THE COMMONWEALTH *of* LEARNING

An Introduction to Open and Distance Learning

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The concept of open and distance learning

Definitions

There is no one definition of *open and distance learning*. Rather, there are many approaches to defining the term. Most definitions, however, pay attention to the following characteristics:

- **separation of teacher and learner** in time or place, or in both time and place;
- **institutional accreditation;** that is, learning is accredited or certified by some institution or agency. This type of learning is distinct from learning through your own effort without the official recognition of a learning institution;
- **use of mixed-media courseware,** including print, radio and television broadcasts, video and audio cassettes, computer-based learning and telecommunications. Courseware tends to be pre-tested and validated before use;
- **two-way communication** allows learners and tutors to interact as distinguished from the passive receipt of broadcast signals. Communication can be synchronous or asynchronous;
- **possibility of face-to-face meetings for tutorials,** learner–learner interaction, library study and laboratory or practice sessions; and
- **use of industrialised processes;** that is, in large-scale open and distance learning operations, labour is divided and tasks are assigned to various staff who work together in course development teams.

Distinguishing the types of open and distance learning

The term *open and distance learning* and its definition are relatively new in the field of education, having gained prominence only in the past 15 to 20 years. The language and terms used to describe distance learning activities can still be confusing, and geographical differences in usage — for example, between North America and Europe — can add to the confusion. Among the more commonly used terms related to open and distance learning are the following: *correspondence education, home study, independent study, external studies, continuing education, distance teaching, self-instruction, adult education, technology-based or mediated education, learner-centred education, open learning, open access, flexible learning and distributed learning.*

Correspondence education, home study and independent study

Correspondence education, home study and *independent study* are terms and distance learning methods that are:

- well over a century old;
- based on stand-alone, self-study materials — learners do not have to leave their homes to study; and
- often print-based with communication through postal services or telephone. They can, however, use a variety of means for tutor–learner contact, including the postal system, telephone, video and audio cassettes, electronic mail and television and radio broadcasts.

Many university programmes in North America have, in the last 15 years, renamed their correspondence programmes to more current titles such as *open and distance learning* or *independent study*.

External studies

The term *external studies*:

- applies to instruction that takes place somewhere other than on a central campus, such as a classroom remote from campus; and
- includes a variety of delivery options like audio, video or computer conferences or home study.

Many universities and institutions, such as the University of Namibia, have Centres for External Studies that are responsible for open and distance learning programming.

Continuing education

The term *continuing education*:

- usually applies to non-credit education;
- refers to courses that can be delivered on campus or at a distance; and
- has varied meanings.

The University of Botswana, for example, has a Distance Education Unit which is part of the University' Centre for Continuing Education.

Distance teaching

The term *distance teaching*:

- refers to only half of the open and distance learning equation: open and distance learning encompasses not only teaching but learning; and
- emphasises the teacher's role rather than the system.

Self-instruction

The term *self-instruction* refers to a process in which:

- materials take learners step-by-step through an instructional process;
- self-assessment exercises are a central feature; and
- instruction can be paper-based or computer-based.

Many language schools offer self-instructional packages that consist of print materials and audio cassettes. Computer-assisted and web-based learning are often purely self-instructional.

Adult education

The term *adult education*:

- emphasises the principles of adult learning, often known as *andragogy*, as compared to *pedagogy*, or child-centred learning.

Technology-based or mediated education

The term *technology-based education*:

- refers to systems of teaching and learning in which a technology other than print has a major role; and
- takes two major forms: stand-alone (for example, computer-assisted learning and computer-managed learning) and conferenced (for example, audio, video or computer).

Examples: The University of the West Indies uses audio conferencing to link its various campuses and learning centres. Two of the postgraduate degrees available in distance open and distance learning — those offered by Athabasca University and the Open University of the United Kingdom — use computer conferencing as a primary mode of delivery. The University of Guyana, Institute of Distance and Continuing Education, uses audio teleconferencing and the Open Learning Information Network, in Canada, delivers courses via the World Wide Web.

