UNIT 2  UNIT DESIGN

Structure

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2.1  Introduction
2.2  Key Terms Used in a Distance Education Text
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  2.2.2  Units
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2.0  OBJECTIVES

In this unit, we concentrate on course texts, describe different types of texts used for distance education, and discuss the circumstances in which each of them may be used.

By the end of this unit, you should be able to:

- recognise and use the specialised terms commonly used to denote the features of distance education texts;
- describe those features of a unit which are essential and desirable and explain why they are so; and
- evaluate different kinds of self-learning texts.
2.1 INTRODUCTION

It is hardly surprising that given the long evolution of distance education, a number of different forms of text presentation now exist. Those among these, to which we have referred are correspondence lessons, study guides, and programmed learning texts. Each form has distinctive features, and we shall look into these in this unit. However, all have some features in common, which make them suitable for distance education. We shall discuss these characteristic features of distance learning texts, but first we shall spend some time classifying terminology, a tricky matter in a new discipline. We will relate our discussion of terms to the educational theory discussed in the first block of this course, so that by the time you have completed the unit you should be fully aware of how the shape of the course units has evolved following educational principles rather than merely by chance.

Having discussed course design in the first unit, here we turn to unit design. In the unit that follows we shall discuss how content/subject matter may be organised in such unit which goes to make a course.

2.2 KEY TERMS USED IN A DISTANCE EDUCATION TEXT

Some quite ordinary terms have acquired a specialist meaning in distance education. Let us start by considering some very basic terms — ‘aims’, ‘objectives’ and ‘units’.

Activity 1

Before you read on, give your own definition of aims and objectives. Write them down on a plain sheet, and then compare them with the notes below.

2.2.1 Aims and objectives

Dictionary definitions of the terms ‘aims’ and ‘objectives’ give the impression that the words are more or less interchangeable. This might be so in everyday usage, but educational technologists usually make a distinction between the two terms.

We use the term ‘aim’ to refer to broad and general educational goals. For example, one aim of this course is to make you a better distance educator. Objectives tend to be narrower and more specific. If you look at section 2.0,
you will see that we have specified three clear objectives for this unit, while our aim is to present an overall picture of the structure of distance teaching texts.

When a distance educator uses the term ‘objective’ he or she is in fact referring to behavioural objectives. That is, the objectives describe the behaviour that will result from learning, or what the students should be able to do at the end of the unit or course. This approach to learning assumes that reading and memorising facts are insufficient: learning has only occurred when people can put into practice or display what they have learnt.

Every system of education has objectives, and most educators acknowledge this. In conventional education, however, many teachers do not think overtly about objectives when they plan their courses or lectures. Distance educators must explicitly state their objectives in clear and operational terms. It is virtually impossible to plan a course effectively without formulating clear objectives, and in distance education everything must be planned in advance. Obviously, then, objectives are a vital planning tool.

It may occur to you that, while course planners and writers need to specify objectives it is not obviously necessary to list the objectives for the learners to read. It is however, normal to state in each unit the relevant objectives. Why is this so? The reason is that distance students are self-directed. They must work out what to do from the teaching materials, and must be sure that they are correctly interpreting the intention of their distance teacher. A statement of objectives helps them to understand the thrust of a unit and to organise their study accordingly. Objectives are, therefore, usually presented at the beginning of a unit. Sometimes they are given instead at the end so that learners can check whether or not they have covered the material thoroughly.

An excerpt from Rowntree (1990) is presented below as an example.

**Aims (from different lessons/courses):**

- To explain the concept and importance of energy; to provide practice in carrying out surveys and experiments relating to energy studies;
- To foster an appreciation of the novels of D.H. Lawrence;

**Objectives** – By the end of this lesson you should be able to:

- List the various forms of energy;
- Distinguish between energy and power;
- Relate Lawrence’s viewpoint to your own experiences.
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2.2.2 Units

The word ‘unit’ is used to denote part of a block. The contents of the unit decided upon either in terms of the theme or topic or the block is divided on the basis of the materials used to teach the topic. For example, in a science course a block on ‘evolution’ may contain a unit on ‘natural selection’.

In its complete sense the unit includes all the material that covers the topic, and could include a text, an audio tape and a video programme all concerned with natural selection. However, in everyday usage, we have come to use the word ‘course unit’ to refer simply to the text. As this usage has become so common in distance education, you will notice that we, like others, normally use ‘unit’ as the equivalent of ‘text’.

You should, however, be aware of other terms that are quite common. In some institutions, units are called ‘lectures’, ‘lessons’, or even ‘letters’. Some use the term ‘unit’ for a book covering a group of topics, while ‘lecture’ is used for individual topics. We at IGNOU use the word ‘block’ for a group of units. So although our use of the word ‘unit’ is most common among distance educators today, when you read about or discuss distance education, be careful to check the meaning attached to the terms by the writer or speaker.

