DESIGNING A
FLEXIBLE CBT
PROGRAM

Learning Guide

ACTRAC
AUSTRALIAN COMMITTEE FOR TRAINING CURRICULUM
Metal and Engineering CBT Staff Development Project

DESIGNING
A FLEXIBLE
CBT PROGRAM

Learning Guide
Developed and produced by the Centre for Applied Learning Systems

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Introduction to the program

The National Metal and Engineering Competency-Based Training (CBT) Staff Development Project was developed by a national project team comprising representatives from all states and territories, and the National Metal and Engineering Training Board (NMETB).

The project was funded by the Australian Committee for Training Curriculum (ACTRAC) and managed by the Curriculum Services Division of the Department of Employment and TAFE, SA.

This program comprises six modules, which cover a range of key issues for those involved in planning, implementing and teaching CBT programs for the national metal and engineering industry.

These modules are accompanied by an Implementation Guide which includes a descriptor for each module and suggestions on the use of the learning materials.

The diagram on the next page suggests a study pathway for both managers and teachers.

- Modules 1 and 2 are recommended introductory modules for all users.
- Modules 3, 4 and 5 are particularly directed at teachers.
- Module 6 is particularly directed at managers.
THE ACTRAC NATIONAL METAL AND ENGINEERING CBT STAFF DEVELOPMENT PROJECT

Module 1
Introducing competency-based training

Module 2
The metal & engineering industry and the national training reform agenda

Module 3
Teaching and learning in CBT programs

Module 4
Competencies and assessment

Module 5
Designing a flexible CBT program

Module 6
Implementing and managing a CBT program
MODULE OUTLINE

The purpose of this module is to introduce you to the information and skills required to design a flexible CBT strategy for your program, and to the processes involved in preparing and producing learning materials.

NOMINAL DURATION

This module is expected to take an independent learner 8 hours to complete. This figure represents contact time with the materials. If the extension activities are carried out in the workplace, you can expect to spend substantially more time than this.

PREREQUISITES

Module 1 is recommended as the starting point for work on this module.

We assume that you are an experienced teacher or instructor with a background in the theory and practice of education and specific skills and experience in a particular program area.

LEARNING OUTCOMES

On completing this module you will be able to:

• identify and analyse key areas of information which will influence the nature of the CBT strategy which you will use
• examine the role of the learning guide in flexible, resource-based learning strategies
• identify existing resources and evaluate their suitability for your training program
• select appropriate components for the delivery of your training module
• determine the resources required to implement your strategy
• identify the key processes involved in the preparation and production of learning resources.
ASSESSMENT

The purpose of the module is to raise your awareness of key issues in competency-based training. The assessment criteria are provided as guides to the level of knowledge and understanding which teachers and managers should develop in order to be able to plan the implementation and operation of CBT programs in on and off-job situations.

All sections contain activities and checklists to review key processes. In addition, there are extension activities which will encourage you to apply skills in the workplace, as you develop your own flexible CBT program. In these cases, assessment of your performance could be carried out by peer, group or mentor evaluation.

You may wish to negotiate an assessment process within your training institution or state, to gain formal recognition for the skills which you develop. The extension activities are designed to be carried out in conjunction with a specific CBT project. They can be used as the basis of performance assessment, if required.

RECOGNITION OF PRIOR LEARNING

You may already have experience in some of the areas identified in the learning outcomes. If so, you need do no more than review the material in each unit, using the assessment criteria, and move on. Check the activities in each section and skip through any material with which you feel comfortable.

You are being encouraged to decide for yourself what knowledge and skills you have, and what further work you need to do in order to achieve the learning outcomes for the module.

HOW TO USE THIS PACKAGE

This is a resource-based training package containing a learning guide and a resource pack. While it is designed to be used for independent study, it can also be used as the basis for group work, either in a training facility or in the workplace.

The package is an example of a typical resource-based learning module. The resource pack used here contains only print material. A typical training program, however, could use a wide range of learning resources, including print, audio and video components and a range of experiences, both on and off-job.
If you are working independently, this module will provide you with first-hand experience of resource-based learning, and some understanding of the kinds of issues which this study mode will raise for your learners.

