empirical findings or simply as a system for bringing reasonable expectations, experiences and insights into useful order. Its purpose is to develop validated recommendations for the structuring of effective teaching. It is often combined with the so-called systems approach which here implies considering teaching as a system with interrelating sub-systems (Andrews and Goodson 1980; Hannum and Briggs 1982; Romiszowski 1981a).

3
PLANNING DISTANCE EDUCATION

The introductory comments made so far make it clear that distance education in theory and practice encompasses a number of diverse considerations and actions. The interaction between these, their relations to and influence on one another are important to our picture of distance education as a manageable whole.

What this means to distance-teaching organizations and their overall planning is far from universally clear. Needs and conditions in the societies concerned are decisive, but real knowledge about relevant circumstances is seldom easily available. What can be called market research and a kind of corporate planning are required. In the early 1970s the present writer made what proved to be an abortive attempt to develop a generalizable approach to such planning and published a booklet in Swedish about this (Holmberg 1972). A more fecund approach of immediate relevance in the 1990s has been introduced by the Canadian Open Learning Agency in a 'scan of the British Columbian Environment' (Bates 1990b and 1993; Segal 1990).

While strategic planning must remain a concern of each national, regional and local organizing body there are more easily generalizable principles that apply to the planning of the processes of distance education. Here we have to consider the system itself, its students and their learning, course planning based on the needs of the target groups concerned, the goals and objectives of the teaching and learning. This type of planning concentrates on what has been called the endogenous concerns of distance education, i.e. what it is like and how it can be optimized. There is, however, particularly among social scientists, a strong consciousness that exogenous factors such as the reciprocal influences of society and distance education are of considerable

interest and should be investigated. This will be briefly discussed in the last chapter of this book.

A SYSTEMS APPROACH

The so-called systems approach embodies a somewhat vague but nevertheless helpful principle related to what has been called holism (from Greek *holos* = whole). See von Wright, who characterizes systems theory as a rather immature mixture of loose philosophical ideas and 'mathematical quasi-exactitude' (von Wright 1987: 112). Holism stresses the whole (the system) and studies its parts not as separate entities but as components of the whole. Knowledge of the purpose that a system serves, for instance, makes for understanding of the functions of the parts. The components of the distance-education system are, for example, students with their needs and wishes, tutors and others representing the supporting organization, subject and curriculum requirements, goals, the presentation of subject matter, students' interaction with tutors, counsellors and fellow-students, the assessment of learning, course and systems evaluation, and organizational-administrative arrangements. In our examination of distance-education practice it is the processes we are above all concerned with, thus, e.g., the development of learning materials rather than courses, tutoring rather than tutors, students' learning rather than students.

The system of distance education has been aptly described by Renée Erdos. She illustrates the system as shown in Figure 1. Another systems view of distance education occurs in an Alberta publication (Figure 2).

From less organizational-administrative starting points, a further interesting systems approach to distance education has been developed by Tony Wright. In his case, the system is 'a model of teaching and learning, showing how various factors influence the personal development of a student' (Figure 3).

Systems and sub-systems of distance education are both listed and discussed analytically in Casas Armengol's 1987 survey in Spanish.