Learner-centred education

In *learner-centred education*, integrity and freedom of the individual is primary. Therefore, the teaching and learning process provides:

- flexible sequences of study;
- negotiated objectives and content;
- negotiated learning methods;
- negotiated methods of assessment; and
- a choice of support mechanisms.

Open learning

The educational philosophy of *open learning* emphasises giving learners choices about:

- medium or media, whether print, on-line, television or video;
- place of study, whether at home, in the workplace or on campus;
- pace of study, whether closely paced or unstructured;
- support mechanisms, whether tutors on demand, audio conferences or computer-assisted learning; and
- entry and exit points.

Many institutions use the term *open* in their names: The Open University in the UK; Open Access College and the Open Learning Institute of Charles Sturt University, both in Australia; Open Learning Information Network and the Open Learning Agency, both in Canada; Indira Gandhi National Open University in India; and the Open University of Sri Lanka.

Open access

The term *open access* implies a lack of:

- formal entry requirements;
- prerequisite credentials; and
- an entrance examination.

Flexible learning

The term *flexible learning* emphasises the creation of environments for learning that have the following characteristics:

- convergence of open and distance learning methods, media and classroom strategies;
- learner-centred philosophy;
- recognition of diversity in learning styles and learners' needs;
- recognition of the importance of equity in curriculum and pedagogy;
- use of a variety of learning resources and media; and
- fostering of lifelong learning habits and skills in learners and staff.

Distributed learning

The term *distributed learning*:

- emphasises the learning itself rather than the type of technology used or the separation between teacher and learner;
- makes learning possible beyond classrooms; and
- when combined with classroom modes, becomes *flexible learning*

Time and place continuum

Open and distance learning programmes fall somewhere along two continua: the continuum of time and the continuum of place. The *place* continuum has at one end all learners and their tutor or instructor gathered at the same place, and at the other end all learners and their tutor or instructor in different places. The *time* continuum has at one end all learners and their tutor or instructor interacting in 'real time', that is, at the same time, and at the other end all learners and their tutor or instructor interacting at different times.

The following chart demonstrates how these two continua intersect. Their co-ordinates are numbered and match four scenarios for open and distance learning. Most open and distance learning providers use a combination of the four scenarios.

Scenarios for open and distance learning

	Same time	**Different time**
Same place	Classroom teaching, face-to-face tutorials and seminars, workshops and residential schools	Learning resource centres, which learners visit at their leisure.
Different place	Audio conferences and video conferences; television with one-way video, two-way audio; radio with listener–response capability; and telephone tutorials.	Home study, computer conferencing, tutorial support by e-mail and fax communication.

Open and distance learning systems

Advantages of open and distance learning

Open and distance learning offers a number of advantages to both learners and to providers of opportunities for learning. Problems such as distance and time, which are barriers to conventional learning, are overcome in open and distance learning.

Overcoming physical distance

Open and distance learning can overcome problems of physical distance for:

- learners in remote locations who are unable or unwilling to physically attend a campus; and
- learners and teachers geographically separated in that teachers in urban settings instruct learners in rural settings.

Solving time or scheduling problems

Open and distance learning can solve time or scheduling for:

- client groups unwilling or unable to assemble together frequently;
- learners engaged in full-time or part-time work, both waged and volunteer; and
- family and community commitments.

Expanding the limited number of places available

Open and distance learning can expand the limited number of places available for:

- campus-based institutions few in number; and
- stringent entrance requirements.

Accommodating low or dispersed enrolments

Open and distance learning can accommodate:

- low enrolments over a long period of time; and
- low enrolments in one geographic region but additional enrolments elsewhere.

Making best use of the limited number of teachers available

Open and distance learning can make the best use of the few teachers available when:

- there is a lack of trained teaching personnel relative to demand;
- teachers are geographically concentrated; and

- teachers with certain expertise are in short supply.

Dealing with cultural, religious and political considerations

Open and distance learning can deal with differences, and consequently:

- widens women's opportunities to learn;
- meets the needs of populations affected by violence, war or displacement; and
- makes learning possible even when group assemblies are proscribed.

