

## Appendix 2: Evaluation Instruments

*This appendix provides examples of the various types of instruments that can be used in the evaluation of learning technology and/or its implementation. The majority of these instruments are generic in their nature and could be used as they are in a variety of different evaluation exercises, a few are more subject/situation specific. **You may freely copy and/or adapt any of these instruments for use in your own evaluation exercises provided this publication is acknowledged in any publications arising from their use.** We thank the originators for permission to reprint these examples in this publication.*

*Some of these instruments are referred to in the chapters dealing with practical evaluation issues (as noted below), others are reproduced as examples of the types of instruments that may be used in evaluations.*

### **Contents of Appendix 2**

#### **A. First Step Evaluation 'Checklist'**

A comprehensive instrument to help guide a teacher through the process of reviewing a new piece of software. Provided by Jen Harvey. The use of this instrument is fully discussed in chapter 7.

#### **B. Pre & Post Intervention Questionnaire**

A two part questionnaire for establishing students' expectations and learning from using LT materials, discussed in chapter 12. Provided by Philip Crompton.

#### **C. Program Questionnaire**

A short instrument designed to elicit information from academics or students about the usability and content of a piece of LT material. Discussed in chapter 12. Provided by Philip Crompton.

#### **D. Software Usability Evaluation**

A short 'Likert scale' style questionnaire designed to elicit information from teachers or to summarise overall opinions about the usability and content of LT materials. Provided by Nora Mogeey.

#### **E. Student Confidence Log**

A proforma of a pre and post confidence log questionnaire form as discussed in chapter 12. The specific concepts or skills descriptions have been left blank. Provided by Philip Crompton.

#### **F. Observation Log**

A blank photo-copyable proforma of the type of form used to collect information in an observation based evaluation exercise. Observation based evaluation is discussed in chapter 12. Provided by Philip Crompton.

#### **G. Economics Profile Questionnaire**

This questionnaire has been used in the evaluation of the TLTP product WinEcon and provides an example of the type of questions that might be asked to elicit information to build a profile of students' past experience and attitudes towards computers, as discussed in chapter 12. Provided by Philip Crompton.

# ***First Step Evaluation 'Checklist'***

## **A Guide for reviewing a new piece of software**

Rather than considering a piece of learning technology in isolation it is important to think about the aims and objectives of a piece of software relative to its planned usage. For example, if one of the aims of a course is to encourage your students to relate different subject areas together you might feel that a piece of software does not quite fulfil your needs but the same software used in association with some paper based problems or as part of a group project might be far more effective.

This Checklist is designed to act as a guide to be used when reviewing a piece of software for the first time. Aspects of technical and systems support are not included but are also important considerations prior to the implementation of any of the learning technologies.

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### **Part 1 - some points to consider as you work through**

- ◇ **How easy is it to navigate your way through the software ? Does the package have a clear structure ?**
  
- ◇ **By what process is the user expected to learn about the subject as they work through the package ? Is this a good way of teaching this subject ?**
  
- ◇ **How do the learning strategies encouraged in this software fit into those of your existing courses and related teaching and learning materials ?**
  
- ◇ **What background knowledge or additional support would be required by your students if they were to use this package?**
  
- ◇ **Could you customise the package to suit your course requirements ?**

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## Part 2 - A step by step guide

This part of the checklist is designed to focus on different aspects of a new piece of software, as they might be encountered by a first time user. Therefore, you are asked to stop and review the package at certain points as you go through.

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### INTRODUCTION

#### Look through the introduction to the package

(this might be several screens or paper based material).

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#### First Impressions

Are you presented with :	YES	NO
an explanation as to how you might use the package.	_____	_____
a series of topics in a menu format	_____	_____
some navigational hints about finding your way through the software	_____	_____
no introduction, you are straight into the first section	_____	_____
other (please specify)		

How much information is provided relating to the academic content of the package?	YES	NO
Is there an outline of how the material is structured or to be prioritised ?	_____	_____
Are the objectives of the package clearly laid out ?	_____	_____
Is there an indication as to level of prerequisite knowledge required ?	_____	_____
Are there links made to other relevant sources of information ?	_____	_____
Can you select from different sections according to difficulty ?	_____	_____
Do you know what to expect next ?	_____	_____
Other (please specify)		

Is some background knowledge of how to use a computer necessary before using the package ?

YES NO

Do you feel encouraged to work through the package ?