From these and other attempts to identify the system of distance education, we seem to be entitled to describe the following eight processes from an educator's point of view, as the most essential components:
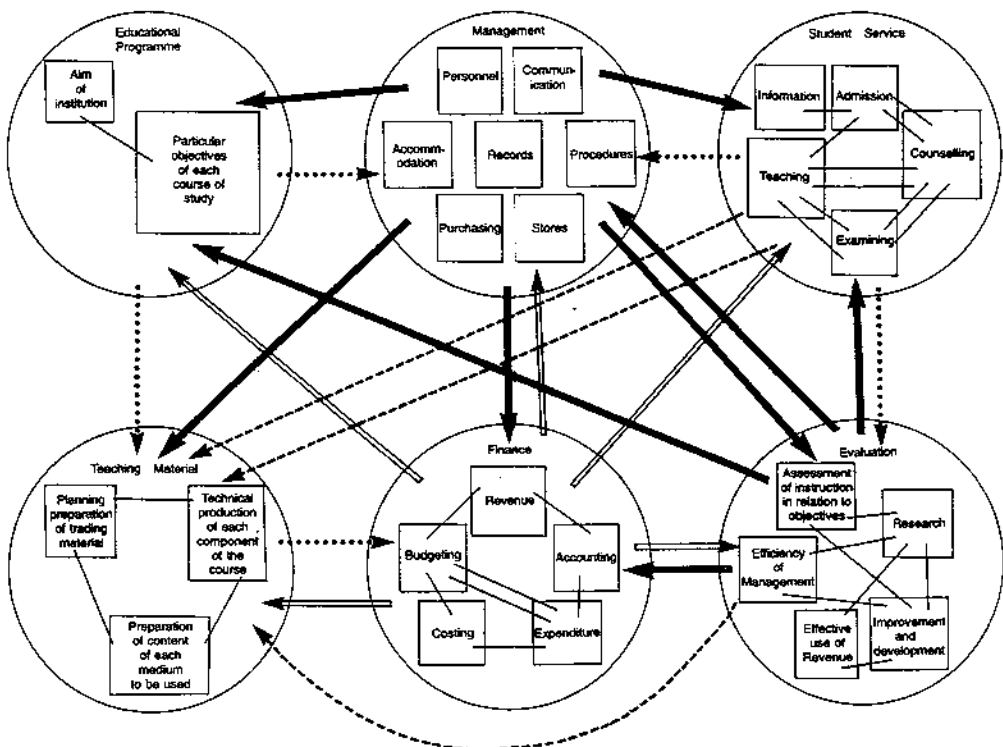
Figure 1 System of distance education
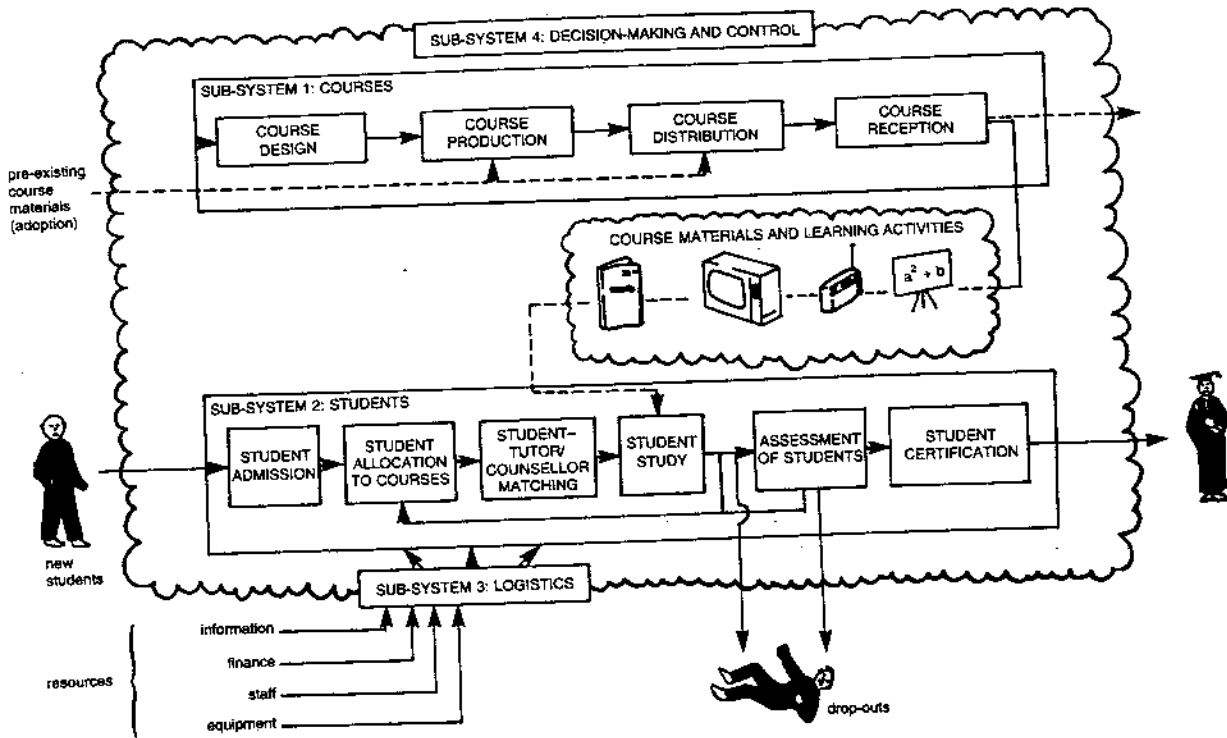*Source*: Erdos 1975b: 11