A systems approach to open and distance learning

A systems approach sets the conditions for proceeding in an orderly way. A systems approach also recognises that all the components of the system are interrelated. A change in one component will bring about changes in the others.

Open and distance learning programmes, units and institutions use a phased model for problem solving:

analyse ® design ® develop ® implement ® evaluate ® revise

Analysis: a detailed examination of all facets of the problem

- What is the problem to be solved?
- Is the problem an instructional problem or an environmental problem?
- Who has the problem?
- What are the resources available to solve the problem?
- What are the constraints or limitations to be faced?

  Output from the analysis phase:

  - a clear statement of the problem
  - a detailed description of the target population
  - identification of the resources and constraints

Design: requires the preparation of a detailed solution

- Who are the target population and other stakeholders?
- What will the solution accomplish?
- How will the participants be different after the course or programme?
- How will the participants achieve the objectives?
- How will the course or programme be developed?
- How will you know your solution is effective?

Output from the design phase:

- a detailed plan that describes how, when, by whom and at what cost the problem will be solved

Development: must address the following kinds of questions

- What strategies, media and methods will be used for each objective or task?
- What learning resources will be required?
- Where, when and how will learners be ensured of feedback as they practise their skills?
- Where, how and when will evaluation activities be used?
- What will be the consequences of success or failure or both?
- How will the instruction be evaluated and revised?

Output from the development phase:

- a complete course or programme package, including all materials, tools, equipment and plans for delivery, learner support, learner evaluation and course evaluations

Implementation: putting the solution into practice

- Are all necessary resources (human, physical, financial) in place?
- Are data collection mechanisms in place?
- Are problem-solving and recording mechanisms in place?

Output from the implementation phase:

- learner progress and performance records
- data from a variety of sources (for example, records and solutions)
- other evaluation data (for example, interviews, questionnaires)

Evaluation: not an 'add-on' but an integral component

- How well does the system meet the goals initially identified?
- How well does it meet the needs of the learners and other stakeholders?
- Do you have sufficient specific information? How will you obtain it?
- What specific changes can be made to improve the system?

Output from the evaluation phase:

- analyses of records and data
- specific solutions, including time, cost and other resource estimates

Revision: including a review of all decisions and activities of previous phases

- Were the original analyses complete and correct?
- Have circumstances changed sufficiently to require a major review of the analyses?
- What changes, modifications or improvements are evident in the evaluation data?
- Are sufficient resources available to complete the recommended changes?
- What action needs to be taken?

Output from the revision phase:

- revised course or programme, including the course materials, learner support and evaluation plan, and a revised course evaluation plan

Functions of open and distance learning

Regardless of the size of the programme, unit or institution undertaking development and implementation of an open and distance learning system, the following functions must occur at some level. Some valuable considerations in relation to each open and distance learning task are listed in the following.

Obtaining and managing money and other resources

- grant-sustained, cost recovery (self-financing);
- higher development and start-up costs; and
- human support relatively expensive component.

Developing or acquiring programmes and courses

- considerable development time required for full-scale development and production;
- buying or leasing (or franchising) courses from other open and distance learning providers may be more effective use of resources; and
- continuum of approaches, from single author to large teams of specialists.

Recruiting and promoting

- analyse and assess the needs of your prospective learner populations;
- make information available at right place and time;
- provide sufficient accurate information about time, cost, effort required;
- provide sufficient accurate information about when, where and how to get involved; and
- reassure potential learners about legitimacy and credibility.

Physically producing, reproducing, storing and disseminating materials

- course materials requirements may demand print, audio, video or computer software;

- dissemination may require post, courier, transport companies, telecommunications, broadcasts or satellites;
- physical production and reproduction can be time consuming; and
- specialised equipment and personnel may be required for storage, handling, packaging, dispatch and inventory.

Enrolling and registering

- process varies from simple manual lists to complex electronic systems;
- fixed or rolling entrance dates; and
- range of delivery options available.