This learning guide is structured in sections which correspond to the **learning outcomes** of the module. Within each section the material is structured into a number of **learning tasks** which correspond to the assessment criteria. You should follow the instructions for each learning task, which will usually require you to use material in the resource pack. As you complete the learning task material, you should return to this learning guide for the next step in the study process.
Welcome to Designing a flexible CBT program.

This is an introduction to the processes involved in designing a flexible competency-based training strategy for a training program.

We look at how to analyse your existing program, in order to obtain the information necessary to select appropriate strategies. From this information, you can determine the kinds of learning materials which will have to be produced to enable those strategies to be implemented.

Central to the whole issue of developing flexible learning strategies and materials is the question of the roles which have to be played in the development and production stages. You'll find this addressed in Section 5.

The metals and engineering field embraces training programs which range in level from apprentice to associate diploma, and in emphasis from basic trade skills development to management programs. The material in this module tries to raise issues, concerns and strategies which might be applicable across the whole range.

Most teachers will already have skills and experience which will help them to achieve the learning outcomes of this module. Your use of this material, therefore, will depend largely on your own skills and experience, your teaching area and the training context within which you work.

Educational processes should never be prescribed to the point that they cease to be responsive to the particular needs of time, place and circumstance. You may well find that you need to modify the processes and procedures offered here in order to achieve the results which you require.

We wish you well as you work through this module.
SECTION 1: Preliminary information

LEARNING OUTCOME 1

On completion of this section you will be able to:

• identify and analyse key areas of information which will influence the nature of the CBT strategy which you will use.

Assessment criteria

You will:

1.1 review seven key educational and learning environment issues which will influence the nature of the CBT framework which you develop

1.2 specify your competencies, standards and assessment methods

1.3 identify the formal and implied prerequisite knowledge, skills and experience which learners are expected to possess in order to handle the demands of the learning program

1.4 specify the practical constraints of your training module in terms of when and where learning will take place, and the human, physical and educational resources available

1.5 determine where and when learning will take place.

INTRODUCTION

This module assumes that, as a result of adopting CBT approaches in your teaching program, you will want to introduce some flexible teaching and learning strategies in order to take advantage of the opportunities which CBT offers.

If you intend to make changes to your teaching methodology you need a range of background information which will shape your strategy. This includes some decisions about the educational issues which CBT raises and a clear view of the learning environment in which the training will take place.

Some of this material was introduced in Module 1: Introducing competency-based training. Here is an opportunity to review some important concerns before you move on to more specific tasks.
In this module each section is structured according to the assessment criteria. It is convenient here to address each assessment criteria in one learning task, but you can use other approaches to the structuring of the learning process.

**LEARNING TASK 1.1:** Review seven key educational and learning environment issues which will influence the nature of the CBT framework which you develop

In the resource pack you will find some short papers on educational issues and learning environment issues. The former are intended to raise your awareness of what flexible, resource-based learning means in broad terms for your institution. The latter are intended to help you to begin assessing what you already have in terms of resources and what you may need for the implementation of a CBT program.

These issues are best worked through as a team activity, so that ideas and strategies can be shared.

- Now turn to the Resource Pack, read Section 1A: Background issues, and carry out the following activity.
ACTIVITY 1.1

As you work through these readings, suggest some responses to the following questions.

EDUCATIONAL ISSUES

Concepts

• Can you identify any specific advantages which a resource-based, flexible methodology could provide for your program?

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Changing roles for teaching staff

- Can you identify any difficulties which your staff might encounter in taking on the new roles which a resource-based, flexible learning strategy requires?
Changing learning practices

- Can you identify any special support programs which your learners are likely to require in order to be able to work more independently?
Learner profile and learning needs

• Who are your learners and what kind of educational background are they likely to have when they enter your program?