Figure 2 System of distance education
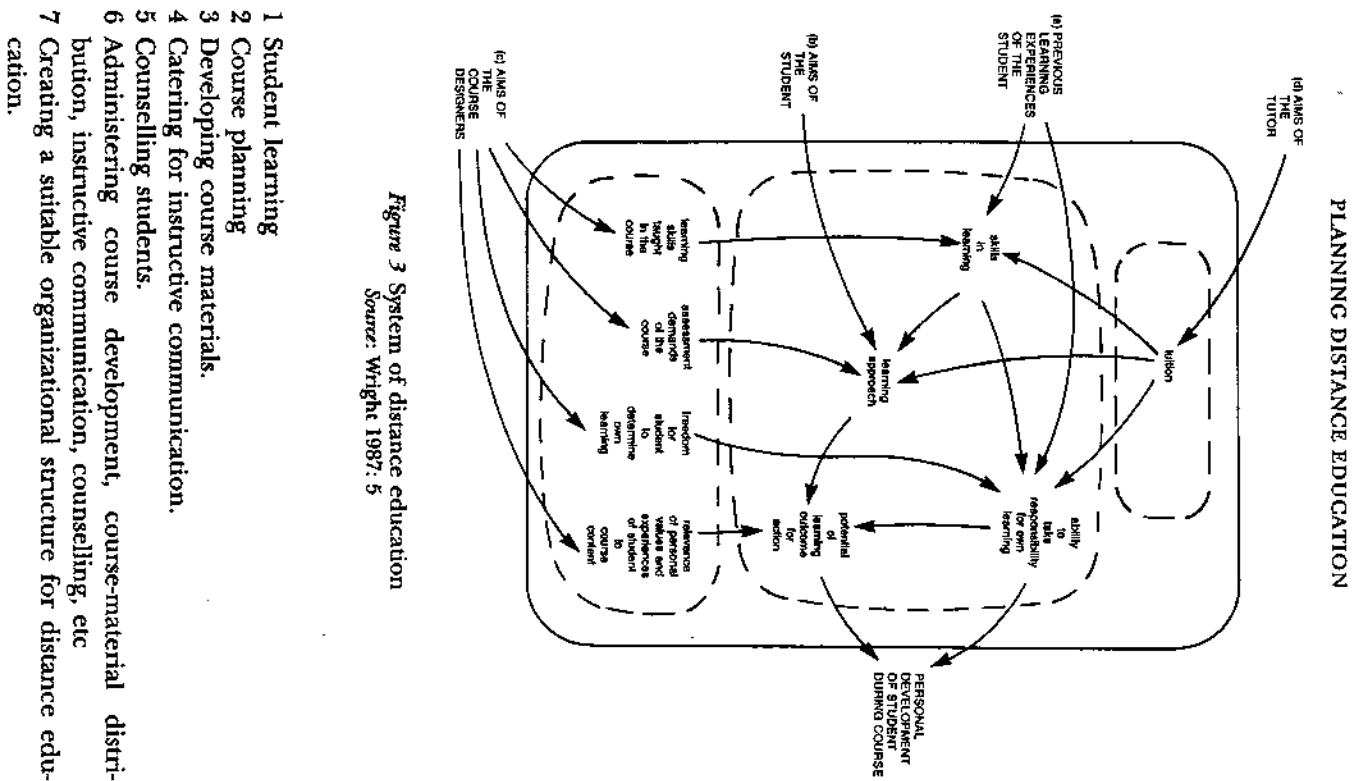*Source: Perspectives on distance education* 1987: 28

Figure 3 System of distance education
Source: Wright 1987: 5

1 Student learning
2 Course planning
3 Developing course materials.
4 Catering for instructive communication.
5 Counselling students.
6 Administering course development, course-material distribution, instructive communication, counselling, etc
7 Creating a suitable organizational structure for distance education.

8 Evaluating the functioning of the system.

In agreement with systems thinking, it is to be expected that these components influence one another (a change in one will affect the others). 'The systems approach is not necessarily a step-by-step process. Analysis, synthesis and evaluation are recurring stages repeated throughout the process and not necessarily in the traditional format of beginning, middle and end' (Romiszowski 1986: 58). Seven of the above components will be investigated in some detail below. The eighth component, evaluation, will be discussed at length in Chapter 10.

The systems approach is sometimes, irrespective of media use, referred to as educational technology. On educational technology in distance education, see Sauvé, Gagné and Lamy (1989).