Delivering programmes and courses

- two-way communication required;
- evaluation and feedback;
- collaboration with other agencies;
- library services; and
- record systems.

Providing learner support

- personal support such as advice or counselling;
- academic support such as tutoring, grading and examining; and
- face-to-face or mediated support.

Examining, crediting and granting credentials

- range of credit options available;
- exam taking and credit evaluation requirements; and
- involvement of professional associations and external agencies.

Evaluating and revising processes, procedures, programmes and courses

- learner performance;
- learner satisfaction;
- meeting goals and objectives; and
- resistance to change.

Training and developing staff

- orientation and adjustment to new technologies and approaches; and
- awareness of advantages and limitations of open and distance learning operations.

Kinds of open and distance learning systems

A variety of terms describe the type of educational provision that involves some version of an open learning approach and uses open and distance learning techniques to a greater or lesser extent.

Single mode institution

- set up to offer programmes of study at a distance;
- some face-to-face interaction involved, but often optional;
- teaching and learning process 'mediated' in some way

    - by print, including correspondence;
    - by audio, including radio (one-way, two-way), cassettes, telephone or audio conferences;
    - by video, including television (one-way, two-way), cassettes or video conferences; and
    - by computer, including computer-based training, e-mail, computer conferencing or World Wide Web;

Many of the world's 'mega-universities', including Indira Gandhi National Open University (IGNOU), Universitas Terbuka, Sukhothai Thammathirat Open University (STOU) and United Kingdom Open University (UKOU), are single mode institutions.

Dual mode institution

- offers two modes

    - one using traditional classroom-based methods; and
    - one using distance methods;

- may also offer the same course in both modes, with common examinations;
- regards the two types of learner as distinct: on-campus and external; and
- may or may not allow 'cross-over' registrations.

Examples of dual mode institutions include the Open Learning Institute of Charles Sturt University, the University of Nairobi, the University of Botswana and the University of Zambia.

Mixed mode institution

- offers learners a wide choice of modes of study

    - independent, group-based or some combination; and
    - face-to-face, mediated or some combination;

- maximises flexibility of place and pace of study;
- the result of 'convergence' of face-to-face and distance modes; and
- increasingly characterises organisations that were once 'single mode' or 'dual mode'.

Deakin University and Murdoch Universities, both in Australia, provide examples of institutions that are now 'mixed mode'.

Glossary of open and distance learning terms

Access centres: see **learning centres**.

Accountability: holding operating personnel responsible for the estimated costs in their budgets and for expenditures.

Accounts payable: the money you owe to providers of services or products.

Accounts receivable: the money owed to you for services rendered or products sold.

Action verbs: in writing learning objectives, verbs that state expectations of learner behaviour as an action to be performed, which learners and teachers can evaluate as having been performed.

Activities approach: a way of designing learning materials that provides a series of activities to help learners master content, on the assumption that learners will only learn if they actively engage with the material presented.

Administrator: the person who carries out administrative duties on behalf of the development team, liaises with contract writers, assists with copyright clearance, compiles readings and illustrations, ensures production schedules are met, and controls the day-to-day progress of the course.

Adult education: teaching and learning that emphasises the principles of adult learning, often known as **andragogy**, as compared to **pedagogy**, or child-centred learning.

Advance organisers: paragraphs at the beginning of a unit or lesson that are intended to remind learners of what they have already learned, to connect it with what they will learn in this lesson.

Affective domain: in teaching and learning contexts, the domain field of activities relating to feelings or emotions.

Aim: in the context of teaching and learning, a broad, general statement of either what the learner might learn or what the teacher will do.

Analysis: a level of learning that involves breaking down material into its meaningful parts so that the relationship among the parts can be determined.

Analytical approach: an approach to designing a curriculum, for example, which examines the components of that curriculum — such as the learning objectives, key concepts or the competencies that are desired as outcomes — and organises the curriculum around them.

Ancillary operations: activities that fall outside the core activities of an organisation.