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LEARNING ENVIRONMENT ISSUES

Where and when learning will occur

• What kinds of flexibility could you introduce into your own program, using a resource-based approach?
Physical and educational resources

- What physical resources, in the form of essential equipment necessary for learners to perform required tasks, do you currently use?
Human resources

- Can you identify staff members who might carry out these roles?
  - the planning and development of new learning resources
  - the production of print-based materials
  - the production of non-print resources.
LEARNING TASK 1.2: Specify your competencies, standards and assessment methods

COMPETENCIES, STANDARDS AND ASSESSMENT

National metal and engineering module descriptors have already specified competencies and performance criteria for your teaching program. You may also have guidelines as to the kinds of assessment processes you will use.

Before you proceed you should ensure that you understand the relationship between the competency standards and the learning outcomes and assessment criteria for your program.

This relationship is discussed in Module 4: Competencies and Assessment.

LEARNING TASK 1.3: Identify the formal and implied prerequisite knowledge, skills and experience which learners are expected to possess in order to handle the demands of the learning program

- Now turn to the Resource Pack and read Section 1B: Determine the prerequisites for learners studying the program. You should use the Traineeship example as a basis for examining your own program.

- When you have completed the reading, use the Checklist which follows to ensure that you are familiar with the processes.

Checklists are provided in each section, to review the key processes which have been discussed. They are a useful way of revising the unit content and a guide to the processes themselves.

Checklists are usually provided to enable learners to follow through and check a process. Boxes can be included to enable them to indicate that they have completed each step of the process. You can also provide a second box for teachers to verify that learners have successfully completed the processes.
CHECKLIST

Use these headings when you are determining prerequisites for the learners who will enter your program.

1. Specify the formal prerequisites:
   - previous subjects passed
   - equivalent study levels
   - current employment in industry.

2. Specify the implied prerequisites of your course:
   - standard of learner literacy or numeracy
   - background experience in the subject field
   - specific knowledge which is assumed
   - specific interests which are assumed
     - working with people
     - interest in clerical work
     - working outdoors.

EXTENSION ACTIVITY

Most modules in metal and engineering programs will already have clearly specified formal prerequisites, offering no scope for flexibility. You can make a big contribution to the welfare of your learners, however, by identifying the implied prerequisites for the modules that you teach, because:

- detailed information about what is required of them will help learners in flexible learning programs to evaluate their own readiness to undertake study

- the more you understand about the expectations which are being placed on your learners, the more effective you’ll be in recognising their difficulties and providing strategies to assist them.

Discuss these issues with your colleagues, then work through your own program and try to develop lists of implied prerequisites for the modules you teach.
LEARNING TASK 1.4: Specify the practical constraints of your training module in terms of when and where learning will take place, and the human, physical and educational resources available

Having established the prerequisites for a learning program, we turn to those components within that program which will impose constraints on the learning strategies which you will develop.

- Now turn to the Resource Pack and read Section 1C: Identify the practical constraints of the program.
- When you have completed this reading, try the following activity.

ACTIVITY 1.4
What are your practical constraints?

The practical constraints of a teaching program are largely dictated by the assessment processes which you use. Competency-based assessment provides learners with clear and precise information on what they have to achieve and how their level of achievement will be measured. This system has the potential to be very flexible, if you are able to offer your learners a range of opportunities for gathering evidence of their achievement.

When you prescribe inflexible components for your program, such as those listed in the section which you have just read, then you reduce your flexibility. Those inflexible components must be identified so that you can see where you have the opportunity to introduce flexible teaching and learning strategies.

You should now prepare a list of the essential learning processes of your program. Look at the extent to which you can accommodate these processes within flexible learning methodology. You can classify these processes like this:
<table>
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<tr>
<th>Must be provided within course structure on-campus</th>
<th>May be learner's responsibility</th>
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<tbody>
<tr>
<td>For example:</td>
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<tr>
<td>• need to use a specific piece of equipment</td>
<td>• theory work or research activities</td>
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<tr>
<td>may be locally available only on-campus.</td>
<td>can be provided via print or other media and studied off-campus, in learner's own time.</td>
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- Using this example as a starting point, examine your own program and list what you consider to be its constraints. Look again at your processes and structure them into two columns, as shown.

