Staffordshire University Handbook for eLearning

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INTRODUCTION: THE PURPOSE OF THIS HANDBOOK

This handbook contains guidelines and principles that tutors should find useful in the development and preparation of eLearning. It is not a rule book. Rather, colleagues should be able to use the materials contained here appropriately. There will be some things that are inappropriate; some that are irrelevant and some that are not possible to achieve in the first instance. By using these guidelines the principles that lie behind ‘good practice’ in course design will be clear - it is these principles that colleagues, hopefully, will find important in not only applying some of the ideas found here to their course design but also in the identification of new guidelines that are more appropriate to innovative course development.

Acknowledgements:
Many of the points were drawn from the following sources

Course Design for Resource Based Learning; Stephen Cox and Graham Gibbs, Oxford 1994

Distributed Learning: Approaches, Technologies and Solutions; Lotus Institute White Paper, August 1996

Open Learning in Further and Higher Education; Roger Lewis and Richard Freeman, 1994

Tutoring in Open Learning; Roger Lewis, 1995

Planning and Implementing Assessment; Richard Freeman and Roger Lewis, 1998

The Lecturer’s Toolkit; Phil Race and Sally Brown, 1998

Most of Chapter Three was provided by Phil Russell, School of Art and Design, Staffordshire University.
1 ELEARNING

At the heart of new learning strategies one will find variations of eLearning. This has become the preferred learning strategy for many universities and colleges not only in the UK but also internationally because

- it facilitates effective learning within the context of declining resources and increased participation
- it enables tutors to structure and support their students' independent learning
- it provides an alternative to traditional teaching and learning methods which are expensive and no longer seen to be the most effective means of supporting student learning
- it provides the locus for enabling tutors to engage with ‘active learning’ and, in doing so, to address current higher education policies and recognised ‘best practice’
- it provides the means by which tutors can effectively adopt information technology to provide technologically supported learning

1.1 Types of resource

For eLearning to be effective, the tutor must be quite clear what resources students may utilise. To support student learning it is usual for resources to be drawn together in some way.

Within the context of eLearning we may distinguish between types of resources in the following way.

1.1.1 Content Resources

Within a traditional teaching model, the most obvious resources are the lecture (or more accurately - lecture notes) and the text book. One of the first ways in which one might progress in the use of eLearning is to give out all lecture note information as a handout, allowing lecture time to be used in other ways or at the very least, to allow students to give their full attention to what is being said. There can be no doubt that there is no substitute for the ‘inspirational lecture’. On the other hand, how often do students leave the lecture hall truly inspired?

1.1.2 Supporting Resources

If students continue to use textbooks a supporting resource might be the preparation of a study guide for a particular text. In a similar way, annotated reading guides and annotated award and module guides may be seen as supporting resources. Guides about using the internet and about where to find resources in the library or elsewhere similarly would enable students to engage
increasingly as independent resource-based learners. Once more, within an active learning model one of the tasks students might be asked to undertake, for example, could be the creation of annotated reading guides in relation to chosen topics. Such guides may then be used with subsequent students to improve; critically evaluate and so on. Preparing an annotated bibliography in relation to a specific topic is one way in which students may be helped in their preparation for dissertation work.

1.1.3 Resources related to specific learning activities

"How to do..." guides fall into this category including laboratory guides, seminar guides, fieldwork guides, project guides, eLearning guides and so on. The important principle to remember is that such guides enable students to work independently. Where class contact has been reduced or where student numbers have increased without an increase in staffing, such guides are vital for effective, supported learning to take place. Within an active learning model, such guides are likely to include exercises and activities for students to complete in groups or as individuals.

An important type of eLearning guides is the skills guide. From writing an essay to internet navigation, skills guides provide a vital source of support for students; can supplement their contact with tutors and can save tutor time - particularly where they contain exercises and work for the student to complete either individually or in groups.
1.1.4 Media Objects

The rapid development of digital technology means that most tutors will be able to incorporate elements of media objects within their resources. Digital cameras, scanners and new standards of digital audio reproduction can now all be easily utilised within virtual learning environments to capture the advantages of multimedia - offering variety and interest to the learner, without the expense of complete multimedia production. In particular, media objects can be readily found on the internet. Such web objects are not only something to point students to; within an active learning model, students might be expected to find them and capture them to bring back to their studies and include in their work.

1.2 Types of Course Design

It is very important that time is spent planning the design of awards and modules for eLearning. Course designers often find it useful to start with the learning outcomes of a module or an award and work backwards to identify the learning content, learning activities and assessments necessary to achieve the stated learning outcomes. Design often follows closely from the type of resource which is used.
There are several elements to consider in the design of courses in VLEs. In addition to the identification of learning outcomes and programme specification, special consideration needs to be given to the nature and types of resource students will use; authoring; access to resources; ‘good practice’ in tutoring; and evaluation. It is vitally important that they are all considered since the quality of students’ learning experiences will depend on the quality of the ‘front end’ planning.

2.1 Stages in Course Design

2.1.1 Identifying the aims of using eLearning

Has the student population for this programme been identified?

Do you know the numbers?

Do you know the likely user profile - age, gender, full or part-time, previous learning experiences, time they will have to study and access to resources?

What is the rationale for the programme being delivered in this way?

Are the award aims clear and are the module learning outcomes consistent with these aims? Are the learning outcomes achievable?

2.1.2 Identifying the resource needs and availability

You will need to know what staffing needs and availability are associated with the programme. You will need to know their level of expertise in authoring/tutoring within VLEs, which might mean a need for training and/or mentoring. The different roles and responsibilities of staff within a tutoring team will need to be clarified.

Staff will need to be inducted into working in these environments.

You will need to identify what resources are already available and ascertain that they will continue to be available.

You will need to identify whether the tutor team are appropriately equipped and that students have access to appropriate equipment. Guidance for students on how they can access resources will need to be made explicit as will the action they should take if, for some reason, access becomes difficult.

Students will need to be inducted into working in the VLE.

2.1.3 Planning
Preparing, delivering and evaluating eLearning require careful planning. Having identified available staff and resources one has to plan both the generation of new resources; the appropriate learning activities; the authoring of new content with the attendant publication issues comprising meeting deadlines; proofing; copyright clearance and so on; the appropriate learning assessment; and the evaluation of the programme. Inter alia, you will have to liaise with other colleagues both within and outside your School. In addition to the obvious need to include a quality assurance process within your planning you will need to liaise with Planning Services in relation to student registration. You may need to liaise with Central Room Booking. Rather than requiring a classroom for two hours per week for twelve weeks you may need a classroom for a whole day for four half-day workshops.

2.1.4 Designing Learning Materials

According to Roger Lewis and Richard Freeman the following is a list of possible features you might need in the learning materials you develop:

- Clear statement of objectives [learning outcomes]
- Self-assessment questions with answers
- Activities with feedback
- Projects
- Assignments, for assessment, with notes for assessors
- Spacious layout
- Clear, straightforward vocabulary and syntax
- Informal style
- Examples
- Checklists
- Job aids
- Introductory and summary sections
- Information on likely study time
- Information on further reading
- Illustrations, photographs, cartoons, diagrams etc.
- Attractive presentation
- Clear specification of tutor support

In relation to learning activities it is important to be clear why the student is being asked to do something and whether the activity format is the most appropriate.

For example, activities in relation to learning outcomes should be observable; not internal mental processes. To appreciate, understand or know are not activities that can be observed. Alternatives might be:

- explain

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6 Open Learning in Further and Higher Education, 1994
• compare
• interpret
• identify
• criticise
• recognise
• solve
• translate
• discuss
• distinguish
• justify
• prepare
• produce

2.1.5 Transposing materials

Don't just make traditional material available electronically. It is of very limited value puffing straight lecture notes onto an Intranet or even on the Internet. Such materials rarely lend themselves to being seen on monitor screens, where only a small part of the whole may be visible at a time. If the only way for students to handle the materials is to print them off, then learn from them in traditional ways, it is worth thinking twice before making the material available electronically.

2.1.6 Information Quantity

There has been an explosion in the amount information available electronically to students. The quantity of information that students can be exposed to in a session is vastly more than that which may have be covered by a tutor in a lecture.

2.1.7 Developing a Critical Perspective

With traditional learning materials there will have been a critical process before they reach the student. With electronic information there may not have been any peer review and the quality of the presentation may belie the validity of the content. It is important that students develop critical skills as soon as possible to evaluate the quality of the information they capture.
2.1.8 Build in plenty of activity

Students will soon become bored if all they are doing is pointing and clicking. In addition to the usual activities of researching and reading, learning will be more effective, and enjoyable, if it is related to the completion of tasks, tests and quizzes; problem-solving; discussions etc. as well as having the opportunity to reflect upon what they have learned - use the media to enable interaction.

2.1.9 Existing resources

Look at what is already available both within and without the University. Developing learning resources for whatever medium is time consuming.

2.1.10 Using electronic communication effectively

Obviously, students need to know how to access their electronic programmes of work, including how to log on use the applications. They may also need guidance about effective electronic communication including keeping messages clear and concise. From the tutor’s point of view, using electronic media effectively is also important according to the circumstances of the programme. With a large class of several hundred students, for example, it is inappropriate and ineffective to try to communicate with each student individually. Giving general feedback; having a ‘frequently asked questions’ section, using course room functions to select teams and ‘pyramiding’ are some of the techniques that should be deployed to get the best out of the facilities. There is certainly a different dynamic to electronic conferencing. Users are able to spend more time studying their incoming messages and more time considering their replies, for example. Similarly, diffident students are likely to be more forthcoming in electronic discussions. All students should be made aware of good conduct in electronic environments.

2.2 Assessment

As with all learning, assessment plays a vital part of any structured learning activities within the context of eLearning. There is a considerable literature on preparing assessment strategies and tasks. For the development of assessment strategies and tasks for eLearning the following principles are useful.

- The assessment strategy should cover the range of learning outcomes and be clear about
  - Who will assess?
  - When they will assess?
  - Why they will assess?
  - What they will assess?
  - How they will assess?
• Assignment instructions should be clear, unambiguous and appropriate for the standard of learning required and the particular learning outcome to be tested - constructive questions are better for testing 'deep learning' than objective questions.

