Open

TEACHING
TOOLKIT

LEARNING HOW TO LEARN

OPEN TEACHING TOOLKIT

This Open Teaching Toolkit is one in a series produced for associate lecturers of the Open University by the Staff Development Team. The packs in this series cover various learning skills and other aspects of student support. This pack is designed as a resource to help you to engage with your students in the process of 'learning how to learn' and to suggest ways of encouraging students to become reflective learners. The materials in this pack are not prescriptive, *you* must decide when and how to use them.

Other packs in the series are:

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More Open Teaching Toolkits are planned. Feedback on the contents of this pack and suggestions for further packs in the series are welcome and should be addressed to:

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LEARNING HOW TO LEARN

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SECTION 1
WHAT IS 'LEARNING HOW TO LEARN'?

Introduction

The previous edition of *Learning how to Learn* was one of the first Open Teaching Toolkits to be produced. While several other toolkits in the series looked at ways of helping students with specific learning skills – reading, note taking, writing – *Learning how to Learn* took a different approach. Its focus was on the process of reflection – encouraging tutors to help their students to become reflective learners by developing a process of feedback and dialogue with them.

There is now much greater emphasis on this approach to learning development in many sectors of education both here and abroad. In 1997, the approach moved centre stage in higher education in the UK with the publication of the Dearing Report (NCIHE 1997) and the subsequent work of the Quality Assurance Agency (QAA). In various documents from the QAA, reference is made to 'learning how to learn' as one of the essential skills that all students in higher education should develop.

The OU has always put an emphasis on developing students' learning skills and encouraging them to become independent, autonomous learners who take responsibility for planning their own learning and for fitting their study into busy demanding lives. Many associate lecturers (ALs), especially those with students who are new to OU study, take time to encourage students to identify how they learn best, what alternative ways of studying to try, and how to develop the learning strategies that are most appropriate for them.

This toolkit makes links to earlier ideas on learning how to learn, draws on the experience and expertise of many current ALs, relates to more recent research evidence on learning, and recognizes the demands of the QAA. It draws on ideas and materials developed by the Vocational Qualifications Centre through DfEE-funded projects both within the OU and in HE generally. The toolkit also contains a summary of the rationale underpinning the learning how to learn approach, and provides you with ideas for activities and materials you might use with your students. It also, occasionally, challenges you to re-examine your own preferred approaches to learning. *Learning how to Learn* is not meant to be prescriptive nor to provide a pattern to follow. Rather, it provides a range of options from which you can choose those that seem best to fit your students, your teaching techniques and the course you tutor.

Indeed, you may find that learning how to learn is already made explicit in your course and that some activities are embedded in your course material. If this is the case, additional materials will not be necessary but you may wish to reinforce the value of the approach that is encouraged in the course. If that approach is also reflected in assignments, students may need no further encouragement. But at this time, such courses are in a minority and many students can complete their degrees without encountering the need to understand their own learning or develop explicitly the skill of learning how to learn. The responsibility for that rests with you.

Before you read further you might like to look at the questions raised by tutors as they approach this topic (Figure 1). It was compiled by a group of ALs who worked on the learning how to learn project in preparation for the production of this toolkit. We hope that the toolkit contents go some way to answering them.