Andragogy: see **adult education**.

Application: a level of learning that involves using knowledge in concrete situations.

Apportioning: the act of assigning fractions of the cost of a shared facility or service to cost centres.

Assessment: the measurement of a learner's performance in terms of knowledge, skills and attitudes.

Asynchronous: see **networked learning**.

Audio conference: a technological arrangement in which telephones or speakerphones are connected so that people in three or more places can talk to one another.

Audiographic conference: a technological arrangement in which audio conferencing is supplemented by devices that send text or still pictures, such as computers, electronic whiteboards, graphics tablets and light pens for writing to computer screens, tablets and whiteboards.

Basic education: the provision of teaching and learning opportunities that enable learners to obtain primary-level skills in reading, writing and numeracy, so that they can participate fully in society.

Behavioural objectives: learning objectives that indicate the expected changes of behaviour in learners who complete a course of instruction.

Bimodal institution: see **dual-mode institution**.

Broadcast: any transmitted radio or television programme.

Budgeting: a process consisting of a series of steps by which estimates of revenue and expenses and related statistical data are used to compile a plan for expenditure for the next financial period.

Bulletin board system: a small computer system that allows members to exchange messages, maintain discussion groups and download software.

Cable feed: broadcast material sent via a fixed cable or a community antenna.

Capital budget: money set aside on a recurring basis to meet capital expenditure.

Capital cost: expenditure on the acquisition of fixed assets (land, buildings, machinery, equipment), in which the expenditure is intended to benefit more than one accounting period.

CD-ROM (compact disc–read only memory): a disc that can store a large amount of text, audio, video and graphic information; a computer needs a special drive and software to display

these materials.

Cloze test: a test of reading and comprehension skill that involves the insertion or deletion of appropriate words in a text.

Co-production: the joint production of a course or courses by two or more institutions.

Cognitive domain: in the context of teaching and learning, the domain of learning activities that relate to perceiving the world and knowing about it or understanding it; this domain contains six levels: knowledge, comprehension, application, analysis, synthesis and evaluation.

Comprehension: a level of learning that involves grasping the meaning of material or restating previously learned material in one's own words.

Computer-assisted learning (CAL): a learning method that uses a computer system to present individualised instructional material.

Computer-based learning (CBL): a generic term for the various kinds of stand-alone (that is, non-networked) learning applications that involve computer software.

Computer conferencing: the use of a central computer to receive, hold and distribute messages among participants' computers.

Computer-marked assignments: assignments that are scored by computer using optical scanners.

Computer-mediated communication (CMC): in the context of teaching and learning, the use of electronic mail, computer conferencing and the World Wide Web to deliver learning material and provide learners and teachers with opportunities for interaction; learning via CMC is also called '**networked learning**'.

Condition statements: parts of a learning objective that describe the conditions under which the performance required is to take place, such as 'without supervision' or 'using a calculator'.

Consortium: an arrangement involving a number of organisations in formal partnership, with joint allocation of resources and sometimes an independent managing agent; for example, open and distance learning institutions that set up formal agreements may involve co-production of elements of a course, complete joint course production, joint learner enrolments or cross accreditation and credit transfer.

Constructivist: frameworks for learning in which learners and teachers work together to construct meanings, rather than having these meanings pre-determined or prescribed in advance for the learner by the teacher.

Continuing education: education that is usually not for credit, but which can be delivered on campus or at a distance.

Copyright: a set of rights granted to an author under the national law on copyright.

Correspondence education: education that relies on print-based, self-study materials with communication through postal services.

Cost: the amount of actual or notional expenditure of money incurred on, or attributed to, a specific object or activity.

Cost-benefit analysis: a systematic comparison of the cost of carrying out the project, with the value of the resulting service, resource, information or product to any of a possible range of beneficiaries.

Cost centres: the locations, functions, items of equipment or departments to which costs are attributed; for example, a particular degree programme may be identified as a cost centre within an institution.

Cost unit: a measured amount of a product or service used for the expression of the costs of that product or service.