Award assessment strategies should include a variety of tasks

The criteria for good practice including content, structure, style and presentation should be stated

2.3 Sequencing

Preparing eLearning programmes entails disaggregating the programme into smaller units (sometimes known as ‘chunking’). In turn, these units may be broken down further into small units and so on. This means that the programme becomes a series of ‘teaching points’ or ‘learning opportunities/activities’ which have to be sequenced. There are a number of important considerations;

• Have you included all the points/activities necessary to cover adequately the subject content and learning outcomes?
• Can you justify the starting point, finishing point and the sequence of points/activities in between?
• Are there any sections of work that could be broken into smaller points/activities?
• Is there adequate guidance given to learners in how to ‘navigate’ the programme - what sometimes is called a ‘road map’ for the programme, including any possible different routes?
• Is it clear how each point/activity is related to those immediately before and after?
• Are there any ‘missing links’?
• Do all the links work?
• Are the respective media for each of the points appropriate and do they work?
• Are there teaching points/learning activities, where necessary, to introduce new sections or sum up sections?
• Is the use of a hierarchy of headings consistent?
• Are there mechanisms for allowing the learner to easily move backwards and forwards in the programme without losing their place - can they find their way around the programme of activities without getting lost?
3 DESIGN GUIDELINES AND STANDARDS

3.1 Human Computer Interaction Principles

3.1.1 Clarity/Explicitness

The design of what a user sees or hears should be structured to reduce complexity and the burden on the learner's memory processes. The material that is presented should be clear, well organised, unambiguous and relevant to the learner's task. Information and operations should be presented in a simple economic manner in the minimum number of steps to save the learner work.

The structure of the training materials, the way the interface works, and the present state of the learning system should be made explicitly clear to the user. By having the information on what can be done and the current state of the system users can plan what to do next.

3.1.2 Consistency

This is the similarity of pattern (how things are displayed, sound, ways of manipulating objects and how things respond) which may be perceived in a task, presentation of information, instructions, procedural steps and widgets. Reoccurring patterns that become familiar help the learner to form mental models of the task environment. This enables expectation, prediction and the development of automated (subconscious) responses. Consistency reduces the human learning load, increases recognition and makes instructional products easier to use.

3.1.3 Compatibility

This is the 'goodness of fit' between the way in which information is presented, how various widgets respond when manipulated or activated and the learner's, expectations, experience and knowledge of similar computer-based instructional environments and conventions.

3.1.4 Feedback

The interface should always suggest to the learner what actions are possible by giving clear, observable informative feedback on where they are in the learning material, what actions they have taken, whether these actions have been successful and suggest what actions can be taken next. Feedback about the state of the system in response to learner's actions might help them adapt or modify their understanding of the task.

3.1.5 Adaptability
The interface should meet the needs and requirements of learners when carrying out tasks. It should adapt to the learner's characteristics, skill level, and speed of work and not enforce continuous attention. Adaptability must not be over done as it could reduce consistency.

3.1.6 User control

The interface should be sufficiently flexible in structure, in the way information is presented and in terms of what the user can do, to balance both the needs and requirements of all users against the pedagogical structure of the learning materials. Where possible allow learners to feel that they have control. Users should be able to backtrack at will (ie 'undo' commands).

3.1.7 Error prevention

The content (instructional material) and the interface should be designed to minimise the possibility of learner error. The content should be explicit and avoid ambiguity in instructions and procedures. The system should have in-built facilities for detecting and handling errors which do occur. When possible learners should be able to check their inputs and to correct errors or potential error situations before the input is processed.

3.2 Guidelines for Text

3.2.1 Text is usually easier to read if a font size of 12 or 14 point is used.

Smaller character sized text is likely to be more readable than large characters because the dwell time on words increases the larger the character size (above 14 point).

The more common use of higher definition monitors (ie 800 x 600 pixels and above) means that smaller texts sizes such as 10 point are now more comfortable to read.

However, unless special provision is made for learners with visual impairments (ie a specific version for such learners or the ability to change the size of text) then for ease of reading for the greatest number of learners use a minimum font size of 12 point.

3.2.2 Input fields are easier to type into the closer the bottom of the screen.

Most learners are not typists and have to continually view the keyboard to identify which key to press and the screen to check for typing errors. Input fields that are close to the keyboard (at the bottom of the screen) require less distance for eye movement between keyboard and the input field.
3.2.3 Text is easier to read if a plain font style with a good ‘x’ height is used.

Care has to be taken because different fonts at the same point size appear to be smaller or bolder than others. The ‘x’ height is the height of a lowercase ‘x’ in a font style. The following 12 pt. fonts show the difference in ‘x’ heights.

Garamond Helvetica Courier Times Tahoma

Due to the definition of visual display units plain san serif fonts (eg Geneva, Helvetica and Arial) are easier to read on screen than serif fonts (eg Times, New York, Palatino).

3.2.4 Very short and long lines of text can create difficulties for readers.

Learners dislike both very short and very long line lengths. Readability is aided by keeping the length of a line of text to between 40 to 60 characters and space between words counts as one character. (This is approximately. 8 -10 words). The break in the line length should be made at a syntactic point.

3.2.5 Conventional use of character case aids readability.

The readability of text is greatly improved when upper and lower case characters are used as opposed to just upper case. The visual pattern of words is more easily recognised.

THE READABILITY OF TEXT IS GREATLY IMPROVED WHEN UPPER AND LOWER CASE CHARACTERS ARE USED AS OPPOSED TO JUST UPPER CASE. THE VISUAL PATTERN OF WORDS IS MORE EASILY RECOGNISED.

3.2.6 A series of instructions should be listed in the temporal order in which they are to be performed.

Each instructional statement in a sequence of instructions should be displayed in the temporal order in which it is to be performed. Each instructional statement should only demand one single action from the learner, eg:

Move the mouse to the menu ‘File’.
Open the menu ‘File’
Choose ‘Save’

Rather than:

Move the mouse pointer to the menu ‘File’, open it and choose ‘Save’

3.2.7 Avoid jargon and unnecessary difficult words.
As a general rule it is best to avoid the use of any word or jargon term that the learner is unlikely to know.

Technical terms that are necessary for the learner to know should be explained immediately or contained in a glossary the learner can easily and immediately access.

3.2.8 Separate secondary information.

If there are too many ideas, anecdotal, digressive and/or too much explanatory information then the learner may lose the point of what is being communicated. Separate information that is not crucial to the learner completing the task at hand.

For instructions separate explanatory information that explains what or why something is going to be or has been done from information that directs the learner to do something eg:

Sometimes accidents happen and unsaved files are lost. To avoid losing what has been created in this file so far we are now going to save it. To do this:

Move the mouse to the menu ‘File’.
Open the menu ‘File’
Choose ‘Save’
etc.

3.2.9 Concise simple sentence structure and a single blank line between paragraphs aid readability.

The learner should easily identify the points that are being communicated. Therefore, text should be concise, displayed in a simple sentence structure and in meaningful units (a single concept at a time). Long sentences with multiple clauses may confuse or distract the learner from the main point being communicated. Consider breaking long sentences into two or more shorter statements.

The computer screen is not ideal for reading large blocks of text. Text is easier to read if it is chunked into meaningful units and separated by a single blank line.

3.2.10 Shorter sentences

One of the ways to make material more readable is to use shorter sentences. Sadly, most of us have been trained to use long sentences. We have a set of expectations that academic writing necessitates long and complex syntax. It may be expected, as academics, that we have a subject, an object and a verb in each sentence that we write, and that we use conditional clauses, adverbial
clauses, adjectival clauses and appropriate punctuation marks to string all these together in a way that is impressive to whoever might read our work: in fact we were trained to write in an elitist kind of way, gradually narrowing the range of people who could understand our writing. As this deliberately long sentence demonstrates, it can also be tedious to read!

One of the ways of getting sentence length down is to try to get rid of most of the commas. They can be replaced in a number of ways, including:

- Miss them out when the meaning will be just as clear without them.
- Replace some of them with full stops. Then start a new sentence.
- In sentences which have a series of commas, replace them with a list set out as here.
- Replace some of them with dashes - like this - creating separate bits of the sentence. Dashed bits may count as separate sentences as far as the eye (and Fog Index) is concerned. We tend mentally to process such bits separately.

A good rule for sentence length is that a sentence should communicate a single idea.

If sentences are too short, they could make for jerky reading. But that doesn’t necessarily mean they would be found patronising as short sentences are often used to convey complex ideas.

It’s best to think back to your target groups of learners. They may not be as skilled with advanced language as most authors. Maybe some learners will be studying in English as their second language.

The important point is that academic writing often celebrates erudition; writing to facilitate student learning requires that language is simple and straightforward.

### 3.2.11 Measure your Fog Index

**What is a Fog Index?**

A Fog Index is a measure of how easy, or how difficult, it is to read textual material. It should, however, not be taken too seriously: it’s a blunt instrument!

To measure your Fog Index you need to do seven things, step-by-step, with a sample of your own writing. Try doing the same thing with a sample of somebody else’s writing as well, as a comparison.
Step 1  Bracket off a sample of exactly 100 words.

Step 2  Count the number of sentences in your sample of 100 words. Round up or down to the nearest whole number. Call this number S.

Step 3  Divide 100 by S to get the average sentence length. Call this A.

Step 4  Count the number of words (in the 100) with three or more syllables. If the same word occurs more than once, count it each time. Call this number L.

Step 5  Add A to L.

Step 6  Multiply by 4 and divide by 10.

Step 7  Add 5.

The number you end up with is called the Fog Index of the piece of text you analysed. It is sometimes referred to as the reading age for which the text is suitable.

If you prefer mathematical formulae, you could use:

\[ F = 5 + 0.4 \times (A + L) \]

where F is the Fog Index, A is the average sentence length and L is the number of long words (three or more syllables).

What does your fog index imply?

If it is 20 or less, the material is probably going to be fairly easy to read and understand, at least in linguistic terms. Sentences are reasonably short; there aren’t too many very long words, and so on.

If it is 25 or more, the material is likely to be quite difficult to read and understand. Most people may have to read some sentences more than once, or may not draw the intended meaning from sentences.

If it is 30 or more, perhaps you should be writing a textbook. But don’t worry: people at writing workshops have scored over 40. They were still able to bring their scores down by writing shorter sentences and using fewer unnecessary long words.