STUDENT LEARNING

Helping students to learn is any educator's most important task and is a concern that must be considered already at the planning stage. All of what follows in this book is more or less relevant to endeavours that aim at facilitating and supporting distance students in their learning. While later sections will approach this from an educator's viewpoint, this chapter will briefly look into descriptive studies of how students actually learn. This is done in order as far as possible to make sure that optimizing attempts are realistic and to the point. The heterogeneity of distance students makes it difficult to attain generally applicable knowledge.

The starting point of our considerations must be our view of what learning is, as discussed in Chapter 2. Learning should not be understood as a passive process with the learner as the object of teaching, someone who merely receives information, but rather as an active process 'in which the learner interprets information and tries to connect it with already existing knowledge and to fit it into existing cognitive structures' (Schuemer 1993: 3). A consequence of this thinking may be that rote learning (i.e. merely committing facts, names, and figures to memory without looking into purposes, logical relations, reasons, and consequences) is considered relatively uninteresting. On the importance of fact learning see below, however. What Ausubel has called meaningful learning (Ausubel 1968: 55ff) is our main

concern. Meaningful learning implies anchoring new learning matter in cognitive structures already acquired.

By non-arbitrarily relating potentially meaningful material to relevant established ideas in his cognitive structure, the learner is able effectively to exploit his existing knowledge as an ideational and organizational matrix for the incorporation, understanding, and fixation of large bodies of new ideas. It is the very non-arbitrariness of this process that enables him to use his previously acquired knowledge as a veritable touchstone, for internalizing and making understandable vast quantities of new word meanings, concepts, and propositions with relatively little effort and few repetitions. Because of this factor of non-arbitrariness, the potential meaning of new ideas as *wholes* can be related to established meanings (concepts, facts, and principles) *as wholes* to yield new meanings. In other words, the only way it is possible to make use of previously learned ideas in the processing (internalization) of new ideas is to relate the latter non-arbitrarily to the former. The new ideas, which become meaningful, in turn, also expand the base of the learning matrix.

(Ausubel 1968: 58)

As will be shown on pp. 59f. and 75, Ausubel's thinking can be of decisive importance for the structuring of learning matter in distance-education courses.

The awareness that people learn different things from the same teaching endeavours and from the same texts has caused some interesting attempts to identify types of learners and of learning. Gordon Pask's identification (Pask 1976b) of holist and serialist learners has been well summarized like this:

Serialists (partists) followed a step-by-step learning procedure concentrating on narrow simple hypotheses relating to one characteristic at a time. Holists (wholists) tended to form more complex hypotheses relating to several characteristics ... Irredundant holists made use of analogies in their explanations which were appropriate and correct. Redundant holists made, if anything, wider use of analogies but many of these were not strictly accurate and some were entirely fictious, invented to help the student remember

certain characteristics . . . These personal 'props' seem to be the mark of the extreme holist.

(Entwistle 1978: 255)

From reading this, it could be asked if there are methods to help students to become 'irredundant holists'. Pask and Scott fear that it would be deleterious to teach serialists in a holist manner and holists in a serialist manner. Instead, they endeavour to find different strategies adapted to the two types of learners (Pask and Scott 1972; however, see Laurillard below).

A study of learning styles by Marton and Säljö has proved highly relevant to distance education. Their identification of deep-learning and surface-learning habits is particularly important for distance educators for two reasons: first, it is a study of reading, which dominates most distance learning; second, learning habits have great operational importance and bearing on the learning outcomes.

Surface learning basically endangers the educational outcomes of distance study, as it leads to priority being given to the external characteristics of the text concerned rather than to its contents, to examples rather than to principles of general relevance. Apparently many students are 'capable of using "deep" or "surface" strategies'. What is expected of them in an examination may influence the choice of strategy. Focusing the attention on 'the underlying meaning', i.e. promoting deep learning, can probably be brought about 'by ensuring that the assessment procedures demand deep-level processing' (Marton and Säljö 1976: 125).

While neither Pask nor Marton and Säljö pay particular attention to distance students, examinations of the study habits of students of the British Open University have led to the identification of the same deep- and surface-learning approaches as those described by Marton and Säljö (Morgan, Taylor and Gibbs 1982, Morgan 1984). Overcoming the dangers of surface learning must be seen as an important concern in distance education. See below pp. 35–6 as well as p. 129.

An alternative approach 'based on a system for classifying the mental activities reported by students' has been developed by Marland, et al. (1984). Data from an interview study offer 'specific leads about textual design' which are listed 'together with propositions for research' (op. cit. p. 233). These include consider-

ations about metacognitive skills, access structure (see below Chapter 4) and deep-level textual processing.