Counselling: the provision of personal and emotional support to learners.

Course blueprint: a course planning document, containing details of the content, components and costing of a course that is proposed for development.

Course transfer: the sale, lease or gift to one institution of a course produced by another institution.

Course writer: the person on the course team who possesses both expertise in the subject matter of the course and the ability to write in a way that communicates effectively with learners at a distance.

Criterion-referenced assessment: the evaluation of a learner's performance in relation to a given standard rather than in relation to the performance of a reference group.

Curriculum: the total structure of knowledge and skills and educational experiences that make up any one educational system or its component parts.

Curriculum planning: the global term applied to any systematic process intended to develop the structure of a **curriculum**.

Database: a collection of data fundamental to an operation, organised in some pre-defined structure; typically held on computer.

Deep learning: an intention on the part of the learner to develop his or her understanding and to challenge ideas; contrast **surface learning**.

Desktop publishing (DTP): the production of printed text using a 'desktop' or personal computer system.

Developmental testing: trying out materials with learners in the hope of developing or improving those materials for the benefit of other or future learners.

Digital: information stored in the form of 0s and 1s; digital information may include video, audio, graphics and text.

Direct cost: a cost that can be identified with a particular product or service and not with others; these normally comprise the cost of materials, labour and of expenses directly incurred on the product or service.

Discounted cash flow: the return desired at some time in the future for a payment made now.

Dispatcher: the person who bears responsibility for dispatching materials to the learner in a timely fashion, maintaining inventory and warehousing and keeping records.

Distance teaching: a term that emphasises the teacher's role in the distance education system.

Distributed learning: a term that emphasises learning rather than the technology used or the separation between teacher and learner; distributed learning makes learning possible beyond the classroom and, when combined with classroom modes, becomes **flexible learning**.

Dual-mode institution: also called **bimodal**; an institution that offers learning opportunities in two modes: one using traditional classroom-based methods, the other using distance methods; the same courses may be offered in both modes, with common examinations, but the two types of learner — on-campus and external — are regarded as distinct.

Editor: the person on the course team who bears responsibility for the clarity and accuracy of the language and the textual presentation of the materials, much as in a traditional publishing house.

Effectiveness: the ability to achieve the objectives set for a project or programme.

Electronic mail (e-mail): the exchange of information from one computer to another using software that is designed to store and forward messages received or sent.

Evaluation: a level of learning that involves judging the value of the material with reference to a specific set of criteria.

External studies: instruction that takes place somewhere other than a central campus, such as a classroom remote from campus, and that includes a variety of delivery options, including home-study and telecommunications.

Feedback: in the context of teaching and learning, the response to or comment on a learner's performance that the learner can use to understand more clearly and improve his or her performance.

Field trials: also called **pilots**; a method of developmental testing learning materials that uses

relatively large numbers of learners (20 to 30) in circumstances as similar as possible to those in which eventual learners will work.

Financial year: the year over which costs are measured.

Fixed costs: operating costs that are unaffected by variations in volumes of output; this does not mean that they do not vary over time in response to other cost factors (for example, price increases).

Flexible learning: a term that emphasises the creation of environments for learning that have the following characteristics: convergence of open and distance learning methods, media and classroom strategies; learner-centred philosophy; recognition of diversity in learning styles and in learners' needs; recognition of the importance of equity in curriculum and pedagogy; use of a variety of learning resources and media; fostering of lifelong learning habits and skills in learners and staff.

Fog index: an index of readability based on a formula that involves the average number of words in a sentence and the average number of syllables per word; basically, the longer the words and the sentences, the 'foggier' or less readable the text.

Formal assessment: the evaluation of learning that is carried out using scheduled assignments or examinations, on which the learner's performance is graded.

Formative assessment: the evaluation of learning that is carried out as the learning activities progress; contrast **summative assessment**, which takes place upon completion of the activities.

Formative evaluation: the assessment of learning that occurs as a project or course is in progress, with the aim of identifying problems and addressing them immediately; contrast **summative evaluation**.