<table>
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<th>Must be provided within course structure on-campus</th>
<th>May be learner's responsibility</th>
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When you have completed this exercise, you’ll be able to see clearly the elements of your program which could be delivered in a more flexible manner.

You do all that you can to provide the means by which learners can meet these requirements, and to make learners access to educational opportunity as open as possible.

CHECKLIST

- Now use the Checklist which follows to ensure that you are familiar with the processes.

Use these headings when you are identifying non-negotiable elements in your program:

1. facilities/equipment
2. access to workplace facilities
3. reference materials
4. group work
5. practical sessions/tutorials
6. practical activities
7. assessment activities—on and off-job
8. any other, relevant to your program.

LEARNING TASK 1.5: Determine where and when learning will take place

Finally, you need to make some decisions about where and when your learners are going to carry out the learning processes in your program.

Where will depend to a great extent upon the nature of the learning task. As we’ve discussed, if it involves the use of specialised equipment or a particular physical setting, then this will be a determining factor in your strategy. It may also determine when the learning activity takes place. It can be difficult to arrange for learners to work at their own pace in a workshop environment, where there are problems in allocating equipment and in supervising practical work. It can be done, but requires careful use of learning resources.
When learning tasks are carried out is also associated with the self-pacing issue. If learning tasks don't require the learner to be in a particular place at a particular time, then you may be able to allow them to work at their own pace.

- Review the learning processes which you identified for Learning Task 1.4. Now categorise each one in terms of the place and time in which it must be carried out, or could be carried out. This will be an important factor in designing a flexible learning strategy.

You should now carry out these processes on your own program.

If you have formal entry requirements to deal with, look at the whole issue again, as we have suggested.

If not, then consider the trainee profile approach, based on the traineeship example.

When you've done that, the best way to evaluate your efforts is to work through your list with colleagues who are familiar with your subject area.

Remember that you're doing this in order to get a clearer picture of what your learners are being asked to do, so that you can:

• tell them, in advance, what skills, knowledge and experience are required
• design your materials so that help is available to those who experience difficulties.

You should work through the processes using your own course curriculum document, and make a list of the constraints within your program.

The learning processes for your program should be specified and defined in terms of where and when they will be carried out, with the object of creating flexible learning strategies for your learners.

Discuss with colleagues ways in which all of these elements can best be built into a flexible learning structure.
SECTION 2: Learning guides and resources

LEARNING OUTCOME 2

On completion of this section you will be able to:

- examine the role of the learning guide in flexible, resource-based learning strategies.

Assessment criteria

You will:

2.1 consider the concept of resource-based learning

2.2 understand the distinction between resources and learning guides

2.3 examine and discuss the purpose of the learning guide.

INTRODUCTION

In order to create a flexible, resource-based training program you need to understand the elements which comprise such a program and the different ways in which they can be used to build an effective package.

LEARNING TASK 2.1: Consider the concept of resource-based learning

The most obvious learning resources are print materials, such as textbooks, manuals and handouts, and non-print materials such as slide packs, audio and video tapes. Equipment is also an educational resource if learners have to use it in order to develop skills and knowledge.

Finally, there are many people—teachers, workplace trainers, colleagues, supervisors, learning support staff—who provide learners with guidance and advice as they work through the program.
ACTIVITY 2.1

In a flexible learning program you will gather as many resources as you can and build them into a structured learning program. Resources mean the opportunity to build flexibility into your program.

- At this point you should make a list of the resources which you currently use. You’ll use this in later units.

LEARNING TASK 2.2: Understand the distinction between resources and learning guides

- Now turn to the Resource Pack and read Section 2A: Resource-based learning packages.
- When you have completed this reading, try the following activity.

ACTIVITY 2.2

If you are working on your own, you should try to obtain some examples of learning guides and resources for this activity. Your library or resource centre will be able to help you if you have any difficulties.

If you are working in a facilitated group, your facilitator should have a range of sample learning materials for you to examine.

After reading the section on learning resources, you should examine some examples of both learning guides and resources. Here are some questions for you to consider as you look at examples of learning guides.