An alternative index can be calculated in the following way

- Take a sample of 100 words
• Work out the average sentence length in words
• Count the number of long words, defined as those with three or more syllables

Reading age = \( \frac{\text{Average sentence length} + \text{number of long words}}{5} \times 2 \)

• The resulting figure is the American reading grade needed to follow the text. Add five to this figure to give the UK reading age.

Of course, higher education requires that learners engage with complex language and each subject or field of study will have its own technical and conceptual language. It is important, therefore, to test several samples as well as include a glossary of terms before considering the simplification of any text.

3.2.12 Use a list format for related items and procedural instructions

Listing and bullet pointing related items (words, statements and procedural instructions etc.) facilitates rapid and accurate scanning.

3.2.13 Scrolling text presents problems for novice and inexperienced learners.

While experienced learners do cope, novice and inexperienced learners find it difficult to keep track of scrolling text. Therefore, if all learners are to be considered then it is advisable to use paging rather than scrolling as the main presentation method.

3.2.14 Detail is best presented in text instruction.

Although illustrations do enhance learning, detailed instruction is best presented via text. Text allows the learner time to check instructions, scan detail and read procedures in a sequential manner.

Text is useful for instructions, procedures and giving abstract information. However, instruction that conveys certain types of messages such as spatial and event-context information are better recalled from presentations that include voice annotation, moving and still images.

As learners are unable to read text and view a moving image concurrently, a bullet pointed list of the key points in a dynamic presentation can aid encoding and recall of information.

3.2.15 Instructions that start with the active voice of verbs are easier to read and understand.

The active voice of verbs is easier to read and understand.
It almost always uses fewer words and tends to leave no unanswered questions eg:

Type the customer's name.
Compared to:
The customer's name should be typed

3.3 Guidelines: Colour

3.3.1 Maximise the contrast between the text and the background.

Contrast is an important characteristic of image recognition. The learner will perceive contrast before registering colour. Therefore, the choice of colours should aim to maximise the contrast between text and background. When foreground-background fields compete for the viewer’s attention then confusion can arise.

Grey and blue are ideal colours for backgrounds although because of this they have been somewhat over done. White backgrounds can be too stark for prolonged viewing however, an off-white can still appear to be white but the glare to some extent is reduced.

3.3.2 Colour can be used to direct attention.

Systematic use of saturated colour combined with brightness can be used to direct attention and enhance the likelihood of increased retention and recall of important information.

On a dark background red, yellow and white are the most effective colours for directing attention.

3.3.3 Numbers of colours can influence comprehension and retention of information.

There is strong evidence to suggest that colour should be used very conservatively. Most authors suggest between 3 to 5 colours is more than adequate. Up to 9 colours will have little detrimental effect. Above 9 colours might mean that learners will not process all the information that is presented.

Colour in very dense or badly organised displays can add to the visual clutter. When too many foreground or background fields compete for the viewer’s attention then confusion can arise.

3.3.4 Avoid using hot, vibrant colours for normal text displays.

These colours tend to shimmy or jump when viewed.
3.3.5 **Excessive refocusing of the eye can lead to eye fatigue.**

Longer light wavelengths (ie red) are focused further back in the eye than shorter wavelengths (ie blue). This results in short wavelengths being out of focus when viewing long wavelengths. If objects (ie text) in close proximity are a mixture of both short and long wavelengths (red and blue) then the eye has to keep refocusing to try and get a sharp image. Excessive refocusing can lead to eye fatigue.

De-saturated colours will require less refocusing than pure colours.

Three dimensional effects can be seen when blue and red objects are placed in close proximity to each other because of the different focal depths. The red object will appear more distant than the blue.

3.3.6 **Reds and greens should be used with care.**

The eye is most sensitive to reds and greens in the central field of vision. (blue, yellow, black and white in the periphery)

The use of reds and greens can cause problems for learners with colour impairment. Approximately 9% of the male and 3% of the female population have some degree of colour impairment; the most common is a difficulty to distinguish between red and green.

Coding systems therefore should not just rely on colour but employ shape for instance (eg icons or alphanumeric).

3.3.7 **Saturated blue should be used with care.**

Saturated blue is a good colour for backgrounds or large objects but not for text, fine lines or small objects. A sharp blue image is impossible to obtain. This is because short wavelengths are focused in front of the retina and not on it. In the eye’s retina, cones sensitive to blue frequency light waves are the least numerous and the central focusing area (fovea) contains very few of these cones.

Saturated blue has been shown to be detrimental to reading speeds and comprehension; however, it has also been shown to be preferred by users.

De-saturated blues (light or dark) or green-blues can be used.

3.3.8 **Be consistent in the functional use of colour.**

Colour is a powerful means of highlighting and grouping information. However, in order that learners can understand the specific function of colour in the
learning materials it must be explained and then used consistently (eg colour coding).

If specific colours are used as a coding device then using those colours for other purposes will confuse the learner.

3.3.9 Illustrations should serve a distinct function in learning materials.

All non-verbal information (eg diagrams, graphs, pictures, graphical symbols, digitized video and animations) should be clearly presented as close as possible to the language information element.

Placing illustrations closely to related information that is to be learned will assist the learning. However, illustrations that are not relevant or are just embellishments will not enhance learning in an instructional situation. Irrelevant embellishments add clutter and can distract attention from important information.

3.3.10 Communication of related information needs to be holistically organized.

Organized material is perceived, comprehended, retained and retrieved more effectively than comparable but unorganized material.

Visual elements placed close to one another are perceived as belonging to one another. The adjustment of space between visual elements can be used to separate or combine visual elements.

If voice annotation (narration) is related to specific items on screen then those items need to be highlight, grouped or made distinct in some manner.

There are a number of ways of visually organizing information in addition to spatial position (eg colour, intensity, texture and shading).

3.3.11 Icons need labels to be meaningful.

Icons with name or function labels are more meaningful than either word or picture icons on their own. Icons suffer from individual differences in interpretation. It is therefore advisable to have some clarifying text associated with the icon. A simple rollover function can temporarily display a labels or explanatory field to disclose its function.

3.3.12 Dynamic media can be more effective than text or static images for showing relationships in time and space.

For showing relationships in time or space consider dynamic media rather than text descriptions. The prominent features of digitized video and animation can serve as special stimuli to guide and direct the learner's attention to specific tasks or presentations.
The use of movement is a highly effective means of alerting peripheral vision and directing a learner's attention. However, the learner will need to know why their attention has been directed to a particular position or task on screen and what is expected of them.

Dynamic media are necessary to effectively represent or illustrate structural, functional or procedural relationships among components in a specific domain which includes movement and action that might be hard to describe.

3.3.13 Dynamic media can attract attention to or distract attention from important information.

Dynamic media (e.g., digital video and animation) tends to dominate by attracting attention from static media (e.g., pictures and text).

Peripheral vision is excellent at identifying changes in the visual field especially movement. It is therefore important not to change or show new information until you want the learner to look directly at it.

Most of the information on screen is in the learner's peripheral vision. At any one time the actual area that is in focus can be contained within about 1.5 inches. Therefore if it is important that learners view information in a particular order then the design of the screen must draw the learner's attention to that information first. This can be achieved by highlighting and low lighting areas.

Where the learner focuses their attention on screen depends on the attentional strategies and the visual metaphor employed. If the screen looks like a page of a book then the learner will view the screen as if it were a book. However, multimedia environments are more akin to film media where strategies direct attention towards the important events and action.

3.3.14 Multiple media systems are more effective than single media systems.

Multiple media (e.g., text, voice annotation plus image) are more effective than just verbal language or image on its own. However, when the source of the information is coded in the same mechanism it is not so effective. Text and voice annotation employ linguistic coding mechanisms; pictures and animations employ pictorial coding mechanisms. Learners cannot attend to still image and animation concurrently. Without practice they will also have difficulty in reading while attending to an audio commentary.

Presenting the same core communication via two modalities reinforces the message and provides alternative views on the same subject matter. This adds redundancy to the presentation which can enhance learning in instructional situations.
3.3.15 **Control and image complexity.**

If the pace of instruction is not controlled by the learner then the most effective visuals contain relatively small amounts of visual detail. Learners do not retain detail from dynamic media, only the gist.

Avoid presenting large amounts of information on non-persistent media (e.g., video, animation, and voice annotation) as most learners have limited ability to retain information in working memory. This is a simple consequence of working memory and our ability to process only small quantities of information at once. Keep the message short. If the learner has to extract complex messages from dynamic media then the pace of the presentation might over-run their ability to comprehend and retain the message.

It is advisable that learners are able to control dynamic media and that the animation or video is kept short (max 20-30 seconds or chunk long sequences into small sequences).

Because of the richness of dynamic media it is necessary to draw attention (voice annotation and highlighting or graphical symbols such as arrows) to important events as they happen otherwise those events might be missed.

Learners should be able to stop and replay dynamic media sequences at any point in the presentation.

3.3.16 **Visual dynamic media needs voice annotation.**

The student’s attention on to-be-learned features in dynamic media presentations is mainly guided through verbal explanation. The visual displays particularly dynamic features should be presented with sufficient verbal explanation. Otherwise, no explanation could result in the desired connections not being processed or processed incompletely.

3.3.17 **Co-ordination of the message.**

Co-ordination of the message between different media requires care. The presentation of two different messages concurrently is a bad idea. The message on one medium (e.g., voice annotation) should be congruent with the other (e.g., animation or video). Even the slightest difference in unsynchronized media is noticed. An example would be where English dubbing of a French film results in speech which no longer matching the speakers’ lip movements.

3.3.18 **Unnecessary information and missing information adds unnecessary complexity.**

The design of the screen must take into consideration the learner’s ability to perceive and understand visual information. Avoid the inclusion of information on the basis that it might be of interest. If the information is not directly relevant
to the task in hand then it becomes a distracting element. Complex visual materials will need verbal explanation (e.g., text labels, text explanation or voice annotation). If the visual materials are too complex and no explanation is presented, the learner will most likely ignore it.

3.4 Guidelines: Screen and Windows

3.4.1 Tiled windows are more effective for novice users.

For novice or inexperienced learners, tiled windows should be employed for single task activities. Tasks requiring little window manipulation can be carried out faster using tiled windows and performance is better regardless of the task.

A computer screen's display should be considered as a single object or group of related objects. Reduce the burden on learners' working memory by concurrent presentation. Having all the necessary information visible in tiled windows enables rapid scanning, otherwise the learner has to keep swapping between overlapping windows.