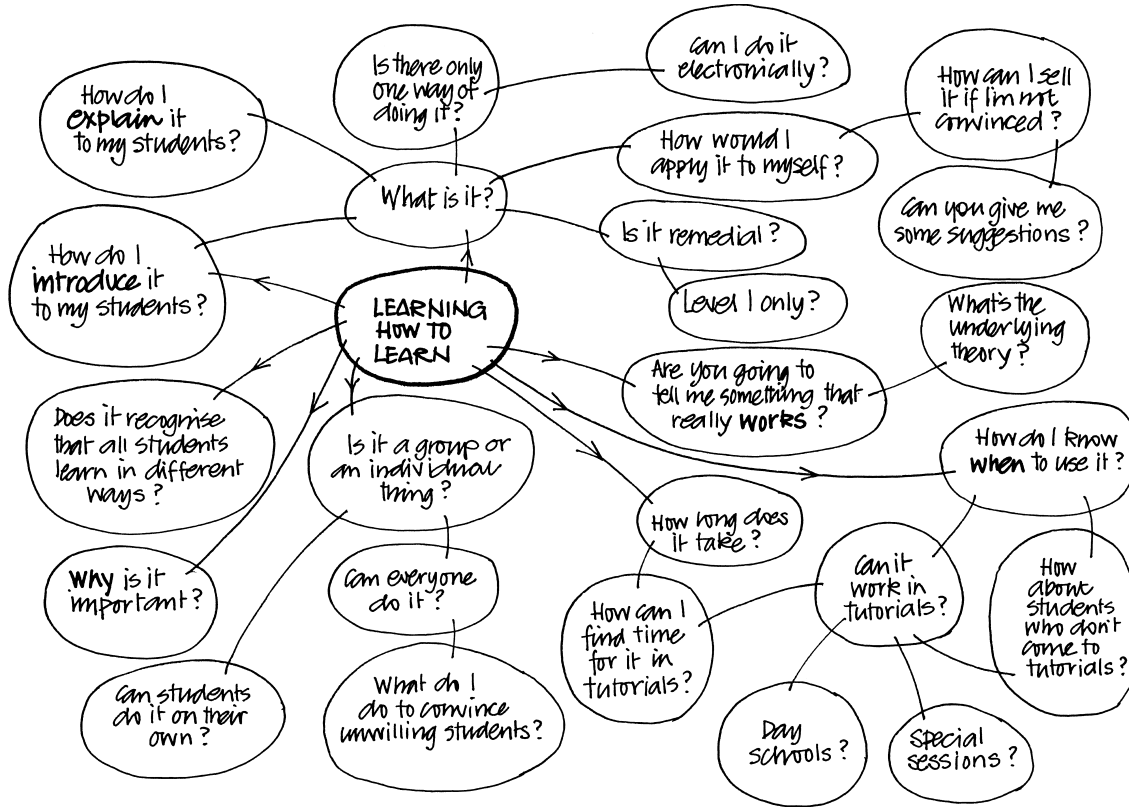

Figure 1 Questions from ALs about learning how to learn

Why is learning how to learn important?

This approach is based the following principles.

1 If students think about and understand how they are learning and performing, they can not only begin to identify those learning approaches or strategies that work best for them, but can also begin to select from their repertoire those approaches that are most appropriate for a particular task.

2 This involves becoming aware of the various factors that have affected their past learning experiences. Hence, there is an emphasis on reflection because past learning experiences can help us to prepare for future learning tasks.

3 If students can carry that awareness of their learning from one learning experience to the next, they can consciously monitor the process, adjusting their own learning approach and changing strategies as necessary.

4 Finally, when the learning task – whether a study session or an assignment – is complete, they need to take time to look back over the experience so that they are better prepared to learn more effectively next time. This again involves reflection – hence the term often used is 'the reflective learner'.

There is no single definition of this process, nor a recipe to follow. Just as there are many ways to learn about any subject, so there are many ways to learn about learning. It is often likened to the process of 'thinking about thinking' – we all do it although we do not always articulate it. Thinking about thinking involves the process of *meta-cognition*, and the process of learning how to learn is sometimes referred to as *meta-learning*. Part of learning about our own learning is thinking about our own thinking.

We all tend to learn in different ways depending on a range of factors including our past learning experiences, our preferred learning styles, the subject concerned, the task we are tackling and the current context and circumstances. But in encouraging students to learn how to learn we must recognize that there

are emotional or affective dimensions to all learning. Learning is rarely a purely cognitive process. Most learning experiences involve our feelings, sometimes in ways that are positive and that enhance learning; but often in ways that can detract from the learning experience. *Learning how to Learn* recognizes and encourages a holistic approach.