In distance education at the university level, confusion sometimes arises over the distinction between ‘course units’ and ‘credit units’. They are not the same. In a degree constructed on the credit system, a credit unit usually corresponds to the period of time that a learner is required to spend on a unit. A single course may have a weightage of, say, four or eight credit units according to its length.

The number of ‘course units’ will usually be quite different. A course of four credit units might have twenty course units. It is unfortunate that ‘unit’ has come to be used in these two contexts, and it is as well to be aware of the potential confusion.

Material is divided into units not only because it suits the subject matter but also because it suits the learners. You will remember from Block 1 (ES-312) that learning theorists advise us to take learning in small steps. A division into units helps provide a framework for effective learning. You will find also that most units are subdivided into sections or parts for the same reason. Frequently, each section will correspond to a particular learning objective.

2.2.3 Assessment questions

In Block 1 (ES-312) we stressed the importance of reinforcement in learning. Learners need to test their performance and check their progress frequently if
they are to learn effectively. In a classroom situation, the teacher or lecturer stimulates reinforcement by asking questions or setting exercises. In distance education, the teacher is available only on restricted occasions and the bulk of reinforcement takes the form of self-assessment. Self-assessment questions have, therefore, become an important feature of distance teaching texts. A self-assessment question can take many forms, but it is always a question where the learner checks his/her own answer.

You may also come across the term ‘in-text question’. An ‘in-text’ question does not necessarily have an answer provided or it may be a short quick-check question, with a single word answer. It may be a developmental question, which makes the reader think about a topic or relate a concept to his or her own experience. Course developers regularly use all these terms, and sometimes you will meet them in course units. However, learners cannot easily see the fine distinctions between types of questions and their functions, so sometimes you will find the term ‘self-assessment question’ used for all questions, or you may simply find the word ‘question’ or exercise. Feedback and reinforcement are also provided occasionally by correspondence tuition and the work to be marked by correspondence is usually called an assignment. Those institutions which have computer marking facilities may refer to computer marked assignments (CMAs) and tutor marked assignments (TMAs) which are the two types of assignment commonly used in the system.

In the past, work for the tutor was often called a/the ‘worksheet’ and some institutions still use this term. The directorates of correspondence courses in Indian University use the term ‘response sheets.’ (At IGNOU we use the term ‘assignment-responses.’)

2.2.4 Essential and recommended texts/further readings

Many courses require students to read some extra material in addition to their units. Sometimes a text requires ‘readings’ which must be obtained by all learners. Such texts are usually referred to as ‘essential texts’. Some institutions call them ‘set texts’. On other occasions, students are expected to read widely from a variety of books, but the readings are entirely optional. These books are referred to as ‘recommended texts’ or background reading. The distinction is important, as books are usually difficult to obtain and the availability and price of essential books must be checked before they are specified as compulsory. A course that has no recommended textbooks is known as a self-contained course.
Check Your Progress 1

Here are two questions taken from a distance teaching text. Which term introduced in section 2.2.3 would you use for each of them?

Note:  a) Space is given below for you to write your answer.
       b) Compare your answer with the one given at the end of this unit.

I. Can you briefly recall, and list below, from the preceding unit, the legislations protecting the workers and the consumers?

<table>
<thead>
<tr>
<th>Workers</th>
<th>Consumers</th>
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<tr>
<td>1.</td>
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<td>9.</td>
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</tbody>
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II. Study the organisation chart of the Personnel Department of your organisation discuss it with the persons who can explain to you which factors were considered to make it what it is now, and write down these factors below:

| 1. |
| 2. |
| 3. |
| 4. |
| 5. |
| 6. |
Having adequately dealt with the terminology which might have confused us for want of explanation, we shall now touch upon the essential features of a unit.

2.3 **KEY FEATURES OF A UNIT**

The function of a unit is to teach. As our texts are for self-study, they must combine the functions of face-to-face teachers and supporting text books. In addition to covering the subject matter, they must provide the right process of students' orientation to the course, reinforcement and feedback, to encourage and direct learning. Each institution has its own style of presentation, but the features described below are common to all.

### 2.3.1 Beginning a unit

The function of introductory sections of a unit is to give an orientation to the learners. The reader needs guidance on how to approach the unit and what to expect from it. Introductory sections usually have the following components.

**Contents Outline/Unit Structure**

This enables the learners to see what constitutes the unit and to organise their study. While a text book normally has only one list of contents for the whole book, distance-teaching texts usually have such lists for every unit. Even if a unit contains only a few pages, it normally requires many hours of study spread over several days or even weeks. Incorporating a list of contents, therefore, helps the learners by providing a quick reminder of the contents each time they open their text. If, however, a course contains units only three or four pages long, the list of contents is usually omitted.