YES NO

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## INTO THE FIRST SECTION

**Move on through the next few screens and into one of the sections.**

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### Level of User Control and Interaction

What level of interaction is required to move through the package i.e. are there a range of responses required or do you just press the return key?

**High interaction**

**5**

**4**

**3**

**2**

**Minimal interaction**

**1**

Can you control the rate at which you move through the package?

**YES NO**

\_\_\_\_\_

From your current screen can you (*please tick*):

- |                                                                    |                                                       |
|--------------------------------------------------------------------|-------------------------------------------------------|
| <input type="checkbox"/> exit the programme                        | <input type="checkbox"/> go back to the beginning     |
| <input type="checkbox"/> go forward a screen                       | <input type="checkbox"/> go back a screen             |
| <input type="checkbox"/> move to a main menu                       | <input type="checkbox"/> change to another section    |
| <input type="checkbox"/> save a copy of your work, so far, to file | <input type="checkbox"/> print a copy of the screen   |
| <input type="checkbox"/> modify the material to suit your needs    | <input type="checkbox"/> refer to another section and |
| <input type="checkbox"/> use a calculator                          | <input type="checkbox"/> return to the same point     |
| <input type="checkbox"/> take notes into a scrapbook/notepad       | <input type="checkbox"/> other (please specify)       |

Which of the above functions would you say was the most important ?

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### Package Design and Layout

How much information is presented on each screen at one time ?

**too much**

**5**

**4**

**3**

**2**

**1**

**too little**

**0**

How clear is the on screen presentation i.e. graphics, text etc. ?

**very clear**

**5**

**4**

**3**

**2**

**1**

**difficult to see**

**0**

If graphics are used on screen - why are they used ?

*Are they really necessary ?*

If graphics are not used on screen - would supplementary graphics be beneficial ?

**YES NO**

*If so, can you suggest some possible sources e.g. software libraries, books etc. ?*

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**MID - SECTION**

**Move forward a few screens**

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**Prioritisation and presentation of information**

How do you differentiate between the relative importance of pieces of information on a screen ?

How are key words in the text highlighted ?

Just by looking at a screen would it be possible to identify whether or not you were looking at a main, sub-menu or a help screen etc. ? **YES NO**

*Have you any comments regarding the colour, font and the type style used so far?*

How many icons appear regularly on the screens. Can you describe each of their functions?

Screen Icon	Function
1.	
2.	
3.	
4.	
5.	

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**Provision of student support**

If you require assistance, is a help facility available from your current screen? **YES NO**

*If so, how is the help facility accessed ? i.e. via a menu or icon, highlighted words etc.*

What kind of help is available ? *(tick those available)*

<input type="checkbox"/> navigational	<input type="checkbox"/> additional useful information
<input type="checkbox"/> meanings of key words/information	<input type="checkbox"/> worked examples
<input type="checkbox"/> alternative strategies	<input type="checkbox"/> reference to other material
<input type="checkbox"/> a glossary	<input type="checkbox"/> content based material
<input type="checkbox"/> other <i>(please specify)</i>	

*Which of the above help facilities do you think is the most important ?*

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## END OF FIRST SECTION

Move on to the end of this section or unit of the package

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### Matching strategies with objectives

As you worked your way through the section did you feel that :	<b>YES</b>	<b>NO</b>
the information was being related to your existing knowledge	___	___
you were being encouraged to think more about the subject area	___	___
your interest was being maintained through use of a range of strategies	___	___
the courseware was responsive to your own particular learning needs	___	___
material was structured in a way that facilitated an overall understanding	___	___
any other general comments ?		

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### Feedback support for users

Was there any feedback provided as you were working through the software? e.g. on your rate of progress, performance etc. **YES NO**

If so, in what form did this take ?

Do you think this form of feedback is useful ? **YES NO**

Would you say that you felt encouraged to obtain feedback ? **YES NO**

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### Assessment

Were you assessed while you were working through the section? **YES NO**

If so when ?

Were exact responses required in the assessment ? **YES NO**

What would you say these assessments were testing ?

___ factual recall	___ your overall understanding of the subject
___ your ability to guess	___ whether or not you had solved a problem
___ your ability to relate pieces of information together	___ your creativity
___ other	___ the attainment of the package's objectives

Can you move to the next topic without completing the assessments ? **YES NO**

Did you obtain any feedback on your assessment responses ? **YES NO**

If YES, was the feedback only related to the wrong answers ? **YES NO**

Were your errors explained ?

