6.1 GENERAL PRINCIPLES

6.1.1 INTRODUCTION

Arguably, there is nothing special about the assessment of distance learning; the same principles apply as in face-to-face teaching. What is different is that you may have to assess your students under certain practical constraints (e.g., you may have to assess them without being able to observe them). This viewpoint is supported by Morgan and O'Reilly (1999) who discuss a wide range of assessment methods that are equally useful for ODL and face-to-face assessment.

You may wonder how important assessment is in instructional design. The answer is 'Very important!' This is for two reasons:

*   First, many of the decisions you need to make (what to teach, to what depth, etc.) are best answered by referring to the assessment plan for the course. The course should reflect the assessment and vice versa.

*   Second, most students are assessment-focused – that is, they look at what is to be assessed and then base their study around those topics. You can use this behaviour to help your students study more deeply and effectively. All you have to do is design 'deeper' and more effective assessment tasks.

Issues for instructional designers

1.   How can I meet learners' needs for formative assessment?

2.   How can I meet learners' needs for summative assessment?

3.   How can I make sure that the assessment is valid and reliable?

4.   What should be the balance between continuous and final assessment?

6.1.2 THE ROLE OF FORMATIVE ASSESSMENT

According to Morgan and O'Reilly (1999), 'Formative assessment comprises all those activities designed to motivate, to enhance understanding and to provide learners with an indication of their progress.'

In the classroom, formative assessment often takes place informally as the teacher asks questions, responds to learners' questions and walks around giving advice. Although this form of learner-teacher interchange is often informal and unplanned, it is an important part of teaching.

In ODL, there is almost no opportunity for any informal interchange, since learners and tutors rarely meet. This means that formative assessment must be consciously designed into the learning materials. This can be done using devices such as:

* in-text questions

* activities

* self-assessment tests

* quizzes.

These devices are of great importance in ODL. Without them, learners have little idea as to how much progress they are achieving and may be unaware of any mistakes they are making.

Formative assessment methods in ODL include:

* activities and their feedback,

* self-assessment tests (print and online),

* non-assessable tutor-marked assignments and their feedback, and

* comments from peers in group work, both face-to-face and online.

6.1.3 THE ROLE OF SUMMATIVE ASSESSMENT

ODL institutions need to provide summative assessment on each course in order to:

* inform learners of the standard that they have achieved,

* find out whether the course is effectively reaching its aims,

* certify to third parties (e.g., employers) the level of knowledge that each student has reached, and

* make decisions about students' eligibility for further courses.

Summative assessment is carried out against the stated aims and objectives of the course. That is, summative assessment answers the question 'To what extent have the learners met the stated aims and objectives of the course?' (See section 3.3, 'Setting Aims and Objectives for Your Course'.)

Summative assessment methods in ODL include:

- tutor-marked assignments,

- computer-marked assignments,

- course work, and

- exams.

6.1.4 VALIDITY AND RELIABILITY

All assessment (whether in ODL or face-to-face teaching) is based on two fundamental principles: the need for validity and the need for reliability.

Validity

Validity refers to the extent to which a given assessment method assesses what it is meant to assess. So, for example, if a course contains the learning aim 'to be able to conduct a simple conversation in Russian', a written exam in Russian would not be a valid assessment since that would test *writing* skills, not *speaking* skills. Generally, validity is a problem in all education since the classroom environment limits both what can be taught and what can be assessed. For example, business courses concentrate on discussing and writing about business – not on running businesses; and teacher training courses concentrate on theorising and writing about education, not on teaching. As a result, most assessment tends to lack validity. Unfortunately, the constraints under which ODL often operates also create problems of validity in ODL assessment. In ODL, we tend to assess what is practical to assess rather than what should be assessed.

That said, it is important to strive for validity as far as is possible. One way to do this is to ensure that the assessment method matches the active verb in the learning outcome. For example, three possible learning outcomes on a first-aid course might be:

- **describe** the ABC (airway, breathing, circulation) procedure for resuscitating a patient,

- **explain** the ABC procedure for resuscitating a patient, and

- **use** the ABC procedure for resuscitating a patient.

The active verbs in each case (in bold above) are at three different Bloom levels (knowledge, comprehension and application) and so require different assessment methods if they are to be validly assessed (Bloom [editor], 1956). For example, we could assess these three items as in Table 24. In the first column, the main verb for each of the three learning outcomes is emphasised. In the second column, the key word that describes an appropriate assessment method is emphasised.