Free-standing institution: see **single-mode institution**.

Full **absorption costing**: a method of costing used for some purposes — for example, to support pricing decisions and to derive performance measures — but not required for other purposes, as when one is looking at the effect of changes in the volume of output; ask the question, 'Am I looking at costs as they are now (full absorption costing) or am I seeking to examine the effect on costs of profitability of a change in volume costs (marginal costing)'?

Graphic devices: items in a text design that are used to emphasise a point, direct the reader's attention, highlight the relationship between ideas or provide learners with cues as to the activity in which they should be engaged; for example, tables, charts, symbols, shading, borders, textures and different fonts.

Handbooks: the part of the learning materials package that provides information to learners about other materials (for example, video cassettes) that have been purchased or leased from another institution but that need some explanatory notes so that they fit into the context of the user institution.

Home study: a mode of learning that does not require the learner to leave home in order to study.

House style: a set of guidelines to writers, editors and visual designers that specify the typefaces to be used; type size; length of lines; size of margins; use of bold, italic and other variants of the typefaces; treatment of headings, subheadings, footnotes and so on; position of illustrations and captions in relation to the text; and editing and reference style.

Hypertext mark-up language (HTML): the protocol used to create documents for publication and distribution on the World Wide Web; HTML consists of tags, added to text documents, which format and create links to other WWW resources.

Icon: a visual symbol that resembles the thing it represents, used in learning materials as a signpost or indication to learners that they are to undertake a particular activity; for example, a stylised pencil might be used to indicate to learners that they are to write the answer to a question, or a stylised book might indicate they are to turn to the reading indicated.

Incremental cost: the additional cost arising from an increase in more than one unit of output.

Independent study: a mode of learning in which learners work through their study materials independently of other learners.

Indirect cost: a cost that cannot be identified with any particular product or service, but must be shared over a number of products or services because it is common to or jointly incurred by them.

Informal assessment: assessment of learning that is carried out using discussion with tutors or peers, self-tests and so on, in which the learner's performance may be noted but not formally graded.

Information highway: a term developed as a way of describing the joining together of once-separate telephone and television technologies and computing systems into a single global network of networks.

Instructional design: see **instructional development**.

Instructional designer: the person on the course team who understands research in open and distance learning and adult pedagogy, is the collector of wisdom and successful techniques in open and distance learning, and is able to apply this knowledge to the course in question without clashing with the course writer or writers.

Instructional development: also known as **instructional design**; a process of designing instruction in a way that enables learners to learn effectively.

Interaction: two-way communication between tutor and learner, between learners, and between learners and the learning materials.

Interactive radio instruction (IRI): a system of educational radio broadcasts, intended for reinforcing learning in classroom settings, which contain instructions to teachers and learners to engage in some activity related to the broadcast and to actively respond to what they are hearing.

Interactive television: television broadcasts that are combined with some form of telecommunications link to enable viewers to respond to what they are watching.

Interactive textbooks: course books that are created anew, from the ground up, using a dialogue approach that incorporates a great many activities in which the learner may engage.

Interactivity: the ability for the learner to respond in some way to the learning material and obtain feedback on the response; there are two kinds of interactivity: (1) *learning material interactivity*, involving the learners' interaction with the medium, the level and the immediacy of feedback the medium itself provides, and the extent to which the medium will accommodate learners' own input and direction; and (2) *social interactivity*, the extent to which learners interact with teachers and with each other via a given medium.

Internet: the worldwide collection of computer networks that use a common communications protocol and addressing scheme to share resources with one another; owned by no one, it is maintained collectively by the individual national, regional, commercial and institutional networks that make up the Internet; it is a learning, information and business tool.

Intuitive approach: a way of designing curriculum, for example, which relies on one's own experience of and feelings toward the subject, and hence is relatively informal, unstructured and non-systematic.

Inventory: the stock kept on hand.

ISDN cable: Integrated Services Digital Network cable, allows linkage for video conferencing.

Knowledge: a level of learning activities that involves recalling previously learned material.