Was the feedback constructive ? **YES NO**

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### Moving between sections

From the end of each section can you ?

- |                                                                   |                                                           |
|-------------------------------------------------------------------|-----------------------------------------------------------|
| <input type="checkbox"/> exit the programme                       | <input type="checkbox"/> go back to the beginning         |
| <input type="checkbox"/> move to a main menu                      | <input type="checkbox"/> change to another section        |
| <input type="checkbox"/> save a copy of your work to file         | <input type="checkbox"/> print out selected information   |
| <input type="checkbox"/> take notes into a scrapbook/notepad      | <input type="checkbox"/> see the point reached in the     |
| <input type="checkbox"/> go to some form of assessment            | <input type="checkbox"/> programme and what is left to do |
| <input type="checkbox"/> go to a more/less difficult section      | <input type="checkbox"/> obtain a summary of the section  |
| <input type="checkbox"/> stop and then return to this point later | <input type="checkbox"/> other ( <i>please specify</i> )  |

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### WHEN YOU HAVE FINISHED LOOKING THROUGH

Was the information contained in the package correct in terms of factual content ? **YES** **NO**

Draw a diagram of how you perceive the structure of the package.

How long do you think the package is :

- |                                                              |                                                         |
|--------------------------------------------------------------|---------------------------------------------------------|
| <input type="checkbox"/> in terms of the number of screens ? | <input type="checkbox"/> the student time to complete ? |
|--------------------------------------------------------------|---------------------------------------------------------|

How would you envisage this package might be used ?

- |                                                              |                                                |
|--------------------------------------------------------------|------------------------------------------------|
| <input type="checkbox"/> remedial assistance                 | <input type="checkbox"/> flexible learning     |
| <input type="checkbox"/> as part of a group project          | <input type="checkbox"/> as part of a tutorial |
| <input type="checkbox"/> in a class with supporting material | <input type="checkbox"/> other                 |

Do you think the subject area benefited from the use of technology ? **YES** **NO**

Was the learning strategy reflected, appropriate to the learning objectives of the package?  
**YES** **NO**

Does the software test that its objectives have been attained? **YES** **NO**

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## IN SUMMARY

Having reviewed the package how would you rate the package in terms of :

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### Usability

excellent  
10    9    8    7    6    5    4    3    2    poor  
1

What kind of additional support would be required for a student to work through the package by themselves ?

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### Layout

excellent  
10    9    8    7    6    5    4    3    2    poor  
1

Is it possible to customise the package to suit your course requirements ?

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### Academic Content

excellent  
10    9    8    7    6    5    4    3    2    poor  
1

Could this package be used as part of one of your courses ?

If so - HOW ?

If not - WHY NOT ?

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### Attainment of Learning Objectives

excellent  
10    9    8    7    6    5    4    3    2    poor  
1

Which of the following best describes the type of approach you were encouraged to adopt as you worked through the package ?

\_\_\_ deep approach (looking to an overall understanding of the material)

\_\_\_ strategic approach (driven towards high attainment i.e. not to make mistakes)

\_\_\_ surface approach (minimal interaction, no need to understand material)

How do the learning strategies encouraged in this software fit into those of existing courses and related teaching and learning materials?

## ***Pre and Post Intervention Questionnaire***

**Date:**

**Department:**

**Lecturer:**

**Evaluator:**

**Hardware:**

**Program:**

**Student Name:**

**Time:**

### **SECTION A: Pre-Program Questions**

*Students should complete this section before using the software.*

1. What are you expecting to learn from today's session ?

2. (a) Are there any parts of this subject area which you have difficulty with ?

2. (b) How do you hope that this session will help you ?