3.4.2 Avoid hiding needed information.

If overlapping windows are displayed, then position them so that they are completely visible and adjacent to any relevant information on the underlying screen or window it may relate to. Avoid positioning a window so that it covers much needed information or navigation controls on the underlying screen or window.

3.4.3 Limit the number of over-lapping windows to 1 or 2.

Even 1 or 2 overlapping windows will increase the likelihood that much needed information will be masked from view.

If the functional need for overlapping windows is unavoidable, then limit the requirement for those windows to be open at the same time to a minimum.

3.4.4 Well structured information aims memorization.

Effective learning environments require information to be structured (chunked). Frequently used information should be prominently positioned within a central area of the display. Secondary information relegated to the peripheral area of the screen. Overcrowding adds to complexity, unnecessary loading of the learner's cognitive process which can cause errors and might result in eye fatigue.
4 TUTORING AND SUPPORTING STUDENTS IN ELEARNING AND ELEARNING ENVIRONMENTS

There are a number of important principles in relation to tutoring eLearning. Within this context the role of the tutor is to enable learners to work with the learning materials and resources. Roger Lewis suggests the following functions of learning materials and resources

4.1 The Functions of Learning Materials

- Arouse interest and motivation
- Explain learning outcomes and assessment methods
- Provide course content
- Give opportunities to check understanding
- Give opportunities to apply learning
- Provide feedback on the student’s performance
- Explain difficult ideas or processes
- Steer learners around the content
- Provide extension ideas
- Build confidence
- Develop learning skills
- ...other subject/award/module related purposes

4.2 Understanding materials from a student’s point of view

An important characteristic of eLearning, in particular, is that learning should be interactive and should facilitate collaborative learning. eLearning is student-centred and course designers need to consider materials and activities continually from a student’s perspective.

4.3 Familiarity with the materials and activities

The tutor works with the learning materials and resources to enable learning. It is vitally important, therefore, that the tutor is fully acquainted with these.

4.4 Personal Contact

Within these learning environments tutors and students may be separated geographically and interaction maybe asynchronous. It is important, therefore, that person-to-person contact is established as soon as possible.

4.5 Using materials in a non-linear way

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7 Tutoring in Open Learning, Roger Lewis, 1995

© Learning Development & Innovation, Information Services, Staffordshire University
One of the advantages of eLearning is to refer back to materials, discussions and resources to remind students of points they might have missed or not fully understood or applied.

4.6 The Student's Learning Needs

According to Lewis, the learner is likely to have the following learning needs and tutors need to be able to identify the ways in which they can help satisfy them:

- How will I be assessed?
- Why should I learn this?
- How should I use the materials?
- What does this content mean?
- What is required of me in assignments?
- What further reading and work should I tackle, and how should it be approached?
- What feedback can I get, and how can I use it?
- What new learning skills do I need and how can I acquire them?
- How do I use the equipment and resources?

4.7 Conduct

Guidance should be given in relation to what is expected of students and what students can expect from tutors. It is useful to make explicit statements in relation to the conduct of both tutors and students in relation to:

- punctuality
- absence
- how and when to make contact/communicate
- what to do if things go wrong
- return of work
- feedback and evaluation
- responsibilities of tutors to provide resources
- responsibilities of students to undertake the work given
- academic guidance and counselling
- personal tutor support
- standards in relation to the presentation of work
- estimates of how much time should be spent on activities
- availability of tutors and how much time a student might expect to see them
- standards in relation to electronic communication such as response time to email messages; conduct in relation to responding to electronic conferencing/course room discussions; ‘netiquette’
- student conduct in group work/learning support teams
- general University guidelines and standards
5 COMMUNICATING WITH STUDENTS AND LEARNING FROM FEEDBACK

5.1 Commenting on Students’ Work

Giving students feedback on their assignments is a key skill for all tutors. Good feedback helps students recognise their strengths and develop their abilities. Feedback needs to be:

- constructive;
- timely;
- at the right level of detail

Feedback can be given using a variety of media and each has its own advantages and disadvantages. It is important in eLearning that learners receive feedback on their work as soon as possible and as often as possible.

5.2 Giving Good Feedback

Good feedback:

- comes at the right time, soon after the event;
- gives an overview before the detail;
- is sufficiently detailed (too little is unhelpful, too much is unmanageable);
- can be assimilated within the particular feedback session;
- involves the learner in making judgements;
- praises strong points;
- draws attention to areas where performance could be improved, and how this might be achieved;
- gives the learner tips on what to do next;
- is clearly explained and well-communicated;
- makes the learner feel positive;
- gives the learner the chance to ask questions, raise issues, and get answers/responses;
- tries another approach if previous feedback was ineffective.

5.3 Getting good feedback from students

There are many occasions where tutors spend a great deal of their time commenting on students’ work only to be disappointed that the students’ produce later work which shows no improvement. One of the ways in which this might be prevented in eLearning is to elicit feedback from students in relation to the tutors’ comments. Below is an example of a pro forma to achieve this goal.
<table>
<thead>
<tr>
<th>Feedback on Marked Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could you read my comments? .......................................................All/Some/None</td>
</tr>
<tr>
<td>Comment</td>
</tr>
<tr>
<td>Did you feel the grade was fair? ........................................................Yes/Partly/No</td>
</tr>
<tr>
<td>Comment</td>
</tr>
<tr>
<td>Was the basis for the grade explained?.............................................Yes/Partly/No</td>
</tr>
<tr>
<td>Comment</td>
</tr>
<tr>
<td>Did I draw attention to the strengths of your assignment? .................Yes/Partly/No</td>
</tr>
<tr>
<td>Comment</td>
</tr>
<tr>
<td>Did I explain the ways in which you could improve? ..........................Yes/Partly/No</td>
</tr>
<tr>
<td>Comment</td>
</tr>
<tr>
<td>Were the comments on your assignment:..........Too many?/About right?/Too few?</td>
</tr>
<tr>
<td>Comment</td>
</tr>
<tr>
<td>Could you understand the comments I made? .................................All/Some/None</td>
</tr>
<tr>
<td>Comment</td>
</tr>
<tr>
<td>Did I answer any questions you asked? ..................All/Some/None/Not applicable</td>
</tr>
<tr>
<td>Comment</td>
</tr>
<tr>
<td>What did you learn from answering this assignment?</td>
</tr>
</tbody>
</table>
5.4 Contacting Students

Completion of assignments often becomes the main focus of contact between tutors and students and in VLEs so it is important that both tutors and students know how to communicate effectively using the variety of media available.

5.5 Supporting Student Self-help Groups

Self-help group is the term used to describe groups organised and run by students themselves, to support one another on their courses. They are sometimes known as 'learning teams' or 'learning cells'. Such groups are potentially of great value, though they are often difficult to establish. They are crucial to supporting collaborative learning, especially with large groups. Self-help groups are usually module specific.

Benefits of self-help groups

- Support for students in addition to that given by the tutor
- Group solidarity and encouragement
- Development of independent learning skills and the skills needed to succeed in using open learning
- A spur to meeting assignment dates and other deadlines
- A boost to morale as exams approach
- Sharing of resources

Potential difficulties facing self-help groups

- Students tend to undervalue the contributions they can make both to their own learning and to that of their peers. They feel the tutor has to be present to cause and validate learning.
- Students may drift off the point, waste time, follow unproductive lines of enquiry.
- Interpersonal difficulties between the students may arise, which no one has the authority or skill to sort out. Difficulties here can include silent students, domineering students, and students with counselling needs.
- Group may lack organisation; meetings may lapse through a failure to put dates in diaries, agree accommodation, etc.
How the tutor can help

- By selling the benefits of self-help groups and thereby persuading students to try the idea

- By suggesting practical arrangements including transport, frequency of meeting, etc.

- By advising on topics and issues for discussion

- By attending the first two or three meetings, working systematically to build the group and gradually withdrawing, so students can function on their own

- By modelling key skills in their own tutorials and coaching students to acquire them. Key skills include defining outcomes, drawing up an agenda, steering discussion involving all students, summarising

- By being available to resolve queries facing the group

Checklist for mediated groups

- Contributions should be short and to the point.

- Responses should be timely (e.g. within 48 hours of receipt).

- Students should review the effectiveness of arrangements and take action as necessary.
6 QUALITY ASSURANCE AND ELEARNING

It is vitally important that there are robust quality assurance and evaluation processes in relation to the introduction of resource based and eLearning. The University’s Quality Assurance process is found in Appendix. The remainder of this chapter is focussed on student feedback and evaluation.

Since contact with students is likely to involve a variety of media, it is vital that feedback and evaluation processes are explicit, comprehensive and embedded throughout a programme of study.

The best feedback and evaluation systems are multi-layered and engage with

Students’ satisfaction and access to learning
Students’ understanding of their learning
The application of students’ learning
The impact of students’ learning

6.1 Student Satisfaction and Access to Learning

The University’s Guidelines on Student Feedback and Evaluation includes a number of instruments for eliciting student satisfaction. Within the context of eLearning it is vitally important that the student satisfaction dimension of feedback and evaluation is undertaken as soon as possible and not later than the second week of the programme of study. This is to ensure that any student who might be having difficulty understanding what they are to do or having difficulty accessing their learning should be identified as quickly as possible.

6.2 Students’ Understanding of Learning

This dimension to feedback and evaluation is to ascertain how well students have understood their learning. Both formative and summative assessments do this, including self-assessments. Also, elsewhere in these guidelines there is an instrument to ascertain what students have learned from tutor feedback which would add to this dimension.

6.3 The Impact of Students’ Learning

This is a complex area to evaluate. However, there are techniques and instruments that do it. In the USA where there has been a long tradition of student satisfaction surveys and a growing disquiet about their effectiveness in improving student learning a new method has gained popular support known as the IDEA system. For details of this system see

http://www.dce.ksu.edu/dce/maincntr/idea/centr021.html

http://www.dce.ksu.edu/dce/maincntr/idea/centr010.html
In the UK a growing number of institutions are using a capability approach to introduce systems of profiling that encourage the development of the 'reflective learner'. Below is an example of an instrument used in this way.
PERSONAL LEARNING FILE - PART ONE PROFILE SUMMARY SHEET

GUIDANCE NOTES FOR COMPLETION

What have I got to do?

If you read the introduction sheet to the Personal Learning File you will see that you are required to complete a summary sheet, which demonstrates that you have thought about and reflected on your learning during the year.