As indicated, content lists not only point to the contents of a unit but also to the framework in which they are presented. For this reason, expressions like ‘unit contents’, ‘contents’ and ‘unit structure’ have here been used synonymously, though the last one is most common these days.

**Statement of objectives**

This, as we saw above, provides learners with a description of the desired learning outcomes and enables them to approach the material in the right spirit.

**An overview**

This is a description of the unit which gives an idea of why the writer has chosen to present the material in a particular way, and hints at different points of view the reader may wish to take. That is to say, the overview encourages...
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the learners to look at the unit in a constructive and creative way, complementing the somewhat mechanistic emphasis of the objectives.

Study guidance (please do not confuse what is given here with what has been presented in subsection 2.4.6)

As we have seen, the course unit is only part of the study, and learners need advice on the other components of study and how they relate to the text. Such advice is usually given in the text, because in most distance teaching systems print is the main medium. Thus, the introductory pages of a unit may include:

i) a note on the ‘essential’ or ‘recommended’ reading that relates to the unit,

ii) information about related practical work and advance warning of equipment that may be needed later in the unit,

iii) a mention of related audio or video materials,

iv) an idea of the terms needed to study the unit, especially if course units are of different lengths, and

v) any other practical information that could help in getting the best out of a given unit.

Without such guidance, learners may waste time trying to find materials or books at the last moment.

A note on other related units

In a long course of study, it often happens that several units are related to each other but are not necessarily adjacent. For example, the learners may study certain aspects of atomic theory in an early unit, and return to this topic several units later. In terms of time, this could be after two or three months. It is quite possible that some learners will not remember the original material very well, and others will not immediately recognise that the topic of the later unit follows from that of the earlier unit. It is, therefore, helpful to include in the introductory stages a mention of the related units, and perhaps also some suggestions for revision to ensure that learners recall the key points before they start trying to understand the new material. It may also sometimes be useful to mention units which are meant to follow and which may further take the subject forward.
How are we to arrange these features in our introductory pages?

We do not want to burden the learners with page after page of introductory material, and we do not need to include every point mentioned above in each unit. A common solution is to provide the following features:

i) content list/unit structure
ii) objectives, and
iii) introduction

The introduction contains an overview of the unit and covers the other points as necessary.

The statement of objectives is probably the most important of the introductory features. An extract taken from a long article, ‘Some Instructional Strategies for Improved Learning from Distance Teaching Materials’, by Marland and Store (1982) discusses the issue of objectives in some detail. Read it carefully and then, in your own words, make notes on the usefulness of objectives.

Objectives

To those familiar with instructional planning and teacher education the next two statements will come as no surprise.

- The empirical and prescriptive literature on instructional planning is replete with advice and research reports about objectives, but in comparison other facets of planning are poorly served.

- Prospective teachers are generally required to spend numerous hours in preservice courses learning about the virtues of objectives and how to formulate them.

“Both these conditions are symptomatic of a general obsession in educational planning with objectives. It emanates from a strong commitment to a model of planning which stresses the importance of rationality and ends-means logic and which asserts the primacy of objectives in planning for effective teaching and learning. Proponents of this model argue for a high level of precision in formulating objectives, with some advocating the use of behavioural objectives which represent the ultimate in precision.

“Their conviction about the need for clear, unambiguous objectives steams from two beliefs. The first is that precise objectives provide teachers with clear guidelines for selecting instructional means and evaluative criteria; and the second is that providing students with these objectives will increase their motivation and learning.
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"The second proposition has been debated vigorously and has been tested in experimental research but the issue has not been satisfactorily resolved. Instead, the research has revealed the complexity of relationships between the use of objectives and learning and has raised many other issues requiring resolution. According to Macdonald-Ross (1979), this whole area is in a state of confusion which no simple summary can sort out. While such a warning cannot be overlooked, the practice of writing objectives into instructional text continue, so text writers will continue to look for answers to perennial dilemmas relating to level of specificity, location in text, number and distribution throughout the text; when to use them and even whether to use them at all. There is a need, therefore to review evidence and opinion about the effects, functions and value to students of objectives, and then to generate some guidelines on their use.

Research

Research and theories about instructional objectives from within two different research traditions will be reviewed. Those two traditions are:

- An experimental research tradition, owing much to behavioural psychology. Studies conducted within this, of which there are many, have been undertaken in contrived learning-from-text situations, involving mainly tertiary and upper secondary students;

- A descriptive research tradition with allegiances to ethno-methodology and a cognitive view of learning.