*Do not answer any of the other questions until after you have used the software.*

SECTION B: Post-Program Questions

*Students should only complete this section after using the software.*

1. What do you feel was the most important thing that you learned today ?

2. Look back at what you wrote for the Pre-Program Questions and note down below:

(a) What you have learned and compare this with what you had hoped to learn

(b) what you did not learn that you had hoped to:

(c) was there anything that you learned that was unexpected:

## SECTION C: Software

1. To what extent do you agree with these descriptions of the computer program?

(1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly Disagree)

	<i>Please circle one</i>				
	1	2	3	4	5
Easy to use	1	2	3	4	5
Enjoyable to use	1	2	3	4	5
Provides good support for the exercise	1	2	3	4	5
Provides good advice on how to work through the material	1	2	3	4	5
Helps you learn about the subject	1	2	3	4	5
Fits well with the rest of the course material	1	2	3	4	5
Well worth the time spent on it	1	2	3	4	5
It would help me to revise the subject	1	2	3	4	5
I would use it, in my own time, again	1	2	3	4	5

*Please add any other comments you wish*

2. This program is meant to help you improve your knowledge of /skill in \_\_\_\_\_ (the subject).  
Could you please comment on any improvements you are aware of in:

(a) your general knowledge of \_\_\_\_\_ (the subject)

(b) the way in which you approach \_\_\_\_\_ (the subject)

(c) the way in which you might apply what you have learned in the future

*Thank you for your time and effort in completing this questionnaire*

# Program Questionnaire

Please tick the box [✓] for those characteristics of the program you feel are well designed, and put a cross [X] against those you feel need improving, together with a comment.

## 1. Navigation

Clear what options are available to you

[ ] \_\_\_\_\_  
\_\_\_\_\_

Easy to get where you wanted to go

[ ] \_\_\_\_\_  
\_\_\_\_\_

Easy to find out what you have completed already  
and what is still to be completed

[ ] \_\_\_\_\_  
\_\_\_\_\_

## 2. Interface

Easy to understand functions, menus, icons etc.

[ ] \_\_\_\_\_  
\_\_\_\_\_

Terms and procedure for navigation are consistent

[ ] \_\_\_\_\_  
\_\_\_\_\_

Screen easy to read, pleasing to look at

[ ] \_\_\_\_\_  
\_\_\_\_\_

## 3. Interaction

Presentation sufficiently informative

[ ] \_\_\_\_\_  
\_\_\_\_\_

Presentation interesting

[ ] \_\_\_\_\_  
\_\_\_\_\_

Content is -                      challenging

[ ] \_\_\_\_\_  
\_\_\_\_\_

                                          right level for the course

[ ] \_\_\_\_\_  
\_\_\_\_\_

Feedback provided enabled you to learn better

[ ] \_\_\_\_\_  
\_\_\_\_\_

Clear about what you had to do

[ ] \_\_\_\_\_  
\_\_\_\_\_

Clear what you have achieved

[ ] \_\_\_\_\_  
\_\_\_\_\_

## 4. General

Please add any other comments you would like to make about the computer program.

*Thank you for your time and effort in completing this questionnaire.*

## ***Software Usability Evaluation***

<b>Package:</b>	<b>Strongly agree</b>						<b>Strongly disagree</b>					
I found this package easy to use	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I would like to use this package again	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I would feel confident using this package with students	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think my students would enjoy using this package	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think my students would benefit from using this package	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think that my students would find this package easy to use	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think that the material in this package would be challenging for my students	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think that this package contains material similar to my course content	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think that this package contains material that is desirable pedagogically	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think that this package could be a useful tutorial aid	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think that this package could be a useful lecture aid	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think that this package could be used as part of students' directed study	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think that this package could be useful for students encountering difficulties with the subject	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think that this package could be a useful revision aid	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
I think that this package could easily be integrated into my course	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						
This package could be useful for more than one course	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>						

## ***Student Confidence Log***

If you have not as yet had a lecture on this course material, you might think it inappropriate to say anything at all about your understanding of the topics below before working through the program. However, completing this form will give us baseline data for describing any changes in confidence levels which may be found following the use of this program.

Please indicate by ticking [✓] in the relevant box, how confident you feel about your understanding of the concepts or development of the skills listed below.

**Date:** \_\_\_\_\_ **Department:** \_\_\_\_\_  
**Lecturer:** \_\_\_\_\_ **Evaluator:** \_\_\_\_\_  
**Hardware:** \_\_\_\_\_ **Program:** \_\_\_\_\_  
**Student Name:** \_\_\_\_\_ **Time:** \_\_\_\_\_

### **A: Pre-Program Confidence Levels**

Concepts / Skills	Very Confident	Confident	Some Confidence	Little Confidence	No Confidence

### **B: Post-Program Confidence Levels**

*Do not complete this table until after using the program.*

Concepts / Skills	Very Confident	Confident	Some Confidence	Little Confidence	No Confidence