YOU HAVE TO COMPLETE THIS SUMMARY SHEET IN ORDER TO SATISFY THE REQUIREMENTS FOR THIS MODULE - it's that important!

ACTION

- Attach the Summary Sheet to the end of your essay/assignment. It will not count towards the overall mark you receive. Rather, its purpose is to help you reflect on what you achieved from this module and to identify weaknesses to address as you move into Level Three. It also serves to demonstrate what aspects of the module need addressing for future students.

Completing the Profile Summary Sheet

- Please remember to fill in your name

- Section A. This space, headed "Achievements" allows you to record a range of experiences which may have helped you develop as an individual during the semester. As well as formal learning opportunities (subjects studies, fieldwork etc), the achievements may include gaining or developing new skills.

  Many of these achievements demonstrate to a potential employer that you have more to offer than just a paper qualification.

  In this section you might like to record what you feel that you have gained from this module

- Section B. This section, entitled "Reflections on Learning" asks you to record your preferred ways of studying; the Learning problems you have faced during this module and how you have dealt with them; and if your approaches to studying have been modified during the year.

- Section C. This section headed "Action Plan" asks you to set down your action plan for developing your learning techniques during 1995/96.

Any Problems?

If you are in any doubt about what you have to do, please make an appointment to see me.
COURSE PROFILE

This profile is for student self-completion. It is intended to help you to identify your strengths and weaknesses, and to prepare for the completion of the Record of Achievement.

Student's Name

Name of Module

Period of study from_________ to_________ 19_____

1. What do you feel is your overall level of understanding of the content of this module?

<table>
<thead>
<tr>
<th>Low</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>High</th>
</tr>
</thead>
</table>

Comments

2. Which element of the module content do you think you have the strongest grasp of?

<table>
<thead>
<tr>
<th>Topic</th>
<th>Level of your understanding</th>
<th>Low</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>High</th>
</tr>
</thead>
</table>

Breadth of your understanding | 1 | 2 | 3 | 4 | 5 |

What evidence can you offer to support this?

How might you develop your study of this topic area?
3. **What elements of the module do you feel you have a reasonable or a good grasp of?**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Low</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of your understanding</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Breadth of your understanding</td>
<td>1</td>
<td>2</td>
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<td>5</td>
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</tbody>
</table>

*What evidence can you offer to support this?*

<table>
<thead>
<tr>
<th>Topic</th>
<th>Low</th>
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<tr>
<td>Level of your understanding</td>
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<td>Breadth of your understanding</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>

*What evidence can you offer to support this?*
4. Which element(s) of the module do you feel you have a poor or negligible 'grasp' of?

How might you increase your understanding? Offer practical remedial action (e.g. plans of study) rather than general solutions such as 'read more' or 'work harder'.

<table>
<thead>
<tr>
<th>Topic</th>
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5. Quality of participation in group processes.

How have you contributed to the classes during this course? In the 'comments' section try to think of concrete examples to support your evaluation.

*Attendance and preparation*

<table>
<thead>
<tr>
<th>Attendance and preparation</th>
<th>Low</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>High</th>
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</thead>
</table>

*Comments*

*Quality of information supplied. How useful to the group were the ideas you offered?*

<table>
<thead>
<tr>
<th>Quality of information supplied. How useful to the group were the ideas you offered?</th>
<th>Low</th>
<th>1</th>
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*Comments*
Receptiveness/Listening. To what extent did you really listen to what others had to say?

<table>
<thead>
<tr>
<th>Low</th>
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Comments

Facilitation of group. To what extent did you actively encourage others to contribute to group discussions and activities, and assist cohesion of the group?

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<thead>
<tr>
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<th>2</th>
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Comments

6. What 'transferable skills' have you developed during the course? (See attached sheet for advice on completion)

**Skill: Written communication**

<table>
<thead>
<tr>
<th>Initial level</th>
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<tr>
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Comments

**Skill: Verbal communication**

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<tr>
<td>Final level</td>
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Comments
### Skill: Problem solving

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<tr>
<td>Final level</td>
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Comments

### Skill: Handling information

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<td>Initial level</td>
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<tr>
<td>Final level</td>
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Comments

### Skill: Working in teams/groups

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<tbody>
<tr>
<td>Initial level</td>
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<td>Final level</td>
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Comments
## Skill: Using Information Technology

<table>
<thead>
<tr>
<th>Category</th>
<th>Notes</th>
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<tr>
<td>Previous IT experience</td>
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<td>IT experience gained in this course</td>
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<tr>
<td>IT packages/systems used</td>
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<td>Training undertaken</td>
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### Notes on how you wish to further development in these transferable skills

### Are there skills which you feel you need to develop with regard to the content or process of the course? Of your Course of Study as a whole?


ADVICE NOTES FOR COMPLETING ‘TRANSFERABLE SKILLS’ SECTION

Written communication: Who are you writing for? How does your writing style vary for different audiences? What are the most important criteria for effective writing - clarity, spelling, synthesis of information? What influences the structure of a piece of written work? What are two of your strengths as a writer? What are two of your weaknesses? What can you do to improve your written communication?

Example comments: When I am writing reports I find it quite difficult to structure them. I think that my spelling and grammar is of a high enough standard, but I don't think I get my ideas across as clearly as I would like to. I got a reasonable mark for my essay but I need to work on how to structure my introduction better. I’ve decided to write drafts of essays in future and get comments from people.

Verbal communication: In what situations do you have the opportunity to speak in front of people - tutorials, presentations, group work? What different methods do you use to get your message across in different situations? What important factors influence effective verbal communication? How does effective verbal communication differ from effective written communication? How do you feel speaking in front of people? What are two strengths and two weaknesses of your verbal communication? What can you do to improve?

Example comments: I have spoken twice in front of other people, once in my tutorial group and once in front of the whole class. I was OK in front of the tutorial group because I knew them and felt quite confident of what I was talking about. I was nervous in front of the whole class and don't think I got my points across clearly enough. My overheads were good though and people commented on them afterwards. I must learn to be relaxed when standing up in front of people.

Problem solving: What sort of problems do you encounter? How do you solve the problems you encounter? What different strategies do you use and why? How important is it to clarify the problem before you try to solve it? How do you go about clarifying problems? How do your clarification and solution strategies differ when you are working individually and when you are in a group? What examples do you have of problems that you have successfully solved? How do these differ from problems that you have had less success with?

Example comments: I am best at solving clearly defined problems although I find these quite boring. I enjoy trying to solve complex problems although I am not very good at it. I find it hard to define the problem and race off to solve it before I have properly worked out what I am trying to solve. I liked working in the project group because there were a couple of people in the group who made sure we defined the problem properly before we tried to solve it. It was very satisfying to get it right. In future I will try to stand back and look at what I have to do instead of leaping straight in.

Information handling: What sources of information do you use when researching something? How do you reconcile conflicting arguments in the literature? Think of some problems you encounter when interpreting large amounts of information? How can you resolve these? How do you reference the information you have used? When do you take notes? How do you use these? How often do you use different ways of summarising large amounts of information - graphs, tables, illustrations, bullet points? What can you do to improve your information handling skills - Learn to take effective notes? Go on a library tour? Share reading with friends?
**Example comments**: Most of the information I use in my written work comes straight off the reading list. I know though that there is far more information in the library and especially in journal articles. Some articles actually do reviews of the literature which make it far easier to understand the different positions people adopt. For my next essay I am going to look for some existing literature reviews in journals. I’m also going to use some more visual ways of presenting information as they seem to get the message across far more clearly.

**Working in groups**: Why work in groups? What sort of role do you play in groups? Why? How do the roles you play in groups differ from group to group? What sort of skills and techniques do you use in groups to get the most from other group members? What does an ideal team consist of? How comfortable do you feel working as part of a team? What could you do to make groups you are working in function more effectively?

**Example comments**: I find that I always have a lot of ideas for how best we can go about things. People I have worked with say I am also quite good at actually getting things done. The best group I worked in had quite a clear leader but she always made sure that everyone had a chance to have a say. It was really good to hear lots of different points of view and we came up with a very good project. It was hard though because there were a lot of disagreements, but in the end it all worked out well. In future I am going to try to listen more carefully to what other people say.

**Using Information technology**: What is your IT experience prior to University? How can IT help you at University? How do you feel about using IT? Where do you use IT in your course? Where can you use IT in your course? What can you do to improve your IT awareness and skill?

**Example comments**: I had never used IT until I came here. I found it quite frightening at first, but once I had a try at it I found it was quite easy. I did my last essay on a word processor and am going to learn how to use a database.
SECTION B. REFLECTIONS ON LEARNING

What ways of studying suit you best?

What problems have you encountered studying?

How have you dealt with these problems?

Have you approaches to studying altered during the year? If so - so how?

How might you ‘translate’ the knowledge and skills into statements that would impress a future employer or postgraduate admissions tutor?

SECTION C. ACTION PLAN

What is your action plan for improving your methods of learning next year
6.5 Success Criteria

It is important that we evaluate how successful the move to eLearning has been and how we might improve. In addition to the evaluation techniques stated above the Oxford Brookes model proposes the following checklist of questions which can be used to formulate an evaluation agenda for a VLE.

**Do students manage their independent learning adequately?**

Are they putting in enough hours?
Are they preparing for and following up the class sessions?
Is their study effort too dominated by assessment demands?
Do students study evenly across the course, or does the level of effort gradually decline; do they leave everything until just before the exam?

**Are the resources adequate?**

Are the packages at the right level in terms of difficulty, detail and comprehensiveness?
Do the packages take the designed amount of time to work through?
Do the packages lead students into using other resources successfully?
Can students gain access to books and other resources easily and at the right time?
Is the library used more, less or differently than before?

**Is contact with students adequate?**

Do the classroom sessions achieve what they are intended to?
Do students turn up?
Do some students use tutorial or surgery times more than others, and does this affect their performance?
What is surgery time used for and what changes in the course does this suggest?

How do students respond to the course design and to this way of learning?

Do they like it more or less than other courses they are taking? Would they want to take more courses designed like this?
Does the course attract or capture their time and effort successfully compared with other courses they are taking at the same time?
Is the assessment system adequate?

Do students understand how to tackle the assessment tasks, and do they have the necessary skills?
Do students allocate sufficient time and effort to the assessment tasks?
Do the demands of the assessment system have undesirable side effects on student learning?

Are learning outcomes adequate?