"Very little research relating to this second tradition has been reported but its goals are to assess student responses to objectives in natural study settings and to trace the actual processes engaged in by students when using objectives. As might be expected, these reviews lead to two sets of conclusions which are not easily reconciled.

"It was stated earlier that experimental research into the facilitative effects of objectives on overall learning (that is, international and incidental learning) is equivocal. This is the general opinion of most reviewers (see, for example, Faw and Waller, 1976; Hartley and Davies, 1976; Macdonald-Ross, 1979). If a simple vote-counting procedure were used, there probably would be a slight advantage for research showing positive effects from objectives (see, for example, Melton, 1978), but the result is certainly not clear or unambiguous. If the effects of objectives on intentional learning only were considered, the weight of evidence in favour of objectives increases but it is still not convincing.

"This failure of research to provide clear confirmation of a popularly-held belief about the value of objectives has prompted attempts to pinpoint reasons
for the unexpected result. Some blame has been attributed to flaws in research
design and statistical techniques but many other plausible reasons have been
advanced to account for the ambivalence in research results. Inferences about
conditions when objectives could be effective aids to learning have also been
generated.

“Research studies have explained a variety of complex conditions governing
whether or not objectives enhance relevant and incidental learning. So far, few
insights have been obtained into the precise combinations of conditions that
must prevail for desirable effects to occur. One inference about a main effect
which is set down with less hesitation and trepidation than are most in this area
of educational research, is that specific objectives enhance relevant learning but
decrease incidental learning (Duchastel, 1979. Faw and Waller, 1976). On this
‘finding’ has been built a selective attention hypothesis which proposes that
objectives direct attention to objective -relevant material and away from
material which is not related to objectives. It is also frequently claimed that
objectives, assuming students accept them as helpful and know how to use
them, provide students with clear goals which enable them to organise more
efficiently their learning activities and reduce time spent on misdirected effort.

“It is also claimed that they offer a basis for student self-evaluation in the
course. These attributions have not been confirmed by self-report data or other
means, but enjoy a good measure of credibility at the moment due to
cumstantial evidence from research studies and the intellectual appeal of the
logic underpinning them.

“When we turn to descriptive research and the inferences generated from it, we
see objectives from quite a different perspective. Though there is very little
research to report, what there is indicates that, as with inserted questions,
students do not use objectives as intended by those who have written them. The
evidence from survey studies conducted at the Open University (UK)
(Macdonald-Ross, 1979) suggests that students do not use objectives as
attention-directors or as goal statements for solving problems solving, but as a
means for assisting them to find their way about the instructional text. This, as
a view of the student as an active and selective reader, has led to a radically
different conception of in-text instructional devices. Objectives, like inserted
questions and overviews, are seen as ‘access devices’, providing students with
different points of entry to the instructional material and allowing them to chart
their own way through it. Seen in this light, objectives would no longer serve
as direct aids to learning and would not be fulfilling the role ascribed to them in
the rational, ends-means model of planning.

“It might be though, then, that they need not be placed early in the text.
However, if they are to serve effectively as part of the access structure they
would still need to be in a prominent place and students would have to be
alerted to their presence. Macdonald-Ross (1979) and, before him, Kaplan and
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Simmons (1974) proposed that ‘(objectives) be placed at the end of the teaching material as a checklist...with page numbers for back reference’ (Macdonald-Ross, 1979:251). In that case they would appear to be duplicating the function of inserted questions or self-assessment checks. It then raises the question of whether they should be used in place of, or in addition to, either of the other two devices.

Guidelines

The foregoing analysis makes it abundantly clear that generating guidelines on the use of objectives for writers of instructional texts has many problems and pitfalls. There are no definitive answers from research, just a few clues or straws to clutch at, but even these lose much of their significance because of the disparities between research and study settings. The guidelines supplied here are therefore rules of thumb to be used cautiously.

- It would appear that objectives probably serve some useful functions for students provided they are clear and precise and so are worth considering as an instructional aid in distance teaching texts. This should not be taken to mean that they can or should be used all the time. Their use in conjunction with other instructional devices must still be justified in the light of specific conditions and requirements that apply in each case.

- It also appears that their use is more warranted when learning tasks are complex and difficult (that is, requiring high level cognitive skills) and/or when important learning tasks are not clearly distinguishable. At the same time there is no evidence that there are specific groups of learners for which, or specify subjects in which, objectives work best.

- Actual use of objectives by students is also likely to be, in some respects, different from and more diverse than, intended use. It is important for writers to recognise that such diversity of usage exists. One consequence of this diversity is that the location of objectives in a text in terms of a simple choice between the start and the end of teaching materials, becomes a non-issue because location in the text does not determine whether or how students use objectives. Students will use objectives, irrespective of their location, to suit their own purposes. There is, however, another aspect of the in-text location of objectives, arising from consideration about frequency of insertion or density of objectives. Dispersing objectives throughout the text in small sets in company with the relevant material seems to be a sensible practice to follow. Placing a large number may cause students to feel overwhelmed and frustrated and discourage them from using objectives.