This was the approach explored and encouraged in the previous version of this toolkit. In essence, the approach remains the same, but we now understand much more of the complexity of the process as well as how better to encourage students (and tutors) to try it. If you are interested in the theories underpinning this work, you will find more explanation in Section 3 of this toolkit. We have also included a bibliography with some indication of which items are easy to access and most relevant to the OU context.

This approach to learning has been developed and used extensively in higher education both here and abroad, especially in Australia and New Zealand (Black and Wiliam 1998). The research evidence suggests that when students understand the rationale for and the process of learning how to learn, their learning and performance are enhanced. But if, for example, the term 'reflection' is introduced without the rationale for it, or if students are simply asked to carry out what seem to them meaningless or peripheral tasks, there is considerable resistance. What is uncertain is whether or not it is possible for *all* learners to engage in the process of meta-cognition even when the process is explained. Some do find it difficult to think about or reflect on their own learning, although the evidence from work in the OU (Hodgkinson and Wright 1999) suggests that initial resistance can be overcome when learners experience the benefit of meta-cognition. What clearly emerges from a number of studies is that exploring the use of meta-cognitive processes *alongside and as part of* other learning skills development enhances that development markedly. Indeed, there are very real questions about the efficacy of study skills provision in isolation, unless the input is related to a real course of study and the meta-cognitive approach is also introduced and encouraged. Students need to become aware that they have a range of learning skills and strategies from which to choose when faced with real learning situations.

Within the OU, there are currently a number of research projects that are exploring the effect of reflection on:

- knowledge and understanding
- the learning experience
- improving grades
- student retention of information
- the longer term benefits to student working experiences.

Tutors who have encouraged this approach also report that it helps them in diagnosing *with* students the problems they are having and the blocks they encounter, giving both student and tutor a strategy for making progress. If tutors can encourage students right from the start to consider *how* they learn as well as *what* they learn, this can actually save time for both tutor and student as well as being more effective.

Some terminology

It may be useful at this point to examine some of the terminology used so far. A learning how to learn approach encourages students to differentiate between learning *skills*, learning *styles* and learning *strategies*.

Learning skills

Learning skills (sometimes called study skills) are the basic tools of learning:

- reading for a purpose
- extracting information from text or diagrams
- taking notes or recording information for future use
- writing for an audience in an appropriate way.

Learning skills can be taught and practised while studying a course or through additional provision or resources.

Learning styles

Learning styles reflect our preferred ways of learning new concepts and ideas:

- through action or reflection
- through experience or theory
- grasping the whole picture or building up discrete blocks of information.

While it is helpful for students to understand their own preferred learning styles, for some tasks other styles may be more effective, although more work is needed on how far learning styles can be modified.

Learning strategies

Learning strategies are the different approaches to learning tasks that can be used as appropriate for that specific task or context. For example, an effective strategy for studying and tackling assignments during the course is probably not appropriate for revision and the final examination. Experienced learners have a range of strategies on which they draw; inexperienced or ineffective learners may be using one style or approach whatever the task. Learning how to learn is the meta-cognitive process that ensures that the learner is:

- aware of their skills – both those in which the learner is confident and those that are weak and need developing
- knows their preferred learning style and uses it effectively, but recognizes that other learning approaches may need to be used on occasion
- has a range of tried and tested learning strategies, yet can adapt and create more effective ways of working if the need arises – this includes the ability to recognize and cope with the affective part of each learning experience or task.

Learning about learning, like thinking about thinking, does not always need to be a conscious process. Initially, techniques of learning how to learn have to be taught, but once they have been practised a little, they become part of students' normal strategy unless the learner is faced with a completely new or a particularly challenging task. In these circumstances, learners may consciously begin to select and use a different technique. There may be parallels here to your own experience as an AL. If you are an experienced tutor, you do not consciously implement and monitor every moment of a tutorial in a planned and ordered way. If things do not go according to your intended plan, you move intuitively, responding to the needs of your students as they arise, based probably on earlier experience. Only when faced with an unexpected challenge do you consciously think how to act, and this event would undoubtedly be one on which you would reflect afterwards by replaying it and considering, with hindsight, alternative ways of handling it. In fact, you would be learning from the experience.