To some extent related to this discussion is the dichotomy between problem-solving approaches and presentations of intellectual knowledge as ready-made (already discovered and described) systems. Weingartz, on the basis of a consistent view of learning as understanding and problem-solving, has provided an in-depth analysis of some distance-study courses from different parts of the world that illustrate these differences (Weingartz 1980, 1981), and Lehner has developed a learning theory bearing on this. He describes all learning as problem-solving in the sense that it is composed of making assumptions (i.e. developing hypotheses) and modifying these as the learning progresses: an application of Popper's epistemological principles of 'conjectures and refutations'. This leads him to the so-called 'genetic learning approach' mentioned above (Lehner 1978, 1979; see p. 23).

Weingartz' theoretical approach is linked with Lehner's and has resulted in her study of current practice in distance education. Apparently much remains to be done to improve problem-solving learning in distance education; on the whole the 'ready-made systems' presentation dominates, although guidance in far-reaching problem-solving occurs in some courses.

The evident conclusions of the studies referred to are that deep-learning and problem-solving approaches can and should be developed further in distance education. On the other hand, it must be realized that the 'genetic' method of retracing the paths of scholars and scientists in the search for the solutions to problems – including drawing the wrong conclusions (making the wrong hypotheses or conjectures) and later rejecting these in favour of new hypotheses – is much too time-consuming a procedure to be applied throughout, although without doubt an extremely educational experience.

The procedures to be applied to support deep learning, in the sense of Marton and Säljö, would seem to have to direct students' attention towards the subject matter of the texts studied and away from the textual presentation as such. How this is to be done is far from self-evident, however, unless making students conscious of their own learning, by advance organizers (see p. 59f.), 'learning conversations' (p. 47ff.) and other means as well as influencing the learning strategies by means of assessment procedures

are regarded as the answer. The problem is worth investigating further.

There seems to be little cause for resignation or belief that students' learning habits are rigid or necessarily difficult to influence. A study by Laurillard shows that 'students' styles and strategies of learning are context-dependent' (Laurillard 1978: 1). She rejects 'the assumption that learning is a process that is independent of other external factors, or that students possess inherent, invariant styles of learning' (op. cit. p. 10).

Stressing deep learning and problem-solving may lead to neglect of the learning of facts. In some cases it may be argued that, when students' retention of facts turns out to be poor, the sacrifice made is small, as long as they understand and can apply principles. This is not always a sound conclusion. A student of a foreign language must learn the accidence of that language in toto, and in languages such as German or Finnish must automatically be able to use the correct case after individual verbs, adjectives, or prepositions. Such learning can hardly be achieved without a number of repetitions and rather mechanical exercises and so, in certain instances, repetition and over-learning are still to be recommended. Interest in rote learning has now faded, and a sceptical attitude to both repetitions and over-learning has become quite fashionable. However, learning by heart, which is sometimes unavoidable, need not be rote learning only, as will be evident from the discussion of the structuring of a language course on p. 60ff.

In agreement with a view of teaching as facilitation of learning the following chapters will discuss the teaching-learning processes relevant to distance education.

COURSE PLANNING

Bringing about distance-education processes, whether meant to serve personality development, problem-solving as a purely academic exercise, or training leading to an examination or professional competence, requires planning to be useful. The most important considerations for planning are the characteristics of the target groups, the general conditions (social, financial, etc.) under which the study is to be performed, and the needs and intentions behind the educational endeavour, i.e. the study goals and objectives to be catered for.

The target groups

It is evidently important to know what types of students are to be taught. Their general education and previous study experiences, if any, as well as their specific prior knowledge of the subject to be learnt must necessarily exert decisive influences on the teaching. Under the influence of behaviourism, the following principle, among others, has been expressed.

The course must be designed for the target population (students) that actually exists. It is foolish and wasteful to design a course without defining the target population. The major characteristics of the target population constitute the starting-point of the course, the performance called for in the course objectives constitutes the finishing-point, and the process of turning the incoming student into the skilled graduate constitutes the course itself. In other words, the substance of the course is derived by subtracting what the student already is able to do from what you want him to be able to do.

(Mager and Beach 1967: 25)

Those who think in different terms have to accept the point that students' prior knowledge and proficiency must be the basis of any educational endeavour. However, it is only rarely that a student body is both homogeneous and well known when a course is planned. The only characteristic common to most distance students is that they are adults and active citizens (cf. pp. 14 and 205–6).