- How is the material structured? Look at the contents page.
- Is there a ‘How to use’ section, and does it provide sufficient help for trainees?
- Are self-testing exercises included?
- What kind of final assessment activity is provided?
- Did you find an example of a strategy which you had not considered before?

Look at the way in which this learning guide provides you with guidance on how to use the resource package:

- what to read
- what to do
- how to test your understanding
- key points to remember.
LEARNING TASK 2.3: Examine and discuss the purpose of the learning guide

- Now turn to the Resource Pack and read Section 2B: The learning guide.

EXTENSION ACTIVITY

Before you move on to the next unit, you should work through the following tasks, which direct you to identify the parts of the learning guide and the purpose which they serve in the overall instructional process.

- Examine examples of learning guides and resource materials and look at the approaches which they use.
- Have these examples given you any new ideas about the kinds of materials or strategies you might use yourself?
- Look carefully at the explanation of how conventional classroom practice can be reproduced in a learning guide. You’ll need to return to this point again later.
- Try looking at some of these resources from the point of view of a learner. Do you think that they are a reasonable substitute for conventional classroom instruction? You should talk this over with your colleagues.
- Now work through the Checklist which follows to ensure that you are familiar with the processes.

Learning guides generally follow a similar format, although differences will appear, depending on the nature of the learning process being described and the individual preferences of the writers.

This list covers the common features, which you can check against the examples which you have available.

- contents list
- module information, including a ‘how to use’ section
- learning resources used in the package
- learning outcomes
- assessment criteria
- introductory explanation
- content sections, with learning activities
- self-testing exercises
- review or summary of content material
- module conclusion
- assessment activities
- further references.
SECTION 3: Identifying existing resources

LEARNING OUTCOME 3

On completion of this section you will be able to:
- identify existing resources and evaluate their suitability for your training program.

Assessment criteria

You will:
3.1 explain the purpose and value of a learning materials search
3.2 carry out a search for nominated aspects of the training content
3.3 evaluate a range of resources and identify relevant and useful material.

INTRODUCTION

This section will show you how to search for existing resources, using a variety of information sources, and how to evaluate them for use in your project. It will also help you to identify those resources which will be most appropriate for your purposes.

LEARNING TASK 3.1: Explain the purpose and value of a learning materials search

- Now turn to the Resource Pack and read Section 3A: Investigating resources.
- When you have completed the reading, try the following activity.
In the last section we asked you to list the learning materials which you currently use in your program. Have a look at them now and answer these questions.

- Do they include a suitable text for the program?
- What about audio/visual materials? Do you use any in presenting your program to trainees?
- Do you rely particularly on any of them?
- How did you find out about these resources?
- Did you contact colleagues elsewhere?
- Did you ask the staff of your library or learning resource centre for any materials which they had on your subject?
- Did you visit a bookshop, write to publishers, contact the Film and Video Library in your state or the National TAFE Video Resource Centre?

We'll look at these and other strategies in this unit.

**LEARNING TASK 3.2: Carry out a search for nominated aspects of the training content**

- Now turn to the Resource Pack and read Section 3B: Making a search.
- When you have completed the reading, work through the Checklist which follows to ensure that you are familiar with the processes.
CHECKLIST

Follow this procedure when you are investigating existing resources for your program:

1. List the topics and key words which apply to your course.

2. Check these headings in your own library or learning resource centre catalogue.

3. Contact your central TAFE library for information on projects in progress or recently completed which are listed on the VOCED Database.

6. Contact the TAFE National Video Resource Centre at Moorabbin College of TAFE for information on video resources which are available at reduced rates to educational institutions.

7. Ask your library or learning resources staff to arrange for a search of electronic databases—services such as the Australian Bibliographic Network, Australian Education Index and APAIS.

8. Contact booksellers or library supply services which are used by your library to find out if any new or more up-to-date resources are available.

LEARNING TASK 3.3: Evaluate a range of resources and identify relevant and useful material

- Now turn to the Resource Pack and read Section 3C: Evaluating resources.