PAUSE FOR THOUGHT

Think about an occasion when this happened to you. How did you react and what did you learn from it? Now think of a student encountering a new and difficult challenge – can you see any parallels between you as a reflective practitioner and the student as a reflective learner?

You might like to make brief notes here.

The process of learning how to learn

As you read this section, you might like to think how the description and explanation could apply to a section of the course you tutor, with its accompanying TMA.

Four main phases

There have been various attempts to explain this approach to learning, almost all of which use a diagram. Below is the framework we have devised and trialled with learners (Figure 2). You do not have to use this diagram with your students, you may prefer to devise a diagram of your own or you may want to describe the process in words.

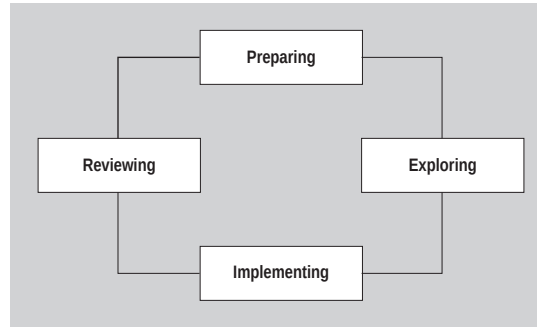

Figure 2 The four main phases of learning how to learn

Learning how to learn is represented in Figure 2 as a closed circuit simply for convenience. It is not necessary to move in a clockwise direction, movements can be made clockwise or anti-clockwise, or vertically or horizontally. If the focus is on a period of study without an assignment, the exploring and implementing phases will merge. Although a circuit or cycle is the most frequently used diagrammatic form, you might also see this process expressed as an upward spiral (like an expanded spring) or a series of waves and loops moving from left to right.

- Preparing for a section of study and an accompanying assignment is an essential part of the process. Students are encouraged to pause and think ahead about how and when they will tackle both the task of studying and the assessment task itself.
- Exploring is the phase when the studying is done both as part of working through the course itself as well as understanding, extracting or practising what is required for the assignment.
- Implementing covers the actual doing of the assignment, producing the TMA in a form that can be submitted.
- Reviewing is the process in which students consider advice about what to do after submission and when their work is returned. Lessons from this may well inform the next circuit and lead into the preparation phase which, for many OU students, may well have already begun.

Each of the four main phases can be subdivided into a series of component activities or actions (Figure 3). Of course, not all the components will always be needed. For a particular part of a course and the accompanying TMA, some components may not be used at all; over the study of a whole course or even an OU career, some activities will only be addressed once or twice.

Preparing

In the preparation phase it is helpful for tutors to ask students to pause before starting a new section of work and think about it as a whole. What needs to be covered? What are the component parts of this block of work? What are the learning outcomes? What will they need to be able to do at the end of it and