- Another guideline which we believe has some merit concerns advising students on the purposes for which objectives have been inserted in the text.
and how they might be used by students. It is assumed that writers who use objectives in texts do so with some clear preconceptions about how those objectives should be used. There are also good grounds for stating that students use them in those and other ways. Our position is that making explicit the intended and likely functions served by objectives could help students improve their study skill, thereby enabling them to derive greater benefit from the objectives and from the instructional material. Remaining silent about such functions would not achieve anything but it may account in part for lack of use of objectives by students and may impede refinements that could be made, in order to see objectives as an instructional device.

"Finally, a comment about objectives and incidental learning. Writers, if they plan to use objectives, would be well advised to consider the implications of the selective attention hypothesis mentioned earlier, which proposes that objectives cause students to be selective in their text processing and focus only on objective-relevant material. Writers could take two basic positions:

- Promote student attainment of prespecified objectives only, and accept the possibility of depressed incidental learning; or
- Adopt the view that prespecified objectives represent a common core of student learning which is to be extended wherever possible.

"Adoption of the second position would require the use of instructional strategies to consciously promote the extension of learning horizons beyond those represented by the prespecified objectives.

"Our position is that a policy of ignoring, discouraging or discrediting incidental learning is indefensible. Learning experiences will inevitably lead to unanticipated outcomes — sound or unsound, relevant or irrelevant, acceptable or unacceptable. Instructional science has not reached the point (perhaps it should not strive for it either) where it can control learning so that only some targeted objectives are attained and unanticipated outcomes, especially the unwelcome ones suppressed. Writers of distance teaching materials should acknowledge this and contemplate how they might monitor incidental learning, negate or counteract undesirable incidental outcomes and help students derive some benefit from the positive incidental outcomes. Conventional strategies could be used such as specially designated self-assessment items which test extended or allied objectives, that is, learning beyond the range of prescribed objectives. Writers might also encourage incidental learning by giving greater emphasis to expressive objectives, that is, unanticipated learnings which are 'expressed' from the educational encounters with the given instructional materials. For example, writers could indicate areas in which expressive objectives could seek evidence of learning attainment through self-reports or contractual assignments, and provide feedback".
2.3.2 The body of a unit

This will normally consist of a number of sections, each of them presenting at least one new point. Usually each section relates to a different objective of the unit. The section contains presentation of the topic and exercises to check that the learners have understood the material. The exercises are normally self-assessment questions and/or in-text questions. Assignments usually occur only after a complete unit has been studied, though for operational convenience assignments are set to cover a number of units together, that is, a block, or even more than a block at a time. In this connection, see our response to self-check question 4, but only after you have written down yours. The body of the unit, therefore, normally consists of a sequence of text explaining a topic and self-assessment/in-text questions.

Most units require several hours of study and so students cannot work right through them in one study session. A division into suitable sections therefore, provides students with resting places. Clear organisation of the material is an imperative.
Within sections, headings or signs mark changes from text to exercise. Not every learner will want to read every word of the text and not every learner will work through it only once. The material will be exploited by learners in different ways, and a clear and consistent structure helps them to do so.

**Check Your Progress 3**

In the light of what we have said above, what functions remain for the end of a unit? What features would you expect to find at such an end?

**Note:**

a) Space is given below for you to write your answer.
b) Compare your answer with the one given at the end of this unit.

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**2.3.3 Ending a unit**

The last section of any unit helps learners to check that they have completed all the necessary activities, understood and remembered all the material. This section may therefore have the following features.

**Summary**

This can take several forms. It may be a list of the key points that have been covered. Sometimes it is presented as a checklist which is a list of topics covered, with a request to learners to check off points they have understood. In other cases, the objectives are placed at the end of the unit, as a kind of checklist.
Sometimes there is an activity—an exercise or self-marked test—that quickly checks on the main points.

**Assignments**

The assignments consist of more demanding activities that check whether the learners have fully understood the material and can apply what they have learnt. They will be marked by a distance tutor. In some courses, assignments are given for every unit, while in others, assignments occur after a block of units. When assignments are infrequent, self-assessing summary exercises become more important and may include work on essay type questions to help learners develop their ideas in preparation for assignments.

**Check Your Progress 4**

In your own words, explain the functions of an assignment and suggest what factors may influence the frequency of assignments.