- When you have completed the reading, work through the Checklist which follows to ensure that you are familiar with the processes.
Ask yourself these questions when you are evaluating a resource:

1. What learning outcomes does it cover?
2. Will it be useful to your learners?
3. Will it be easy for the learner to use?
4. Is it good value for money?
5. Is it up-to-date and accurate?
6. Is it available?
7. Do you need to apply for copyright permission?

You should now practise this exercise on your own program. You can use your selected section, or range more widely, if you wish.

First, list the key words or topics within your selection using the curriculum document and the performance criteria which you have already written. Check under these headings to find out what resources are available. On different databases you may find that slightly different terms are used, or words are reversed. For example, electrical engineering may become engineering—electrical. Usually there will be a cross reference to help you find out which terms are used.

Key words

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Resources

List here each place or service which you use and the resources which you find for your project.

The next stage is to arrange for a materials search. Your library or resource centre staff will assist you in this exercise and will produce a list of materials from which you can then select items for closer examination.
SECTION 4: Creating your own CBT strategy

LEARNING OUTCOME 4

On completion of this section you will be able to:

- select appropriate components for the delivery of the training module and determine what resources you will need to implement it.

Assessment criteria

You will:

4.1 identify the forms of media available, and relate them to the learning outcomes which have been identified

4.2 make decisions about the components of your learning strategy, including resources and the specific role of teachers in the training process.

INTRODUCTION

Once the issues in sections 1, 2 and 3 have been addressed, you will be in a position to decide upon a suitable CBT strategy to meet the needs of your own program and your institution, and to determine the kinds of resources which will be required to implement it. In order to do this you need to be aware of the forms of media which are available to you and how they can be most effectively used.

LEARNING TASK 4.1: Identify the forms of media available

- Now turn to the Resource Pack and read Section 4A: Using media in CBT programs.

- When you have completed this reading, try the following activity.
ACTIVITY 4.1

Can you suggest which of the media, listed below under 1—10, would be most appropriate to convey the essence of each of the following processes?

Are there some which would not be suitable?

Indicate one option which you would consider to be good and one not-so-good. Use the numbers 1 to 10 to indicate your choice.

1. print materials
2. audio tapes
3. tape/slide packages
4. photographs
5. professional films/videos
6. locally produced video demonstrations
7. charts/maps
8. models—static or working
9. computer-based courseware
10. telephone/videoconference links

Suggested responses to this activity are provided at the end of this learning guide.
1. **How a 4 cylinder car engine operates**  
   - Good  
   - Not-so-good  

2. **How homeless people survive in a large city**  
   - Good  
   - Not-so-good  

3. **How to manage stress**  
   - Good  
   - Not-so-good  

4. **How to fill out the Austudy application form**  
   - Good  
   - Not-so-good  

5. **Identifying the major bones of the human body**  
   - Good  
   - Not-so-good  

6. **How to perform a facial massage**  
   - Good  
   - Not-so-good  

7. **Identifying common garden pests**  
   - Good  
   - Not-so-good  

8. **Learning to use a computer**  
   - Good  
   - Not-so-good
Don't think in terms of *the wrong type of media*, just look for better and more appropriate options. You can use more than one form of media to convey a specific learning process to your learners, and you should keep in mind that not only are some forms of media particularly appropriate for conveying some learning processes, but they may also be very useful in meeting the specific needs of learners with particular learning difficulties, such as the hearing or visually impaired.

Finally, you should consider the importance of media selection in providing a variety of learning options which can cater for different learning styles.
# SELECTING YOUR RESOURCES

<table>
<thead>
<tr>
<th>Learning outcomes</th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Teaching/learning strategies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practical constraints</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What resources are required to enable learners to meet each learning outcome?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
LEARNING TASK 4.2  Make decisions about the components of your learning strategy, including resources and the specific role of teachers in the training process

You have had an opportunity to think about the types of learning activities which particular media resources can support, and you can now begin to make selections for your own project. This exercise is best carried out by a group of people, so that a range of ideas can be considered on the basis of the experience of practising teachers.

• Now turn to the Resource Pack and read Section 4B: Reviewing your decisions.