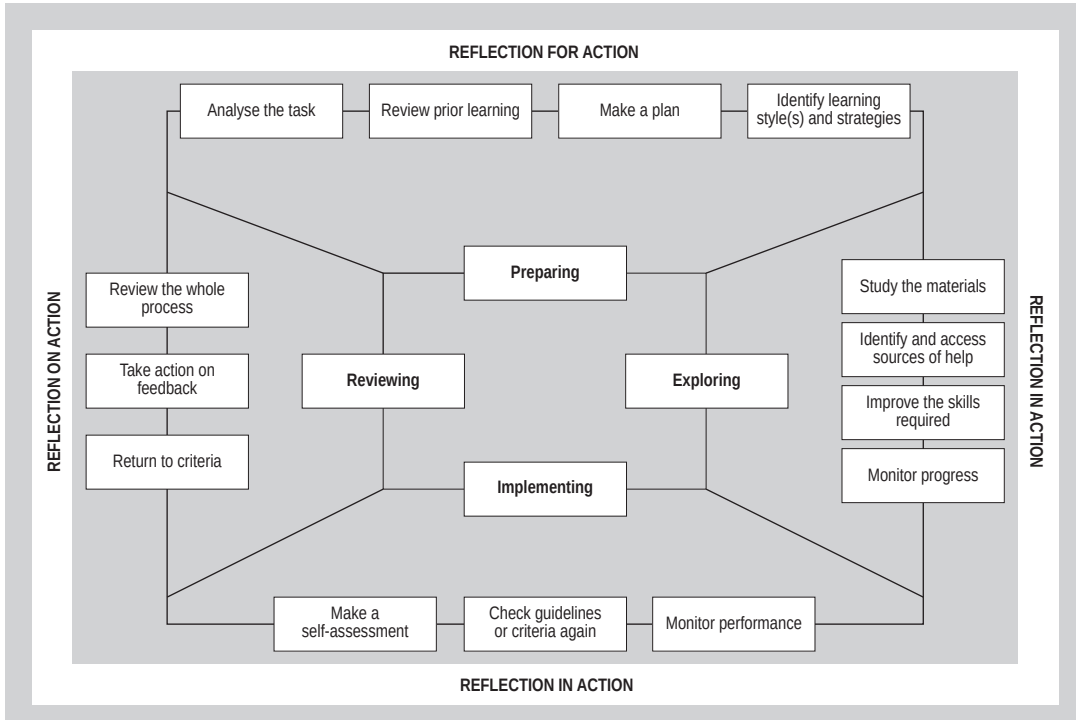

Figure 3 Components of the main phases of learning how to learn

how will their learning be demonstrated and assessed? Note that as the learning how to learn process continues, this phase will draw on experiences from previous cycles.

The components of this phase are:

- analyse the task
- review prior learning
- make a plan
- identify learning style(s) and strategies.

Analyse the task

This involves the student in analysing both the *learning* task (e.g. working through the text, other readings, calculations, experiments etc.) as well as the *assessed* task, if there is one (e.g. the TMA). It is important to work out from the start just what this part of the course requires the student to do as well as to know. Most students find it helpful to look at the stated outcomes or objectives for the part of the course they are about to study, as well as any accompanying assignment details. What guidance is there in the student notes for the TMA, and what criteria will be used in marking it?

Review prior learning

Here the student should be encouraged to look back and reflect on previous parts of the course or other courses they have studied; on earlier learning experiences before or within the OU that are relevant to the current task. In doing this, they should identify their strengths and weaknesses as a learner: in what skills needed for this task are they particularly strong, what areas may need improving? This analysis can be quite specific, perhaps based on feedback from previous assignments or, if the current task demands something new, only very general points from previous learning may seem relevant. A more general activity that encourages students to review their earlier learning experiences is particularly useful for those who are new to the OU or returning to study after a considerable break.

Make a plan

Encourage students to make a plan for studying the material and carrying out the assessment. Plans can be as general or as specific as necessary – student preferences will vary. Studying with the OU does demand that most students plan their work and there is evidence that target setting and appropriate planning can enhance performance.

At the start of a course, some tutors encourage their students to think ahead and to identify long-term goals for the course as a whole, or even further forward.

Identify learning style(s) and strategies

This activity, like long-term planning, does not need to be repeated for every assignment or indeed more than once or twice in the student's time with the OU. The aim is to help each student begin to understand what style of learning and what study strategies really work best for them, in the context of the course and their personal circumstances.

> The preparation phase involves the student in looking back as well as looking forward before embarking on a section of study within a course, or perhaps for the course as a whole. It encourages the student to pause and think purposefully before moving on and has been described as **reflection for action**.

Exploring

This is the phase of studying and developing skills. The component actions are:

- study the materials
- identify and access sources of help
- improve the skills required
- monitor progress.