**Note:**

1. Space is given below for you to write your answer.
2. Compare your answer with the one given at the end of this unit.

Whatever the kind of self-learning text, the features we identified in this section (i.e., 2.3) are common to most units. Having said this, let us now look at the different kinds of self-learning texts.

**2.4 DIFFERENT KINDS OF SELF-LEARNING TEXTS**

Self-learning materials are designed for learners to use on their own, and can be classified, or divided into two groups:
i) those which are designed for learners to use without assistance, and

ii) those which require some kind of guidance or intervention from a teacher or counsellor.

The first group includes teach-yourself books, bazaar notes, manuals, handbooks and programmed instruction texts; the second includes open learning materials, correspondence lessons, study guides, and distance education units.

We will examine each of these in turn, but first let us consider a question which may have already occurred to you.

**Is a textbook a self-learning text?**

After all, almost all students, at onetime or the other, study textbooks on their own. University textbooks are designed for solitary reading, but under the guidance of a lecturer. School textbooks are designed largely for class use, and are teacher-centred. The teacher selects topics and exercises, not necessarily in the order given, and usually supplements the material with more explanations and exercises. Textbooks at both levels are not designed specifically with self-learning in mind. At higher levels many students are able to study independently, using textbooks on their own. In fact, the larger part of all learning among adults occurs in this way, that is, unorganised and invisible learning from books. But this fact does not imply that the books themselves are self-learning texts. Readers have to supply for themselves those elements necessary for self-learning which are missing from the conventional textbook.

As this section proceeds, you will gain a clearer picture of these elements. Let us start by pointing out that self-learning texts should at least include:

i) full coverage and explanation of each topic;

ii) a carefully structured order of presentation

iii) arrangements for reinforcement and feedback; and

iv) advice on how to take matters further.

At this stage we would like you to turn back to Unit 3, Block 1 and relate what we have said above with what you read here.

For a clear understanding of the difference between the text and a self-learning unit, you can go through Figure 2 presented on page 48. Some textbooks do not incorporate active learning i.e., thinking, writing and doing. They only use one-way instruction. The learner reads what has been written but does not respond to the material. An effective instructional design in open and distance
education, however, usually consists of a two-way process. In other words, there is interaction between the course writer and the distance learner. The learner is therefore actively involved in the learning process. It is for this reason that the writer of distance education materials has a very different task from the writer of an ordinary textbook.

**Table:**

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<tr>
<th>Textbook</th>
<th>Self-Learning Material</th>
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<tbody>
<tr>
<td>Learner is passive</td>
<td>Learner is active</td>
</tr>
<tr>
<td>Structure is hidden</td>
<td>Learner is aware of structure</td>
</tr>
<tr>
<td>Teacher-directed learning</td>
<td>Self-directed learning</td>
</tr>
<tr>
<td>Lecture</td>
<td>Dialogue</td>
</tr>
<tr>
<td>Impersonal style</td>
<td>Friendly and personalised style</td>
</tr>
<tr>
<td>Little scope for application of knowledge and skills</td>
<td>Learner applies new knowledge and skills</td>
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<tr>
<td>No activities (in some cases at the end of the chapters)</td>
<td>Activities and exercises presented throughout text</td>
</tr>
<tr>
<td>Content arranged in chapters or large blocks</td>
<td>Content is divided into small chunks</td>
</tr>
<tr>
<td>Dense content</td>
<td>Content unpacked</td>
</tr>
<tr>
<td>No assignment pertaining to content</td>
<td>Assignments related to content grading/material</td>
</tr>
<tr>
<td>Little or no self-assessment</td>
<td>Emphasis on self-assessment</td>
</tr>
<tr>
<td>No feedback</td>
<td>Feedback provided on learner’s progress.</td>
</tr>
</tbody>
</table>

Fig: 2 Differences between textbooks and self-learning material

2.4.1 **Teach-yourself books**

At some time in every students’ life, he/she gives in to the temptation to cram for examinations from revision notes. Have you ever done so yourself? If so, you can probably compose a list of the characteristics of such books. Stop for a moment and try to imagine what such a list would consist of.

These books (variously called bazaar notes, revision notes, teach-yourself books of study aids) are all published with one aim in mind—to make money for the publisher and the author. They are always bestsellers aimed at a ready market of anxious candidates who buy them on impulse. Teach yourself books aim to provide rapid coverage of a subject while revision notes are even more compressed, usually providing little more than a checklist.
Of course they do serve a purpose but a very limited one. The coverage of the subject is normally inadequate and concentrates on facts, not on understanding. There are moreover, very few exercises.

The main reason for offering a limited number of exercises is the reluctance of the publisher or the author to spend more time or money on paper or on the construction of purposeful exercises. Obviously, pedagogical benefits are in such cases either completely ignored or sacrificed for 'material' gains.