EXTENSION ACTIVITY

You can now carry out this process for your own program. A good way to approach this is to prepare a matrix which displays the learning outcomes and the three main areas of concern, as you can see on the next page. On this matrix you can enter the components which you have specified as being necessary for your learning strategy and the learning materials which already exist—those which are being used in the teaching program.

From this pictorial representation you will be able to identify the areas of need in your learning structure—those areas for which you will need to develop learning materials in order to ensure that your learners are able to achieve the assessment criteria which you have specified for your program.

Try representing your course information on this matrix. Here are some steps to follow:

• write down the learning outcomes in columns across the page

• think about the way in which you have handled the teaching of these in class, and beneath each learning outcome write down how you usually teach it

• enter the appropriate practical constraints of the program

• enter the existing resources which you will use

• now consider what learning resources you require to ensure that your learners can achieve each learning outcome through the use of your resource package.

• Use this Checklist to ensure that you follow the key processes.
Follow this procedure when you are selecting appropriate media elements for your program:

1. Review the results of your work on:
   - assessment procedures
   - practical contraints
   - existing resources.

2. Draw up a matrix to show learning outcomes, teaching/learning strategies, practical constraints and existing resources which you have identified for your program.

3. Identify the ‘gaps’—those areas for which materials will have to be developed in order that your learners will be able to achieve each learning outcome.

4. Determine the most appropriate form of media for each of the resources which you have to provide in your learning methodology.

You will want to nominate the roles which will have to be filled in order to carry out the development and production of your learning resources. The next section deals with this issue.
SECTION 5: Preparing and producing learning resources

LEARNING OUTCOME 5

On completion of this section you will be able to:

- identify the key processes involved in the preparation and production of learning resources.

You will:

5.1 review the processes involved in the development of learning materials

5.2 consider the specialist roles which may be required in this process

5.3 create a team to carry out the development of your learning package

5.4 address the educational issues involved in the preparation of learning materials

5.5 consider the key issues in the writing process.

INTRODUCTION

At this point you will have completed the investigation and planning stages of your program and should have decided what learning materials you are going to have to produce. This is an appropriate time for you to give some thought to the mechanics of the development process, because it is a central part of the overall planning of the project.

LEARNING TASK 5.1: Review the processes involved in the development of learning materials

- Now turn to the Resource Pack and Section 5A: The development and production of learning materials.

- When you have completed the reading, try the following activity.
ACTIVITY 5.1  

It's time to begin to think about the hard issues associated with making your plans happen. In order to carry out these processes, here are the main considerations which you'll need to address. Start making decisions now.

- What budget commitment do you have for the project?
- What personnel, both subject specialists and materials production specialists, will be available to the project team?
- What proportion of their working time will they spend on the project?
- What specific tasks will have to be carried out, and by whom?
- Are there any areas of expertise which you lack at the moment?
- What support facilities are available—computers, video production facilities etc?
- Is money available to 'buy' expertise or services, such as writing, typing and desktop publishing?
- When will the materials be required for use?
- Can you make everything happen within your timelines?

LEARNING TASK 5.2: Consider the specialist roles which may be required in this process

- Now read Section 5B: Roles in the learning materials development process.
- When you have completed the reading, use the Checklist which follows to ensure that you are familiar with the processes.
CHECKLIST

Follow this procedure when you are planning the learning materials production schedule:

1. Name the members of the project team.
2. Specify the time that each person has available to work on the project.
3. Allocate specific tasks, according to the list of project team roles.
4. Specify areas where extra assistance will be required.
5. Specify support facilities required.
6. Determine timelines for the development and production processes.

LEARNING TASK 5.3: Create a team to carry out the development of your learning package

EXTENSION ACTIVITY

Now it’s time for you to think about these issues in relation to your own program. Draw up a table of staff available and tasks to be done.

Remember that every job is important and every job takes time.