Are the coursework and exam marks as good as (or at least no worse than) before?
Is there a decline in the quality of student learning outcomes (narrowness, shallowness, sameness, mere reproduction of the content of packages)?

Measuring effectiveness

Cost-effectiveness is concerned with both costs and effectiveness - or, to put it another way, with what it costs to achieve specified outcomes. While it may be possible to calculate costs it is usually harder to measure effectiveness. Where the assessment system has been retained unchanged it may be possible simply to compare results before and after the change. However, when eLearning is introduced it is common for the goals of courses to change, or the assessment system, or both, so it is not usually possible to make simple comparisons. There are, however other indirect measures of effectiveness, such as:

- success rates in end-of-year exams or projects which tap the overall outcomes of students' learning;
- the proportion of students successfully progressing to the next module or stage in the course and their performance at that next stage;
- performance in externally controlled professional exams;
- rates of progression: how long it takes students to reach specified levels;
- external examiners’ comments on standards;
- students’ and tutors’ subjective judgements of effectiveness;
- employers’ or work-based mentors’ or supervisors’ subjective judgements of effectiveness.

It is also possible to measure comparative effectiveness by setting special short tests to monitor learning outcomes on the conventional and eLearning courses.
6.6 Exit Strategies

Just as it is important to use some or all of the techniques mentioned above to identify the success of moving to eLearning it is important that programmes have considered what to do if something is not working properly, either with the programme overall or with particular students doing it. The most obvious exit strategy is to have materials prepared in different media and alternative learning activities prepared to achieve the same learning outcomes. This is time consuming and runs the risk of becoming self-fulfilling. Nevertheless, there are some features of eLearning that warrant a risk assessment if something goes wrong; for example

- What guidance is given to learners in case the network shuts down while they are working on it?
- What guidance is given to learners in relation to individual members of collaborative learning teams who are not seen to be ‘pulling their weight’?
- What guidance is given to learners in relation to what to do if they are using their own machines and they break down or the machine they have their work on breaks down?
- What guidance is given to learners who turn out to be ‘technophobes’?
- What guidance is given to learners in relation to access (in all its meanings)?

In short, programmes should have some form of backup until we all gain more experience of eLearning.

6.7 Possible Solutions/Exit Strategies

One of the ways in which colleagues have managed the ‘risk’ of introducing greater flexibility in student learning is to progress cautiously by introducing eLearning as an element of existing modules and methods rather than a ‘root and branch’ transformation

A second strategy has been to run ‘parallel’ activities and methods for the same module. One route is to deliver the module using methods used previously; a second route is to introduce eLearning.

Of course, some colleagues have already been using eLearning and for them it is a simple question of transposing the existing materials into VLEs.

Several colleagues have prepared print-based versions of the resources/materials that will be used electronically.

6.8 Induction

One of the ways in which ‘risk’ can be reduced is to ensure that both staff and students are inducted into eLearning. Every module that is delivered in this way
should have at least one tutor who has been trained and who could be a focus for problem-solving.

6.9 Students’ Independent Learning

Most students have a range of conventional study skills, which enable them to take reasonable lecture notes and, with the aid of regular classes, to keep up with the course. However, they may have poor independent learning skills, poor time management, and poor judgement about what is worth doing and how long to spend on different learning tasks. If so, they are likely to be very reliant on material provided for them and bad at tracking down information or material on topics they are researching independently. They will probably be rather weak in co-operative group work, and not very good at taking the initiative to make use of their tutors when this is appropriate. They may also lack the ability to make the most of learning resources such as audiotapes, videos and self-check questions in texts. Students need to learn new skills to cope with eLearning, just as they had to learn to take notes and write essays or reports.

It may be necessary to run study skills sessions at the start of an ELEARNING course, to put class contact time aside during the course to review the way students are working, and to encourage students to use surgery or tutorial time to discuss study skills as well as the content of the course. It is common for course guides to contain advice on how to study successfully; ideas from last year’s students on how to succeed can also be valuable, and tend to be heeded by students to a greater extent than tutors’ exhortations.
7 THE QUALITY ASSURANCE PROCESS FOR ELEARNING AND ELEARNING

The quality assurance of eLearning is not the same as validation and review, although the process is likely to be incorporated into validation and review systems once ‘original’ eLearning modules and awards come to be designed. The quality assurance of eLearning is designed within the context of continuous quality improvement and a ‘pilot’ model of quality rather than a ‘zero defects’ model - that is, it is important to try and get it right before the programme commences and to continuously monitor progress to ensure that any unanticipated problems are identified and resolved quickly with improvements being made continuously and with a formal requirement to evaluate at the completion of the programme. With less face-to-face contact with students and with students studying remotely (either on or off campus) it is more important than ever before to plan and manage student learning.

All of the modules subject to this process of quality assurance for eLearning will already have approval. They will not need to seek further validation approval or PAG approval.

At the heart of the move to introduce eLearning is the need to introduce greater flexibility in student learning. For that reason it will not be possible to introduce different module specifications for using eLearning. Some modules, for example, envisage using eLearning for a small proportion of their overall programme. Others are using it to provide an explicated module handbook rather than a ‘full-blown’ virtual programme. Also, the nature of eLearning means that some of the resources and materials may not have been prepared prior to the module commencing. This clearly poses an interesting dilemma for the quality assurance process that needs to evaluate the resources and activities before the programme commences.

The solution is to ask colleagues to provide a sample of materials and activities; so far as is possible, so that one might be assured that the principles contained in this handbook are understood and implemented. With comprehensive evaluation and a clear potential for being audited, colleagues will undoubtedly work to a high standard in the production and delivery of eLearning.

**Stage One**

Module/Award leader prepares eLearning programme
(At least one member of a module team should be trained and nominated as being responsible for that module)

**Stage Two**

Within Schools, the Quality Assurance pro forma is completed whereby a colleague (or colleagues) evaluate the available resources and activities and agree that the standards have been met. Where they are not able to agree that standards have been met recommendations and advice should be given to assist in the revision. The module author/team respond and a further scrutiny is undertaken until there is agreement. The evaluator(s) ‘signs off’ their approval.
**Stage Three**  A copy of the completed pro forma should be retained by the School; a copy forwarded to Learning Development and Innovation (LDI) in Information Services.

**Stage Four**  On receipt of the pro forma, the LDI will start the procedures to enrol the students on the module.

**Stage Five**  Interim audit. This will not take place in all cases but module tutors should be aware that any eLearning module might be audited against the standards in the pro forma at any time.

**Stage Six**  Following the evaluation of the module a report will be made in relation to the module as a part of the normal Award Monitoring cycle. Modules in VLEs should be specifically highlighted in these reports and should include mention of what changes will be made in any subsequent delivery of these modules.
8 EXTRACTS FROM THE QUALITY ASSURANCE AGENCY FOR HIGHER EDUCATION: GUIDELINES ON QUALITY ASSURANCE OF DISTANCE LEARNING

This Chapter contains the proposed guidelines prepared by the Quality Assurance Agency for Distance Learning and, although the focus is largely on learning that takes place off campus, there are some useful guidelines which we might adopt when whole awards are validated and reviewed using eLearning.

Questions to be addressed in the three dimensions of distance learning in respect of programme design and approval

Learning delivered and/or supported locally

What are the criteria for selection of a local agent?
What arrangements if any, are there for the provider to be involved in the appointment of the local co-ordinator and the selection of local staff to teach on the programme?
What experience is required of local teachers, e.g. subject experts, experience of similar academic programmes and of delivery a distance?
What briefing and training is to be given to local agents about the system for distance learning, their role and responsibilities?

Learning delivered by travelling teachers

As well as expertise in their academic discipline, do travelling teachers also have suitable expertise in distance learning modes of working?
What is their role/function in relation to the total programme/unit and most notably, assessment?
If teaching is delivered in concentrated periods, how can these be organised so as not to put at risk any equivalence between a programme delivered by both distance learning and at the provider’s location?
What staff development is to be given regarding the distance learning system and the characteristics of the students?

ELearning

Have the direct and indirect costs of technical support staff, production and distribution of materials, and all costs associated with implementing the hardware and software required to administer a distance learning programme, been fully taken into the planning process?
What criteria are to be used to assess the suitability of materials, media and resources to meet programme objectives?
What arrangements are there for field testing of materials with students?
Are there any legal restrictions on the transmission and use of certain materials?
Are the technologies being used clear to learners, even when not intrinsically relevant to the discipline being studied?
Is there cost provision to train teaching staff in the proper use of the technology?
Is there an explicit policy for dealing with changes and upgrading of hardware and software?
If programmes are to operate in countries outside the UK, have steps been taken to ensure that equipment specifications and standards are compatible?
Is access to equipment to be provided by the local agent, or are students expected to acquire their own equipment?
Have relative costs of technologies been assessed to ensure it is feasible for students to acquire the necessary equipment?
Has the estimated lifetime of the technology been assessed to ensure that its lifespan presents good value to the students and to the providing institution?
Have checks been made to ensure that for technologies which rely on telecommunications, channels of communication can be easily accessed from within the client country, and continued maintenance and functioning of such channels maybe reasonably assured?

and, for programmes based on print or non-electronic media:

Can copyright be obtained in the country in which materials are to be used?
Have checks been made to ensure the reliability of postal distribution systems to students in distant or different locations?

PROGRAMME MANAGEMENT FOR ASSURANCE OF QUALITY

Introduction

The effective management of delivery and learner support at a distance poses considerable challenges by comparison with that for institution-centred provision. It requires the providing institution to establish robust systems for maintaining, at a distance, effective communications with individual or groups of students, and monitoring the quality of their experience.

Principles

In making arrangements for programme management, institutions should give attention to the following matters, and make clear statements about:

- the respective entitlements and responsibilities of the student any local agent and the providing institution, these to be contained in written, binding, agreements;
- the expectations for communications between the student and any local agent, between the student and the provider, and between any local agent and the provider;
• procedures for monitoring and review of the distance learning provision that provide appropriate and reliable evidence to inform the providing institution’s quality assurance system;
• procedures for handling student representation and feedback at the local level, including the provision of forums in which students can contribute to discussion of quality assurance policies and their operation;
• the provision of complaints and grievance procedures including procedures for students to make representation directly to the provider;
• the division of responsibility between any local agent and the provider for the establishment of measures to protect the students in the event of communication failures or other emergencies.