As a rule, course planners select their students by prescribing a certain standard of competence for enrolment. If, as in popular education, a broad student body is expected or desired, assumptions have to be made on the basis of existing knowledge of the population concerned. The same applies to selected target groups with certain common characteristics as far as intellectual interests, inclinations, prior knowledge, experience, and attitudes are concerned. For instance, these groups might be teachers, or nurses, or accountants; or they may be wider groups, such as those who have acquired university entrance qualifications, or have passed some other educational milestone, or have taken part in a preparatory course of study.

General background factors

The general circumstances under which the study is to be performed can be influenced to a limited extent only. Family situations, social and economic conditions, work requirements, and other background factors must be considered when a study programme is planned. In some cases these factors can be influenced in a way that improves the study situation of individuals or groups, for example, by the offer of paid work-free periods, baby-sitting facilities, scholarships, etc. Distance students in Germany, the United Kingdom, Scandinavia, and elsewhere have experience of such measures to improve their situation. Whether or not this type of intervention occurs, the study situation of distance students usually has some special characteristics to which attention must consistently be paid: students' maturity, their jobs and social commitments, their family responsibilities. One aspect of this is that adult distance students can only rarely give first priority to their study. This, of course, requires adaptability and flexibility of the study arrangements.

Data about factors of the kind discussed occur in, for example, Bååth (1984b); Balay (1978); Bartels (1983); McIntosh, Woodley and Morrison (1980); Wängdahl (1980).

Goals and objectives of study

It is a truism to say that the goals of an undertaking are of paramount importance for how this is to be performed. In education, goal orientation has caused much discussion, however. While it is commonplace that education is an intentional activity, the extent to which pre-determined goals are to direct study is a contentious issue.

What has caused most of the modern discussion in this respect is the insistence of the behaviourist school of thought that all teaching should be oriented towards detailed, behavioural goals, i.e. objectives specifying not what the students should learn or know but what they should be able to do after the study. A list of objectives described in this way is thus a presentation of what has been called the terminal behaviour.

As distance education in most cases relies on pre-produced courses, which have to be planned in detail, this approach seems attractive to many distance educators. They realize that saying

that students should learn to know French grammar or the principles of combustion, for example, really means nothing. More detailed goals are required if they are to guide course development.

In the case of an elementary course on combustion, the following goals might be agreed upon:

1 To develop problem-solving skills.
2 To understand scientific method.
3 To develop skills in using scientific apparatus and in measurement.
4 To develop understanding of the theory of combustion.
5 To learn how to interpret and evaluate data.

Not only behaviourists would object that these goals are too vague to function as guidelines to course content; they can be interpreted in different ways. A more useful definition of the objectives might be expressed as follows:

When the student has completed the programme he/she should be able:

1 To tell one way in which a scientist might attempt to answer the question, 'What is necessary for combustion?'.
2 To demonstrate how water can be made to boil in a dish made of paper, without burning the paper.
3 To state several hypotheses as to why the paper will not burn in the demonstration.
4 To conduct experiments to determine which hypothesis is correct.
5 To tell how a scientist might explain the results of the experiments which have been conducted.
6 To tell how the findings of the experiments might be put to practical use.

See De Cecco (1964: 308–9), the source of this example.

In fact, distance educators usually think that the aims and objectives of a course should be clarified as far as possible in order to ensure that the needs and interests of students are catered for rather than the whims of course developers. This leads to the requirement that objectives should be communicable and as lucid as possible. It has been found to be good practice when defining study objectives to avoid verbs of state, such as

'know', 'understand', 'realize', 'grasp', 'master', since these are particularly ambiguous. Verbal expressions of action, such as 'recognize the symptom of', 'conduct experiment', 'demonstrate', 'do', 'enumerate', 'calculate', 'quote arguments for and against', 'prove', 'write an account of', 'report orally on', are found to be more acceptable in definitions of objectives.

As a rule, it has also been found necessary to determine the extent to which each objective is to be achieved, i.e. how well the student should perform after the training. This has been done by grading the required performance, for instance as follows:

Grade 1: Merely recognizing the knowledge matter.
Grade 2: Performing without answering why-questions.
Grade 3: Explaining and discussing.

This borders on what has been called a taxonomy of educational objectives (Bloom 1956), which is discussed below under Content and structure in Chapter 4).

Other methods of grading performance are to state that students are expected to solve a certain percentage of selected types of problems, to give a certain number of examples, theories or reasons, or to demonstrate something by a certain number of different experiments.