Then look at your timelines and ask yourselves if you are confident that you can complete the tasks allocated within the limits specified. At least you’ll start off on the right foot, if everyone involved can see clearly what is required, and when it has to be completed.
LEARNING TASK 5.4: Address the educational issues involved in the preparation of learning materials

In Section 2: Learning guides and resources, we looked at the role of learning resources in self-paced, resource-based learning strategies and examined the structure and content of a typical learning guide.

Learning tasks 5.4 and 5.5 deal with the planning and writing of learning materials. These are complex issues which can’t be dealt with adequately here. In this section we’ll review the key educational issues and writing skills which are required to produce your own learning resources. Before you launch into your own learning resource development program, however, you would be well advised to look at a training package which deals specifically with these processes, such as:


'Module 5: Prepare a learning package.' Implementing Competency-Based Training. National Centre for Vocational Education Research/National Centre for Competency-Based Training, 1992.

These resources take you through the processes of learning materials production in detail and contain useful practical advice.

- Now turn to the Resource Pack and read Section 5C: Planning your learning materials.

The key processes are summarised in the Checklist which follows.

CHECKLIST

- Define the topic
- Identify the skills/tasks
- Practise the skills/tasks
- Create a feedback loop
- Summarise the key points
- Provide assessment procedures.
LEARNING TASK 5.5: Consider the key issues in the writing process

- Now turn to the Resource Pack and read Section 5D: The writing process.

Then use the following Checklist to guide you in your own writing activity.

CHECKLIST

Consider these key questions when you are creating learning materials:

Appearance
- Is there plenty of open space on your pages?
- Have you used clear section headings to break up your material?
- Have you used icons to identify the key processes?
- Are your illustrations functional and appropriate?
- Have you developed a clear house style which can be used for all materials in your program?

Style
- Is your writing style personal and friendly?
- Have you checked to see that you have used simple words and short sentences and paragraphs, wherever possible?
- Have you structured your material into easily manageable sections?
- Will your materials be interesting and enjoyable to use?
Review

It's time to review what you've achieved in working through this module. Look again at the learning outcomes.

LEARNING OUTCOMES

On completing this module you will be able to:

- identify and analyse key areas of information which will influence the nature of the CBT strategy which you will use
- examine the role of the learning guide in flexible, resource-based learning strategies
- identify existing resources and evaluate their suitability for your training program
- select appropriate components for the delivery of your training module
- determine the resources required to implement your strategy
- identify the key processes involved in the preparation and production of learning resources.

CONCLUSION

The module will have achieved its purpose if you now feel confident that you have increased your awareness of the processes involved in the planning stages of your CBT project.

Finally, as a way of reviewing and reinforcing the material in this module, read the Code of Practice in the resource pack. This has been prepared by an English government agency for producers of open learning materials. You'll find that the processes recommended here fit very comfortably with competency-based training.

We hope that you found this material helpful and wish you success with the other modules in this staff development project.
Suggested responses to activities

ACTIVITY 4.1

Each of these activities could, of course, be presented using several different types of media—and all have been presented in text alone in the past. The following represents one possible set of answers, about which we could probably argue for a long time!

1. **How a 4 cylinder car engine operates**
   - Good: 5/8
   - Not-so-good: 4

2. **How homeless people in survive in a large city**
   - Good: 2
   - Not-so-good: 4

3. **How to manage stress**
   - Good: 10
   - Not-so-good: 5

4. **How to fill out the Austudy application form**
   - Good: 6
   - Not-so-good: 2

5. **Identifying the major bones of the human body**
   - Good: 7/8
   - Not-so-good: 2

6. **How to perform a facial massage**
   - Good: 6
   - Not-so-good: 1

7. **Identifying common garden pests**
   - Good: 4/7
   - Not-so-good: 2

8. **Learning to use a computer**
   - Good: 9
   - Not-so-good: 1


OPEN LEARNING GUIDES

This is a series of handbooks produced by the Council for Educational Technology, in London. This material is as applicable to CBT strategies as to open learning strategies.

Titles are:
1. Open learning in action
2. How to help learners
3. How to tutor and support learners
4. What is open learning?
5. How to develop and manage an open learning scheme
6. How to communicate with the learner
7. How to manage the production process
8. How to find and adapt materials and select media.