Questions to be addressed in the three dimensions of eLearning in respect of programme management for assurance of quality

Learning delivered and/or supported locally

Is there a named programme manager within the providing institution with responsibility for maintaining regular contact with the local agent?
Where lies the balance of responsibility between the provider and the local agent for recruitment, publicity, registration, record keeping, and maintenance of communications with students?
what level of involvement does the providing institution have in the selection and admission of students to the programme?
What, if any, variations to the providing institution’s admissions criteria for institution-centred provision are permissible to attest to a student’s ability to cope with the demands of the programme?
How is the provider involved in the approval of local publicity and advertising and any learning materials prepared by the local agent?
what are the respective roles and responsibilities of the provider and agent in monitoring and review of programme quality and the student experience?
What arrangements are there for the provider to give constructive feedback to the local staff and agent on their performance in management of the distance learning programme?

Learning delivered by travelling teachers

What is the division of responsibility for the quality of delivery when this is shared between the provider’s staff and local staff or agent?
What staff development to perform their role is given to ‘travelling teachers’ to deal effectively with the operational and cultural challenges of teaching in a remote location, possibly in shod intensive periods?
To what extent are the ‘travelling teachers’ expected to play roles beyond delivery of their own element of the programme, such as selection of students or local staff, or the administration of assessment?

Do ‘travelling teachers’ have a role in obtaining/monitoring student opinion?

Do they have a role in providing feedback to local staff, and if so, what procedures are appropriate?

Do they have a responsibility to provide feedback to students during their visit, and if so, how is this to be provided?

What ‘quick response mechanisms and structures are in place to address urgent matters raised by the students or any local support groups during or between visits of the ‘travelling teacher’?

**ELeaning**

What arrangements are there to approve and monitor the quality of materials, and against what criteria, eg. pedagogic nature, standard of production, reflection of house style, legibility, etc?

Are feedback mechanisms used to ensure that eLearning designers and producers are aware of any perceived difficulties in their conduct or style of presentation or production?

Are technical specifications relating to the minimum standard of equipment required clearly set out in all promotional literature?

Are all electronic media thoroughly tested and piloted prior to general release?

Have fail-safe measures been put in place to offer alternative, emergency methods of communication in the event of the primary electronic or IT-based channel of communication failing?

Is there provision for centralised technical support, and to give guidance or assistance to local technical support?

Are remote sites aware of the procedures to be followed in reporting technical failures?

Have clear procedures been established to allow eLearning students to report technical difficulties, and for those difficulties to be dealt with promptly and efficiently?

Are feedback mechanisms used to ensure that designers and producers are aware of any perceived difficulties in their conduct or style of on-line teaching?

**DELIVERY SYSTEMS**

**Introduction**

All students should be given clear information about the nature and expectations of their programme of study, but students studying at a distance need that information to be particularly clear and logical in the absence of easy access to the programme designers.

The providing institution needs to have procedures for selecting and appointing staff with appropriate attributes for programme delivery at a distance. Taking as read the essential
attribute of academic expertise in the subject for delivery, other necessary attributes include an empathy with, and ability to support, students from what may be significantly different backgrounds, in a wider range of modes of directed and independent learning, than may have been experienced in institution-centred modes.

**Principles**

Students at a distance need to be informed of any special circumstances resulting from the separation of provision from delivery. Special circumstances may include the following:

- arrangements for access to local agencies or institutions (not the providing institution) for learning resources and facilities, including libraries, student guidance and counselling services;

_and in overseas provision,_

- any requirements or restrictions imposed by UK professional bodies or overseas governments in respect of the recognition of awards obtained following distance learning programmes;
- a requirement for use of the English language as the medium of learning resources and/or assessment.

**Questions to be addressed in the three dimensions of eLearning in respect of programme delivery**

**Learning delivered and/or supported locally**

To what extent does delivery by the local agent and local tutors constitute the main dimension for the delivery of learning in this programme?

What level of involvement does the providing institution have in the selection and appointment of staff engaged by the agent for local delivery?

What staff development to perform their role has been arranged, and monitored, by the providing institution for local staff engaged in delivery of the programme?

What arrangements are there for the provider to give constructive feedback to the local staff and agent on their performance in delivering components of the distance learning programme?

How is unsatisfactory teaching identified and remedied?

**Learning delivered by travelling teachers**

To what extent does delivery by ‘travelling teachers’ constitute the main dimension for the delivery of learning in this programme?
What is the nature of the delivery contribution of the ‘travelling teacher’: intensive, one-off or periodic, specialised or general, subject-based or student-focused, individual or group-based?

Do ‘travelling teachers’ deliver the programme as a team in concentrated events, or in a serial manner?

Is there a clear statement of any local, supplementary delivery’ or administrative support available to the ‘travelling teachers’?

What arrangements are there for local administrative support for, e.g. the booking of venues and facilities, accommodation (for teachers and students)1 the arranging of publicity and distribution of information?

Are the local venues and facilities checked in advance of a visit for their suitability for the delivery of teaching?

What provision is made to ensure that the background and experience of a ‘travelling teacher’ is suited to a distance mode of delivery and appropriate to local cultural traditions?

In overseas provision, are ‘travelling teachers’ required to communicate in the local language, and to what extent is this requirement supported and tested?

In overseas provision, has the providing institution alerted its ‘travelling teachers’ to the possible problems faced by students receiving instruction in what may be a second (or third) language?

**ELearning**

To what extent do eLearning materials constitute the main dimension for the delivery of learning in this programme?

To what extent are these learning materials suitable for, and responsive to, the local context and student experience and expectations?

If materials are to be used outside the UK, has consideration been given to the choice of the language of communication and students’ proficiency in that language?

Where learning resources and assessed work take the form of hard copy, what provision, if any, is made for the vagaries of postal distribution systems to students in distant or different locations?

in programmes based on CRL or other electronic technologies:

Are there clear statements of the technical requirements for the proper operation of courseware, and of the action to be taken by the student in the event of equipment failure?

Are staff of the providing institution fully aware of the time-management implications for students in engaging in computer-based distance learning?

Are teaching staff fully aware of their responsibilities regarding the teaching schedule, including contribution to tutorial-style discussion programmes (e.g. computer conferencing), and moderation and supervision of electronically-mediated discussion groups?
LEARNER SUPPORT

Introduction

The separation of programme provision from delivery and the isolation of the independent distance learner puts particular responsibility on the providing institution to give students explicit information and guidance to enable them to make informed decisions about their own education, and to monitor their progress against clear expectations of achievement.

Principles

Students studying at a distance need to have a clear statement of:

- the respective roles of academic and administrative staff, both local and remote, in the provision of learner support to a programme of study;
- their entitlements to support and guidance at their own location, and opportunity for direct contact with the providing institution and its staff;
- the learning support which they can expect on an individual basis, and on the basis of a local or networked group of peers;
- the availability of networks and frameworks through which the providing institution can give support to students at a distance;
- the mechanisms for regular feedback to students on their performance, both formative and summative.

Questions to be addressed in the three dimensions of eLearning in respect of learner support

Learning delivered and/or supported locally

what areas of academic expertise are offered by local tutors?
What arrangements are there for attendance and face-to-face contact with tutors?
What, if any, contact and communication does the providing institution have with students?
what checks does the providing institution make on written information and guidance prepared by local tutors?

Learning delivered by travelling teachers

What local support structures for students are in place and what interaction is the ‘travelling teacher’ expected to have with them?
To what extent are the ‘travelling teachers’ expected to provide individual or group learner support during visits?
What is the availability of student access in the event of need, to the ‘travelling teachers’ at the providing institution, and to the learning resource facilities at that institution?
What arrangements does the providing institution have for monitoring learner support for
the programme between visits of the ‘travelling teachers’?

ELearning

What, if any, support, advice or assistance is initially provided to students to prepare
them for self-direction and management of their learning?
in programmes based on CBL or other electronic technologies:
Is there a dear statement to students before the start of the programme of their expected
skills in dealing with the communication technology?
Are there locally available or on-line arrangements for students to become familiar with
the required technology during the early stages of the programme?
Are there measures to ensure local technical support is readily available to students who
experience difficulties in setting up or maintaining equipment?
Are students made fully aware of the existence and functioning of learner support
procedures to support the resource materials?

STUDENT ASSESSMENT AND THE MAINTENANCE OF ACADEMIC STANDARDS

Introduction

Student assessment and the maintenance of comparable standards present particular
challenges when conducted at a distance- Formative and summative assessment may
have to be handled in substantially different ways. In the case of summative
assessment, it is necessary to be able to demonstrate that a student’s work is their own
and they have achieved the same academic standard as students of comparable
programmes delivered through institution-centred provision. There may be no alternative
to bringing students to sites where summative assessment by examination can be
conducted under controlled conditions by representatives of the providing, and thus
awarding, institution.

Principles

In making their arrangements, providing institutions should give attention to the following
issues:

• the level of confidence in the security of its arrangements for locally-administered
  summative assessment;
• the clarity to students and all examiners/moderators of the providing institution’s
  conventions of assessment practice;
• the availability and practicality of using oral examination or viva for determining
  borderline cases of degree classification when the students are at a distance;
• the effects of time zones when administering time-controlled assessment in widely
differing locations;
Where a distance learning programme is variant of an institution-centred programme,

- the appropriateness to distance learning of the assessment mechanisms used for institution-centred provision;
- the access of external examiners to the assessed work of students learning at a distance so as to treat students on an equal footing with the institution-based students;

Where a distance learning programme is permitted to operate and be assessed in a language other than English and where a facility with English is not an expected or stated outcome,

- their confidence in the ability of examiners to work fluently in the language of assessment; without high levels of confidence, work undertaken for summative assessment should be in English;
- the security of arrangements for assessing or moderating locally assessed work, for providing students with formative feedback, and for the purpose of external examining;
- the availability of staff with both the full linguistic competence and subject expertise to work in the language in which assessment is to be undertaken.

Questions to be addressed in the three dimensions of eLearning in respect of student assessment and maintenance of academic standards

Learning delivered and/or supported locally

What guidance is given to a local agent on the provider’s requirements for course work, assessment schedules, security of assessment results, second marking and moderation, and examination paper security?
Where students’ work is marked by local staff what arrangements have been made to brief those staff about marking/assessment schemes and criteria, and for moderation of local marking by the provider?
Has a separate examination board been established at the local agent and, if so, what arrangements are there to ensure that proceedings are conducted in accordance with the provider’s regulations for assessment?
For overseas provision, have local examiners been appointed, and if so, what procedures are followed for their approval, briefing, and scrutiny by the provider?