So these books deal largely with rote learning or low-level cognitive learning alone.

Often, the publishers make false claims, promising instant mastery of a subject. Such claims are anti-educational, giving the impression to the public that "learning" equals "learning by heart" and can take place almost instantly.

Notwithstanding the fact that such books have a bad reputation amongst educationists, a few manage to gain popularity. Most series of teach-yourself books include one or two good titles, where the publisher has commissioned work from an excellent and dedicated individual. There is also a new breed of teach-yourself and revision books appearing on the market. These books have clear objectives and plenty of exercises, and they are sometimes available in packs including audio tapes. The publishers of these books have in fact learnt some lessons from distance education, and the results are therefore excellent.

2.4.2 Manuals and handbooks

Manuals are self-learning texts that explain how to do something; a handbook can be a manual but may also be used for reference as well as instructions. Most distance education institutions produce manuals and handbooks: handbooks for students on course procedures, handbooks for tutors and counsellors, manuals for staff training or projects or experimental work. Manuals and handbooks deal with a single topic or a restricted set of topics, they tend to be highly organised and guidance and advice on procedures is offered. Practical manuals are often highly illustrated, and do not normally contain exercises, since they include direct instruction for certain activities, and additional exercises would be superfluous; training manuals, on the other hand, usually contain many exercises. Handbooks or manuals may be multi-purpose texts (see section 2.4.4 on open learning).

2.4.3 Programmed instruction

A programmed instruction text leads a learner in very small steps to a particular objective. It is the ultimate in self-instruction since it works with the intention that every eventuality be provided for. It works like this. The student learns a
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point. He/she then answers a question and checks the answer. If he/she gets the answer right he/she turns to the next page and tackles the next question. If the answer is wrong, the student turns to a different page, and meets a different question which may help him/her answer the first question. This process of turning in different directions is called branching. Figure 2 attempts to show how it works.

Key: QN = Questions
CA = Correct answer given
IC = Incorrect answer given

Figure 2: Programmed Instruction Text: A Model

You can see how complex the branches get, especially if a student keeps making mistakes. A programmed learning text will, moreover, be bulky in size, but is a very effective teaching method, however, for certain kinds of topics. Usually it is only used for topics that can be covered briefly and systematically. It has a disadvantage in the sense that it is very time consuming to construct such texts.

The technique of programmed instruction was borrowed many years ago from computing and now that computers are more accessible it is more usual for students to learn at the computer, rather than study a text that simulates the computer. It may still be useful to use programmed instruction as an element in
some distance courses. However, the main importance of the technique for us today is its contribution to the development of distance education.

The guidelines we follow for designing texts are to a great extent derived from programmed instruction.

Check Your Progress 5

Mention some features of distance learning units that derive from programmed instruction.

Note: a) Space is given below for you to write your answer.
     b) Compare your answer with the one given at the end of this unit.

2.4.4 Open learning materials

Open learning materials are not so much texts of a distinct type as texts designed for a particular mode of use. They are open in the sense that they may be used in any of several ways for individual learning outside the classroom, or by a teacher with a class. Their distinctive characteristics derive from their potential for multiple use; the texts are organised into short units, printed separately and often arranged in packs. The student or teacher selects appropriate material from the pack. Students generally need the help of a teacher or supervisor to assist them to make the selection, even if they study alone thereafter.

2.4.5 Correspondence units

This is a kind of distance teaching text where the main elements of the course are the lessons or units and tuition is provided by correspondence.
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Because of the number of teaching features they contain, correspondence units are generally distinguished from textbooks or even teach-yourself books, by their length.

Check Your Progress 6

List, as far as you can, the main features of a correspondence unit.

Note: a) Space is given below for you to write your answer.
   b) Compare your answer with the one given at the end of this unit

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2.4.6 Study guides/Wrap-up material

A study guide (otherwise called wrap-up material) is a form of correspondence unit that is linked to an essential text, which is the main means of instruction. The study guide provides instructions for reading the text book (in what order to tackle the chapters, or which pages to read for each topic), a framework for study (objectives and introduction) any necessary commentary or explanation of the book and self-assessment questions, answers and assignments as necessary. In other words, a study guide is a correspondence course with the main body of the text omitted, because this is covered in the essential text. Study guides usually have few pages. They are an economical way of developing a distance course, provided that a suitable text book is available. They are often used for high level small enrolment courses, where it would be expensive to develop a full self-contained course, and where students at an advanced level are better able to handle text books — whatever their imperfections — with the help of their study guides.