Study the materials

This is the period when the student works on material and ideas in preparation for the assignment. It may include working through course materials, any associated reading or media components, attending a tutorial, accessing information and making notes or records of it. (Section 2 does not contain any set activities or materials specifically related to this component, although many of the skills required are covered elsewhere in this toolkit).

Access sources of help

Knowing when help is needed and where to go for it is important for all students. Sources of help may be formally provided by the OU through you or the Regional Centre, through workshops, through supplementary materials or online. Other sources of help may be informal: other students (contacted electronically or otherwise), self-help groups, sources outside the OU. Any major areas of difficulty (perhaps identified as students work through one part of the course or prepare an assignment) may have to be tackled at another time, and you will need to be sure that your students know what help is available.

Improve the skills required

In studying and preparing for the assignment, students may come across skills or techniques in which they are less confident, possibly those identified during the preparing phase. They should be encouraged to pause and consciously work on those areas that need developing if they are important for the task rather than struggle through course material, ignoring areas or activities they find difficult.

Monitor progress

This is probably the most difficult and the most important component in this phase. Students need to make a conscious effort to monitor their progress while studying and working on the course, always with the main task in view. This is where a flexible plan devised in the preparation phase can be revised. Students should be encouraged to take time out to review their progress, especially if the course has built in a 'pause for thought' or self-assessment mechanism. The emphasis of monitoring for the student should not just be 'What am I learning?' but also 'How am I learning it?'

The over-arching emphasis of the exploring phase is to be aware of *what* you are doing *while* you are doing it – often described as **reflection in action**. For the student, such reflection needs to be *critical reflection* – asking themselves questions, checking their thoughts and actions, explaining to themselves (or others) why they are saying, writing, or doing things in this way. Reflection-in-action is difficult but becomes easier when carried out with another person who can listen to the student talking through their work or reading what they have written. The need for this approach runs throughout the next phase – implementing or doing the task.

Implementing

This is the phase in which students complete their preparation and exploration and produce the assignment. In some courses, exploring and implementing are part of the same process so they will merge or overlap; in other courses, considerable exploration is needed before the assignment can be done. The components are of this phase are:

- monitor performance
- check guidelines or criteria again
- make a self-assessment.

Monitor performance

As the student moves into doing the assignment, emphasis on consciously trying to monitor how they are performing continues to be important. This involves monitoring *while working on the task* rather than waiting until the task is almost complete (when only minor changes and corrections can be made).

Check guidelines or criteria again

Grading criteria and advice in student notes are often ignored by students, especially those who most need to take note of them. Again this is something to encourage while working on the task. In some assignments, students drift away from the question, forgetting any advice they may have read previously. Even if students are given the criteria against which they will be scored, they are not always sure how to use them to enhance their work.

Make a self-assessment

All the research evidence suggests (Sadler 1989) that this is a critical skill for students to develop. If they can assess their own performance accurately and identify the gap between what is required and what they are producing, they are more likely to be able to close the gap themselves. Some courses do ask students to self-assess as part of their assignments; if not, the process can be encouraged by asking your students to complete a self-assessment form and send it to you with their TMA.

The process of implementing again requires awareness of *what* you are doing *while* you are doing it – **reflection in action**.

Reviewing

This phase can take place after an assignment or period of study has been completed. It is most effective when feedback is available, as when a TMA is returned to a student, but it is just as important to encourage students to review their progress after a period of study or even a single study session. The components of this phase are:

- return to criteria
- take action on feedback
- review the whole process.

Return to criteria

Students should be encouraged to do this before or when their TMA is returned. It is more valuable if they can identify how their work might have been improved for themselves before reading your comments. Assignments that give the students a clear indication of the criteria used in grading will enable students to learn more effectively from the assessment process, but some tutors explain their own criteria.

Take action on feedback

This is probably the most difficult thing for any student to do. Students need to be made aware of *how* your feedback and advice can help them to improve. Students new to the OU need to be helped to understand the meaning of correspondence tuition and may need clear instructions of what to do with the feedback they receive. They will need advice on how to incorporate your feedback into future assignments.