Learning delivered by travelling teachers

What is the formal relationship between ‘travelling teachers’, any local examiners and the providing institution’s appointed external examiners?
what is the provider’s expectation that ‘travelling teachers’ should engage in assessment during visits, including marking students’ work, supervising assessment events, moderation, taking part in vivas or appeals processes?
ELEarning

To what extent does the providing institution require elements of assessment under controlled conditions to provide a check on other unsupervised assessed work and assignments?
Glossary

Other words defined in the Glossary are italicised within the entries

Activity
A device which, with accompanying feedback, helps learners to apply their learning. Activities might include: recalling and reflecting on own experience; developing examples; analysing mini case studies; making calculations; drawing diagrams.

APL (Accreditation of prior learning)
The process of enabling learners to identify and gain credit for their knowledge and skills before starting a course of study.

Assessment - Formative
The means of enabling learners to monitor their progress as part of the learning process. Formative assessment’s primary purpose is to promote learning.

Assessment - Summative
The process of confirming to learners their achievement at the end of a course. Summative assessment’s primary purpose is to confirm learning.

Assignment
A piece of work completed by the student and sent to a tutor for comment and assessment.

Bloom’s hierarchy
A system of classifying cognitive learning. It uses six levels: knowledge, comprehension, application, analysis, synthesis and evaluation. Learning at each level tends to involve learning at the previous levels. For example, the application of reading a map will also involve comprehension of how maps work and knowledge of what the symbols mean.

CBT/CBL
The use of a computer to teach (especially skills and knowledge) in a way which requires the learner to provide responses to the computer presentation. The capacity of the computer to adjust the presentation according to the learner’s response is a major feature of CBT.

Constructive questions
Assignment tasks where the learner is required to construct an answer such as the solution to a problem; an essay; a report.
Core resource
A resource, for example, a book or audiotape, containing course content but not directly designed for use in open learning.

Course
All materials and options which are available to the learner, including tutorial support.

Course design
The process of making the decisions necessary to develop a course ready to offer to learners. An essential part of course design is matching course features, e.g. starting level, pace, media, to the needs and circumstances of the learners.

Development
The phase which turns a specification into an approved version ready for production. Development applies to the learner support system as well as to the learning materials, see course.

Distance learning
A means of learning at a physical remove from a tutor, for a major part of the student’s, time. Much of the study may be undertaken at home, at work or elsewhere off a campus. There is little or no opportunity to meet other learners or tutors, at least in the face-to-face mode.

ELearning
A type of distance learning that is technologically enabled, learning-team focused education, facilitated by a content expert, and delivered any time and anywhere.

Editor
The person responsible for processing authors’ manuscript throughout one or more of the design, development and production phases. The role is wide ranging. At one extreme, the editor manages all three phases, acting in the role of project manager. At the other extreme, the editor carries out more limited and specific roles, such as preparing manuscript for desk top publishing (copy editing) or checking that changes have been properly carried out (proof-reading). In open learning, the editor often plays a significant role in ensuring material is easy to use by students and contains the necessary features to aid independent learning. This role is sometimes defined as ‘instructional designer’, ‘educational technologist’ or ‘learning technologist’.

Effectiveness
A measure of the amount of learning which has taken place on a course.

Efficiency
A measure of the amount of resource (e.g. time or money) used to achieve a unit of learning.
Evaluation

The process of gathering information from various sources to investigate a course's performance and effectiveness. The word 'evaluation' implies a greater degree of detachment than for monitoring and is usually periodic rather than continuous. See monitoring.

Feedback

Information on a student's performance. This may be provided within the learning materials (for example, feedback on self-assessment questions, via the use of technology (for example, a computer), or via a person (such as a tutor, marking an assignment, or via other students). Feedback can also be gained from students to improve the operation of the course, for example, feedback on the learning materials or tutorials.

Flexible learning

Any form of learning in which a providing teacher or institution offers learners a choice of one or more aspects of a course, for example, choices over time, place or method of learning. Synonymous, for many commentators, with open learning.

Formative assessment

Judgements made on a learner's work during a course, with the intention of helping the learner monitor his/her own learning. Giving feedback is the essence of formative assessment rather than formally recording the extent of success via a mark or grade. See also summative assessment.

House style/house rules

Instructions issued by a producer or publisher to ensure consistency in the style and approach of learning materials.

Learner

A person who studies to achieve learning, i.e. a desired change in knowledge, skill or attitude. In this pack, the term is used synonymously with student: an individual pursuing a more or less systematic course. Other related terms include 'trainee' (implying an industrial context), 'pupil' (implying a school context). Learner is the generic term since it is context - and connotation-free.

Learning materials

Specially-designed materials developed to support an individual studying by open learning means, usually with occasional tutorial contact.
Learning outcome

The tangible end result of a student’s learning process. The term ‘objective’ or ‘learning objective’ is sometimes used synonymously with learning outcome but, strictly speaking, learning outcomes differ in two ways:

- Learning outcomes are not necessarily confined by the curriculum, for example, a learner might produce evidence of achievement of learning outcomes from prior experience.

- Learning outcomes must be assessed.

Mark

The grade, with comments, a tutor puts on a student’s assignment. The comments support on-going learning, for example, by interpreting the grade or score, summarising strengths and weaknesses of student’s work, and suggesting an action plan.

Mentor

The term ‘mentor’ is derived from the name of the wise old man to whom Ulysses entrusted the guardianship of his son Telemachus, during his ten-year odyssey fighting the Trojan wars. Mentor had to play many roles during his time, including tutor, guide, sponsor, patron, adviser and exemplar. Perhaps not surprisingly, given this history, the term ‘mentor’ is often not defined explicitly.

In educational contexts, the term normally implies that the mentor:

- facilitates learning as a key purpose;
- offers general rather than skill- or subject-specific support;
- works on an agenda largely set by the learner;
- helps learners gain increasing independence, for example, by encouraging them to reflect on their experience to identify what has been learned and how this can subsequently be applied.

In this pack, mentor is distinguished from tutor in that the tutor usually requires knowledge of the curriculum area in which he or she is tutoring. The mentor is distinguished from the coach in that the coach usually concentrates on helping the learner develop a particular skill.

Modem

A device for connecting two computers via a telephone line.
Modified Fog Index

A measure of the readability of a passage based on the average sentence length in words and the numbers of long words, defined as those with three or more syllables. The score is calculated from:

\[ \text{Reading Age} = \left( \frac{\text{Average sentence length} + \text{number of long words}}{25} \right) \times 2 \]

Monitoring

Regular checks on the efficiency and effectiveness of a course’s operation to help those responsible to maintain or improve it. Tutor’s assignment marking and tutorials are often monitored, together with the performance of the course material and management arrangements. See also evaluation.

Multiple-choice question (MCQ)

A form of objective question in which a statement or question (the stem) is followed by three or more statements or questions. Learners have to select which of these statements matches the stem.

Objective question

A question where the learner has to select one or more answers from a given list. Multiple-choice questions and true/false questions are both examples of objective questions.

Open learning

An approach to provision which emphasises learner choice as a major determiner of course design. Open learning is characterised by offering the student choice over one or more aspects of the learning process (e.g. time, place, pace, content or method). No single feature, or collection of features, defines or is common to all open learning courses.

Outcome

See learning outcome.

Piloting

The testing of open/eLearning materials prior to publication or of the whole course before it is publicly offered. This can take the form of development testing and/or field trialling.

Production

The phase which turns an approved version into the finished product. Production usually describes learning material, but support systems also need a similar process of completion.

Programme

A coherent collection of courses, e.g. a group of courses which make up a degree programme.
Project

An extensive piece of work, of perhaps one to 20 hours, which involves one or more of: finding information which is not provided within the course; applying methods and procedures outside situations prescribed in the course; substantial skill practice on a scale beyond that which can be achieved through in-course activities.

Proof

The proof (or ‘proofs’) form a copy of the proposed finished text, produced to enable a check to be made on the material before it is finally printed. There are parallels for other media.

Proofreading

This term is defined in Editor.

Readability

A measure of how difficult a text passage is to understand. Such measures are based solely on the words and sentences in the passage and take no account of the reader's prior knowledge of the subject in the passage.

Reliability

The reliability of a measure is its consistency irrespective of who takes the measure or when it is taken.

Resource-based

A form of learning, usually in a classroom, workshop, learning resource room or library, in which learners study from learning materials such as books and tapes.

Rule set

A way of describing what is to be learnt as a list of knowledge items or methods to be applied. The rule set is the CBT equivalent of writing the SAQs for text development.

Self-assessment question (SAQ)

SAQs are devices inserted into open learning texts and computer-based learning materials which, with accompanying feedback, enable learners to assess their own progress. SAQs are usually short questions such as objective tests or short answer questions.

Signpost

Any device which helps learners to find their way around learning materials. Signposts include headings, icons and, on computer screens, ‘buttons’.

Specification

A document produced as an outcome of the design phase, defining an open learning pack or course, acting as a brief for those responsible for development or production.

Student

See learner.
Study guide
Material, in any medium, designed to accompany, and help students use, a core resource.

Summative assessment
Judgements made on learner's work at the end of a course, or of part of it. The primary purpose of summative assessment is to record the extent of a learner's achievement, rather than to provide feedback. See also formative assessment.

Support
Anything which helps students progress through the learning materials of an open learning course, e.g. the help of a tutor, coach, mentor, line manager or peer.

Test specification table
A table which shows the weight to be given in course assessment to: (a) each section of the course, (b) each type of learning in the course.

Textbook
A printed text containing subject content of a coverage and level to suit a group of learners but lacking some or all of the features of open learning material - for example, self-assessment questions, activities and feedback.

Tutor
A person who provides support to the learner, with particular emphasis on subject knowledge, assessment and feedback, and the diagnosis and remediation of learning problems. The tutor can also provide more general support (such as encouragement) and help with the development of learning skills. Cf. mentor, coach.

Tutorial
A session run by a tutor for one or more students, to support their learning. Tutorials may be conducted face-to-face or by other media, for example, the telephone and computer.

Unit
A small chunk within a module.

Valid
An assessment instrument is valid if it measures what it claims to measure.