2.4.7 Distance education units

Our last two items have both been forms of a distance education unit. You will remember that one of the distinctive features of distance education is its feedback system, where learner support is provided by a variety of means —
from a distance, face-to-face or through self-evaluation. A distance education unit is one which fits into any or all of the possible distance education systems. It would have all the features mentioned in correspondence units and open learning materials and could have some others as well. In particular, units that form parts of multi-media courses will have cross-references to audio, video or other components.

Check Your Progress 7

Why do we talk about distance education and correspondence education as different things? What features would you look for in a good distance education unit?

Note: a) Space is given below for you to write your answer.
     b) Compare your answer with the one given at the end of this unit.

After you have checked your answer to 'check your progress 7', we would like you to evaluate a unit. Preferably, get hold of a unit from another course - it does not matter what course or which university it comes from. If you cannot lay your hands on a unit from a different course, you will have to use one of the units from this Diploma Programme. Go through it carefully, identify each of
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the features we have described, and judge for yourself how far the unit is an effective self-learning text.

2.5 LET US SUM UP

In this unit, we have described the design of a course unit and explained what characteristics of self-learning texts we expect to find in it. Here are the main points.

i) The terms ‘aims’, ‘objectives’, ‘units’, ‘assessment questions’, ‘assignments’ and ‘essential texts’ are used as technical terms in distance education, although agreement on their usage is not yet universal.

ii) Units normally begin with a statement of objectives and an introduction.

iii) The main body of the text contains the step-by-step presentation of topics, along with frequent reinforcement and feedback devices.

iv) Units end with a summary and an assignment or a form of test.

v) Distance education units form one group of self-learning texts.

Distance educational materials are characterised by requiring some form of contact with a teacher, tutor or counsellor, in that they are a component of the larger teaching-learning system. Some self-learning materials can, however, be used entirely independently.

Check Your Progress: Possible Answers

1. i) Self-assessment question.
   ii) Development question (this has no single correct answer, and makes the reader relate what s/he has read to his/her own experience).
   (Both questions are taken from IGNOU Management Studies Courses).

2. It is more difficult to formulate objectives for humanities and the social sciences than for other subjects. Typically, objectives in the natural sciences can be very precise. In the humanities, however, it is often difficult to be so precise. For example, learners may develop an understanding of certain concepts only over several units. It would be boring and pointless to repeat the same objectives over and over. Sometimes, therefore, humanities units start with a description of aims and contents rather than with a formal statement of objectives.
3. A summary and a test. The test is often in the form of a tutor-market assignment.

Did the idea of a summary occur to you? If not, remind yourself that the distance learner normally takes several hours to complete each unit, and the study is usually spread over several days. Enough time has already passed for him/her to forget the first things mentioned in the unit. A summary is, therefore, important for the distance learner to remember the material.

4. Functions of an assignment
   i) Testing understanding: the teacher monitors the students’ progress.
   ii) Applying what has been learnt and developing understanding further: the learner has to analyse and synthesise the material in the unit.
   iii) Providing an opportunity for dialogue and personal assistance from the teacher: the teacher observes the areas where the student needs extra help and offers suitable comments. This includes guidance to weak students on additional remedial work, and guidance to strong students to help them extend their understanding beyond the given material.

Factors Affecting Frequency
   i) Educational needs, e.g.
      Level: At higher levels learners are more self-sufficient and need less assignments. At lower levels they need frequent reinforcement.
      Subject: Certain subjects need more frequent assignments than others. In maths, for example, the teacher must check the learners’ understanding of certain topics before they move on.
      Media Methods: If learners have plenty of opportunities for meetings in study centres, they need less assignments.
   ii) Availability of tutors: In some subjects, there may be very few tutors available and so fewer assignments can be included.
   iii) Costs to institution/learner: Someone has to pay the tutors. How much can be allocated per course?
   iv) Communication difficulties: If the postal system is very slow or unreliable, learners may find it frustrating to send in frequent assignments. They may prefer more extensive self-assessment questions and model answers and fewer assignments.

This exercise was intended to help you realise why assignments are not automatically included in every unit. You probably did not think of all the points we have mentioned — if you did, you must already have a lot of practical experience of distance education. But we hope the exercise got you thinking.
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5) i) Objectives
   ii) Division into steps
   iii) Frequent feedback
   iv) Self-check questions and answers

6) You may have mentioned:
   i) Clear organisation in steps
   ii) Objectives
   iii) Introduction
   iv) Self-assessment questions and answers
   v) A dialogue style, including in-text development questions
   vi) Study guidance
   vii) Clear language
   viii) Assignment

7) Correspondence education is one form of distance education. Distance education is broader than correspondence education, using a variety of media for teaching and a variety of means for learner support. A distance education system provides for organised selection of such media and means of support. Correspondence education simply consists of two elements: correspondence units and correspondence tuitions. [Fuller discussions on the differences between them are given in course ES-311].