TABLE 24. Matching the test item to the desired Bloom level

Outcome	Assessment method
Describe the ABC	Ask for a verbal or written **description** of the ABC procedure.
Explain the ABC procedure	Ask for a verbal or written **explanation** of the ABC procedure.
Use the ABC procedure	Ask the student to **simulate** the ABC procedure on a dummy.

A more complete listing of assessment methods matched to the Bloom taxonomy levels is given in Table 25.

Reliability

Reliability simply refers to the idea that, if a person is assessed on more than one occasion, the outcome should be the same. For example, suppose you have a class of 30 students and you give each one a pass/fail exam at the end of term. You would hope that, if you had given them the same exam on a different day, the same students would have passed or failed.

In practice, there are always variations in assessment outcome: learners perform differently on different days, different teachers give different marks, and learners perform differently according to the type of test used.

These variations can be reduced by applying the following procedures:

- Have more than one assessment. Three assessments, for example, are much more reliable than one.

- Spread the assessments out over time.

- Use more than one assessment method – some learners do better with certain methods.

6.1.5 CONTINUOUS VERSUS FINAL ASSESSMENT

The final issue is whether to use continuous or final assessment. As you have seen above, having more than one assessment increases reliability, so that is one argument in favour of continuous assessment. Other arguments for and against continuous and final assessments are set out in Table 26.

TABLE 25. Valid assessment methods for certain 'Bloom verbs'

Level	Typical active verbs	Valid assessment methods
Knowledge	Describe	Ask for a verbal or written description
	List	Ask for a verbal or written list
	State	Ask for a verbal or written statement
Comprehension	Explain	Ask for a verbal or written explanation
	Outline	Ask for a verbal or written outline
	Predict	Ask for a verbal or written prediction
	Translate	Ask for a verbal translation if objective is 'to speak'
		Ask for a written translation if objective is 'to write'
Application	Construct	Require the learner to construct (e.g., create a spreadsheet, build a wall, bake a cake)
	Solve	Require the learner to provide a solution, being clear as to whether he or she is to show the method (e.g., when solving a maths problems) or just to show the result (e.g., a solution to a crossword puzzle)
	Use (a method)	Require the leaner to apply the method. This may be written (e.g., use the net present value method to evaluate an investment) or physical (e.g., use the ABC method to resuscitate a patient; carry out a heart by-pass operation).
Analysis	Analyse	Ask for a verbal or written analysis of a given scenario
	Compare	Ask for a verbal or written comparison of two or more scenarios/ situations
	Contrast	Ask for a verbal or written contrast of two or more scenarios/ situations
	Distinguish	Ask for a verbal or written distinction of two or more scenarios/ situations
	Explain	Ask for a verbal or written explanation of one or more complex situations. (Simple explanations are at the comprehension level.)
Synthesis	Compose	Ask the learner to compose a piece of music
	Construct/create	Ask the learner to construct something original (e.g., a statue, an electronic circuit). (Note: At this level, 'construct' implies 'design' as well.)
	Create	Ask the learner to create an original work (e.g., a poem)
	Design	Ask the learner to design something (e.g., a stage set)
	Plan	Ask the learner to produce a plan (e.g., a plan for a new traffic system, a plan for a new garden)
Evaluation	Choose	Provide data and ask the learner to make a choice
	Decide	Provide data and ask the learner to make a decision
	Justify	Provide data and ask the learner to justify a choice, decision, etc.
	Prioritise	Provide data and ask the learner to prioritise it
	Rate	Provide data and ask the learner to rate it against certain criteria (the criteria may or may not be provided)
	Select	Provide data and ask the learner to select one or more options

TABLE 26. Comparison between continuous and final assessment

	Advantages	Disadvantages
Continuous assessment	• encourages course designer to plan a build-up of knowledge and skills • helps students consolidate what they have learnt • helps students reflect on their progress • may be less stressful for students than a final assessment • more reliable	• may be more costly • requires more organisation • requires more record-keeping • may lead to a fragmentation of the curriculum • may lead to over-assessing lower level (cf Bloom) objectives
Final assessment	• students can relax more while taking their course – they are not repeatedly being assessed • students have time to reflect and consolidate material before being assessed • assessment is 'whole course' rather than topic-based • simpler to organise	• stressful for some students • one assessment is a less reliable measure of learning than several assessments