The insistence on objectives in behavioural terms stems from thinkers such as Skinner and Mager, who have developed and apply behaviourist theory to education (Mager 1962). When non-behaviourists use definitions of objectives to guide course development, they take over a technique, not a psychological theory. They stress communicable rather than behavioural objectives, realizing that some objectives simply cannot be expressed in behavioural terms.

Thus, there is fairly general agreement that there are educational goals in distance education that transcend measurable cognitive or manipulative skills. Sometimes training aims at influencing attitudes: for instance, making students critical readers, seeing through propaganda and prejudices, or encouraging a feeling of co-operation, understanding, positive relations towards (and treatment of) customers, patients, etc.

There are also other good reasons generally to regard and apply the objective-defining technique with critical judgement. Thus, we must realize that it is almost impossible to avoid ambi-

guity completely in the formulation of objectives, even if we exclusively use verbs of action ('do', etc.) and avoid verbs of state ('know', etc.). Even action verbs, such as 'deduce', 'recognize' and 'solve', have been shown to be ambiguous. 'There is a limit to the extent to which any human can understand the intention of another, no matter what, though in practice and in certain circumstances the risk of serious error can be minimized' (Macdonald-Ross 1973: 35–6).

A further counter-argument is that defining learning objectives in operational terms with tests, against which their attainment is checked, need not necessarily lead to any kind of proof that the objectives have or have not been attained. It is perfectly possible to make the right operation for the wrong reason, as shown by the following example borrowed from Lewis. Anyone who believes that 0.3×0.3 makes 0.9 (instead of 0.09) and that 0.2×0.2 makes 0.4 (instead of 0.04) will no doubt, on the basis of a false understanding, come to the conclusion that $0.3 \times 0.5 = 0.15$, which happens to be correct (Lewis 1974: 16). It is evident that the operation is not enough; we must pay attention to the knowledge and understanding on which it is based.

On the other hand, there can hardly be valid complaints about the use of behavioural objectives in cases where accurate performance can be measured against them and where there is an indisputably correct answer (as, for example, in certain points of grammar in a foreign language, such as saying and writing 'he takes/speaks', etc. but 'I take', 'you take', etc.).

A basic question is who decides what the learning objectives are to be. If they are determined in an authoritarian way, students are most likely (and in some cases no doubt well advised) to protest. Study objectives thus determined can be powerful instruments of indoctrination. However, it should be clear that it is not the possible effectiveness as such that is the danger but the very content of the objectives and the way in which they are defined.

In the so-called affective domain, special caution is advisable. First we must ask ourselves to what extent and in what areas distance students should be subjected to emotional influence. Naturally, educational policy cannot neglect the requirements of society to provide some sort of moral upbringing. On the other hand, the indoctrinating character of any endeavour of this kind cannot be disregarded. In order to ensure that people are not

brainwashed, it is necessary that a reasonable plurality should characterize their upbringing and their general socialization.

It is doubtful, however, to what extent this is really an issue in distance education for adults with a number of social responsibilities and commitments. I would submit that adult distance students automatically acquire the kind of community socialization expected of mature citizens. Following their upbringing as children, they do this in their day-to-day social life through their families, jobs and the company that they keep. In planning distance study, particularly at the university level, we would thus seem to be entitled to limit our socialization efforts to the requirements of academic life, study, research, and professional socialization.

However, it seems important that study objectives in the affective domain should be specified in all cases when there are such objectives, for instance, those concerned with professional socialization or similar goals. The reason for this is that, to my mind, the students should always be made aware of any attempts made to influence them. As soon as any persuading or convincing is intended, this should be made explicit so that individual students may be in a reasonably fair position in relation to subjects where is particularly important in relation to subjects where there are competing schools of thought, relying on or supporting political ideas or religious beliefs. Transparency in this respect seems to be a matter of intellectual honesty. For objectives of this kind, behavioural descriptions are of little avail. This, however, does not mean that communicable objectives should be dispensed with. Contrary to expectations among most educationists, distance education has proved to be a powerful means to bring about attitude change (see p. 15f.).

In cases where affective objectives could possibly be interpreted as indoctrination plans, it is evident that the declaration of objectives should be made available to students before they choose the course or enrol. In other cases it is doubtful if study objectives need necessarily precede the actual course. If they do, however, they can, if suitably and comprehensively worded, act as 'advance organizers' that 'bridge the gap between what the learner already knows and what he needs to know before he can successfully learn the task at hand' (Ausubel 1968: 148) or act at least as directors of attention.