Review the whole process

Try to encourage your students to pause and review *what* they have done and *how* they have done it. If possible, students should do this before they move on to the next part of the course, which will probably be *before* their assignment is returned with your comments. Simply trying to identify one thing that went well and one thing that they could have done differently can help students with the next preparatory phase even before their TMA is returned.

Reflection after the return of a TMA should focus on the *process* of its production (i.e. how I might do it differently) and not just the *product* itself (i.e. how I might do it better).

As the reviewing phase closes, the cycle overlaps with and leads into preparation for the next section of learning and assessment, or perhaps preparation for revision and exams. Because of this, it is sometimes difficult to get students to stop and review what they have done. Encouraging students to pause occasionally in their studies and review their progress is important. OU courses are often very demanding in terms of time, and some are overloaded. Many students, especially in their first year, just struggle on, preoccupied with trying to keep up. Very few will pause and consider how they are studying and learning even when course materials invite them to do so. In most OU courses, there are natural breaks – at the end of a unit or block of study as well as after the completion of an assignment.

A time of **reflection on action** should conclude the process. This is the overall looking back over the *whole* learning experience when students can identify what they have learned from studying this part of the course and completing the assignment. Again, the emphasis should be not just on the *content* learned, though that is important, but also on *how* they have learned it – this is the meaning of learning how to learn.

Encouraging students to learn how to learn

In the next section of this toolkit, each one of the four main phases of learning how to learn is explored in more detail with examples of activities, handouts, and other materials that may help you to encourage your students in this approach. Not all components have discrete items because these would need to relate to the specific requirements of a course. In most cases, these will be covered either in the course materials or in your advice to students. Remember, these activities are only suggestions: you should select those that you think will work for you and your students. Any activities you choose and their associated materials, should be adapted for your course, your purpose and your students' needs.

Before looking through them, however, it is worth thinking about your current practice as an associate lecturer.

Pause for thought

How might you encourage your students to develop and apply the various components of the process of learning how to learn? How do you encourage them to become autonomous and independent learners? In your tutorials, do you already devise activities that focus on their learning *how* to learn as well as *what* to learn? In your correspondence tuition, do you provide materials that encourage students to look at their own learning and performance?

You might like to make brief notes here.

Some things to remember

If you have worked with students new to the OU and have encouraged them to think about their previous learning experiences or to prepare for future learning tasks, you will know that it is a very personal and individual process although it can often be enhanced by sharing in a supportive group. Just as there is a need to recognize diversity in any group and to respect social and cultural differences, so too with learning experiences. Some students will have had successful learning histories; others may have memories of learning that are still painful, with feelings of failure or even anger. Many will lack confidence in their ability to learn successfully even though they have decided to take an OU course. Sensitivity to the individual learner and within the group is essential.

Learning how to learn is about increasing our awareness of ourselves and being faced with the possibility of change within ourselves. Some students (and some associate lecturers) may be very willing to re-examine prior experience and recognize the potential for improvement; others will resist. Some students will resist changing their learning strategies even when they are clearly not working effectively. Others will find their progress impeded by emotional difficulties, either related to their study or in other parts of their lives. By showing that even simple changes can have a positive effect, some defence mechanisms might be weakened. Often the most powerful agent for change is the group itself, led from within by students who are eager to try new things, who are keen to learn how they learn and then want to share the benefits of that approach with others. But there will be those who find critical reflection of any kind very unsettling. Even in areas where critical thinking and questioning of *what* is learned is an essential requirement, critical reflection on *how* to learn can be resisted. We have to accept that it is unlikely that such students will want to engage in critical thinking about themselves and may be unable or unwilling to engage in the process of learning how to learn.

Summary

The process of learning how to learn can be presented as a four-phase model (Figure 2). The process can be introduced to students via the study of their course and the completion of an assignment. The four phases are:

- preparing
- exploring
- implementing
- reviewing.

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