking: - is present. The learner demonstrates: - the ability to work with unstructured material - the linking of theory and practice; - the viewing of an issue / event from different points of view; - the ability to 'step back' from a situation; - metagcognitive processes; - 'cognitive housekeeping'; - application of theoretical ideas; - considerations of alternative interpretations; etc.
Other processing There is evidence of other processing - e.g. - new ideas are tested in practice; - new ideas are represented, for example, in a first draft or graphic form etc and there is evidence of review and revision in a later copy.

A product results
The is a statement of:
- either something that has been learned or solved that relates to the purpose or the problematic nature of the description
or
there is a sense of moving on. For example, there Is identification of a new area for further reflection or a new question Is framed.

References in reflective writing

Baltensperger, B (1987) 'Journals in economic geography', in T Fulwiler, The Journal Book, Heinemann, Portsmouth, New Jersey

Bloom, B (1956) Taxonomy of Educational Objectives, Longmans-Green, New York

Burnard, P (1988) 'The journal as an assessment and evaluation tool in nurse education', Nurse Education Today, 8, pp105 - 107 Carlsmith (www) 'Academical notebook'

Crème, P (1999) 'New forms of student and assessment in social anthropology: research through practice at the University of Sussex', National Network in Teaching and Learning Anthropology FDTL Project 1997 – 1998

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, (3), pp291 – 318

Davies, J (1998) Paper given at Improving Student Learning Conference, Brighton (1998).

Dillon, D (1983) 'Self-discovery through writing personal journals', Language Arts, 60, (3) pp373 – 379

Elbow, P (1981) Writing with Power Techniques for Mastering the Writing Process, Oxford University Press, New York

Flavell, J 1979) 'Metacognitive aspects of problem-solving behaviour', in L Resnick, (ed), The nature of intelligence, Lawrence Erlbaum, Hillsdale

Fulwiler, T (1986) 'Seeing with journals', The English Record, 32, (3), pp6 - 9

Fulwiler, T (1987) The Journal Book, Heineman, Portsmouth, New Hampshire

Grumbacher, J (1987) 'How writing helps physics students become better problem solvers', in T Fulwiler, The Journal Book, Heinemann, Portsmouth, New Hampshire

Grumet, M (1990) 'Retrospective - autobiography and the analysis of educational experience', Cambridge J Ed. 20, (3), pp321 - 325

Hartley, J (1998) Learning and Studying Routledge, London Hatton, N and Smith, D (1995) 'Reflection in teacher education - towards definition and implementation', Teaching and Teacher Education, 11, (1), pp33 - 49

Hettich, P (1976) 'The journal, an autobiographical approach to learning', Teaching of

Psychology, 3, (2), pp60 - 61

Hettich, P (1990) 'Journal writing: old fare or nouvelle cuisine?', Teaching of Psychology, 17, (1), pp36 - 39

Holly M (1991) Keeping a Personal-Professional Journal DeakinUniversity Press, Victoria

Kneale, P (1997) 'The rise of the "strategic student": how can we cope?', in M Armstrong, G Thompson and S Brown, (eds) Facing up to Radical Changes in Universities and Colleges SEDA / Kogan Page, London King, P and Kitchener, K (1994) Developing Reflective Judgement, Jossey-Bass, San Francisco

Lindberg, G (1987) 'The journal conference: from dialectic to dialogue' in T Fulwiler, The Journal Book, Heinemann, Portsmouth, New Hampshire

Moon, J (1999) Reflection in Learning and Professional Development, Kogan Page, London

Moon,J (1999a) Learning Journals; a handbook for academics, students and professional development, Kogan Page, London McCrindle A and Christensen C (1995) 'The impact of learning journals on metacognitive processes and learning performance', Learning and Instruction 5,(3), 167 -85

Moon, J (2001) Short Courses and Workshops: improving the impact of learning, training and professional development, Kogan Page, London Mulhaus, S and Loschmann, M (1997) Improving independent learning with aural German programmes', in R. Hudson, S Maslin-Prothero and Lyn Oates, Flexible Learning in Action, SEDA / Kogan Page, London November, P (1993) 'Journals for the journey into deep learning', Research and Development in HE, 16, pp299 - 303

Progoff, I (1975) At a Journal Workshop, Dialogue House Library, New York Rogers, C (1969) Freedom to Learn, Charles E. Merrill, Columbus Ohio Salisbury, J (1994) Becoming Qualified - an ethnography of a post-experience teache
training course PhD thesis, University College of Wales, Cardiff Selfe C, Petersen, B and

Nahrgang, C (1986) 'Journal writing in mathematics' in A Young and T Fulwiler (eds) Writing Across the Disciplines, Boynton / Cook, Upper Montclair, New Jersey

Selfe C and Arabi, F(1986) 'Writing to learn Engineering students journals' In A Young and T Fulwiler, Writing Across the Disciplines, Boynton / Cook, Upper Montclair, New Jersey

Sumsion, J and Fleet, A (1996) 'Reflection: can we assess it? Should we assess it?', Assessment and Evaluation in HE 21, (2), pp121 – 130

Van Manen, M (1977) 'Linking ways of knowing and ways of being', Curriculum Inquiry, 6, pp205 – 208

Wagenaar, T (1984) 'Using student journals in sociology courses', Teaching Sociology, 11, pp419 - 437 Wedman, J and Martin, M (1986) 'Exploring the development of reflective thinking through journal writing', Reading Improvement, 23, (1), pp68 - 71

Wildman, T and Niles, J (1987) 'Reflective teachers, tensions between abstractions and realities', Journal of Teacher Education, 3, pp25 - 31

Wolf, M (1989) 'Journal writing: a means to an end in educating students to work with older adults', Gerontology and Geriatrics Education, 10, pp53 - 62

Young, A and Fulwiler, T (1986) Writing across the Disciplines, Boynton / Cook, Upper Montclair, New Jersey