The extent to which students use statements of objectives as

guides to what they should give particular attention is uncertain, however. According to Macdonald-Ross, evidence collected in the Open University 'by questionnaire surveys suggests that objectives are not used in this way by the students' (Macdonald-Ross 1979: 19). Using statements of objectives as check lists at the end of course units, to make sure that students have learned what is expected of them, for instance in a forthcoming examination, is another application. Specified objectives can also facilitate selective reading, as part of what Waller calls the 'access structure of texts' (Waller 1977b). Whether the objectives should be placed at the beginning or the end of a course unit would seem to depend on how students wish or are expected to use them.

Although it is thus uncertain how and to what extent students benefit from reading a list of specified learning objectives, there can be little doubt that they serve a useful function as planning devices, as control instruments to be used by course developers, and as eye-openers to the developers when they confront their pet subject areas with the needs of students.

The above discussion will have shown that the application of detailed objectives 'needs to be tempered with an understanding of its inherent deficiencies' (Macdonald-Ross 1973: 47). Once this is recognized, I think that there is a strong case for detailed objectives in distance education (see Popham 1987).

One reason for this is that distance-study courses are prepared in advance and give little scope for improvization and references to day-to-day occurrences. They can thus be consistently planned to cover what is considered important. Such planning usually entails a detailed analysis of what is desired, makes exactitude necessary, and provides a basis for judgements of the results of the course, i.e. for evaluating procedures. It would be an illusion, however, to believe that the definition of objectives is normally an initial activity only, completed when the media are selected and the real course creation starts. It is often desirable and necessary to modify the original objectives in the light of information, considerations, and experiences made available through the actual development work: a consequence of the systems approach (see Romiszowski, as quoted on p. 32). It could also be regarded as adherence to Popper's attractive 'piecemeal' approach (a suggestion made by Davies 1978: 140-1). It is, of course, possible (and desirable) to include independent work

under the objectives, which will lead to open-ended tasks of a project type in the course to be developed.

The basic problems connected with definitions of study objectives do not concern their efficiency as control instruments but their appropriateness from the points of view of both the individual and society. The relevance and necessity of the objectives for the main educational goals, their appropriateness as seen from a wider perspective than that of the course that is being planned, their influence on the self-actualization of individual students whose integrity must be safeguarded, and their compatibility with pluralistic approaches which encourage unprejudiced study are matters of vital importance to be considered in the course of the planning process.

A question that should be looked into further in this context is how students themselves, by selecting their own learning objectives, can influence or even independently decide not only how but also what they are to study. This is the key question related to student autonomy in distance study. Individualized learning is not brought about by freedom of pace or even freedom of method and medium if others than students decide the content of study. To what extent is it possible to provide a wide range of study opportunities, with clearly defined and declared study objectives for each small unit, and to make possible a completely free choice of such units for students in individual combinations? Constructive approaches which engage the students in the selection of study objectives have been developed by both Potvin (1976) and Ljoså and Sandvold (1983). Potvin 'denies the institution and the tutor the right to prescribe what the learner should learn and how he is to learn it' (Potvin 1976: 30). How this philosophy is to be practised is worth considering. It is evidently possible only to a very limited extent in studies which have to follow fixed curricula.

4

COURSE DEVELOPMENT – FUNDAMENTAL CONSIDERATIONS

The presentation of learning matter has been described above as one of two constituent elements of distance education, the other being interaction between students and their supporting organization with its tutors, counsellors and its administrative infrastructure. Any discussion about how this presentation occurs, how its goals can be attained and what methods and media are used, should be preceded by a consideration of its basic character. In distance education it is brought about by other means than face-to-face sessions.

OVERARCHING PRINCIPLES

Evidently (see pp. 23 and 35), the presentation of learning matter cannot be confined to dissemination of information. As an educational endeavour it must engage students in an intellectual activity that makes them try out ideas, reflect, compare and apply critical judgement to what is studied. This necessarily includes making use of insights acquired in various connections and cannot be limited to purely intellectual experiences; there is an affective aspect to be considered, as there is in anything that engages the mind and develops the personality.

It is the task of course developers to assist students' learning by examining the learning matter by argument, reflection in writing or recording, and causing students to reflect. Reflection in this context has been understood as 'a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations. It may take place in isolation' (Boud, Keogh and Walker 1985: 19). These activities are compatible with