Learner-centred education: an educational philosophy in which the integrity and freedom of the individual is primary; therefore, the teaching and learning process provides flexible sequences of study, negotiated objectives and content, negotiated learning methods, negotiated methods of assessment and a choice of support mechanisms.

Learning centres: sometimes called **access centres** or **regional centres**; offices or buildings maintained by open and distance learning programmes in order to provide localised delivery of learning materials and support to learners.

Lifelong learning: a philosophical concept in which learning is viewed as a long-term process beginning at birth and lasting throughout life; a conceptual framework within which the learning needs of people of all ages and educational and occupational levels may be met, regardless of their circumstances.

Listserv: an e-mail system that automatically sends messages to all subscribers on specific mailing lists, especially interest groups.

Marginal cost: the additional cost of an increase of one unit of output (for example, one additional open and distance learning centre).

Marginal costing: see **full absorption costing**.

Market elasticity: the extent to which the price of a product can be increased without reducing the market for the product.

Media designer: sometimes called the **visual designer**, the person on the course team who bears responsibility for the illustrations, page layout, formatting and integration of print with other media.

Mediated education: see **technology-based education**.

Merger: the creation of a new entity out of previously independent entities.

Mixed mode institution: an institution that offers learners a wide choice of modes of study, including independent, group-based, face-to-face, mediated or some combination; mixed mode institutions maximise the flexibility of place and pace of study, and are the result of the convergence of face-to-face and distance modes of study.

Multimedia: learning technologies that involve the whole range of audio, visual, text and graphics media available, integrated into a package that has been effectively designed from an instructional point of view.

Needs analysis: a process for identifying the learning and training needs of a particular group or population.

Networked learning: a type of learning in which learners and instructors use computers to exchange messages, engage in dialogue and access resources; the interaction can occur in real-time (**synchronously**) when learners and instructors are communicating at the same time from different places, or in delayed-time (**asynchronously)** when they are not linked at the same time.

Networking: the process of creating, expanding and maintaining relationships with other agencies.

Non-formal education: education that takes place outside the formal education system on either a regular or an intermittent basis.

Non-recurrent costs: see **one-time costs**.

Norm-referenced assessment: assessment of learning that is based on the learner's performance in a given area in relation to that of some norm or reference group.

Objective: in the context of teaching and learning, a specific statement about what the learner will be able to do when a learning activity is complete, the conditions under which learners will demonstrate their competency and the way in which this competency will be measured.

Objective assessment: evaluation that is designed as far as possible to exclude the learner's subjectivity; grading is done by presenting a number of factual questions to be answered by one word or a check mark instead of using verbal expression and the organisation of material, requiring a minimum of judgment on the part of the marker.

One-time costs: also called **non-recurrent** costs; costs that do not recur year after year; for example, equipment purchases.

Open access: a way of providing learning opportunities that implies a lack of formal entry requirements, prerequisite credentials or an entrance examination.

Open and distance learning: a way of providing learning opportunities that is characterised by the separation of teacher and learner in time or place, or both time and place; learning that is certified in some way by an institution or agency; the use of a variety of media, including print and electronic; two-way communications that allow learners and tutors to interact; the possibility of occasional face-to-face meetings; and a specialised division of labour in the production and delivery of courses.

Open learning: an educational philosophy that also emphasises giving learners choices about media, place of study, pace of study, support mechanisms and entry and exit points.

Operating cost: see **revenue cost**.

Opportunity costs: the notional costs, difficult to quantify, of undertaking one activity rather than another; for example, the project team and other staff involved, as well as materials and equipment, could all have been used in different ways to benefit the institution during the project period.

Overhead cost: the sum of all the indirect costs of a cost centre or cost unit; for example, the cost of a shared telephone exchange, central computer and utilities.

Pay-back period of return: the length of time it will take to pay back the original investment of staff salaries and other costs.

Pedagogy: child-centred learning.

Peer assessment: a type of assessment of one learner's performance carried on by other learners.

Performance: the part of a learning objective that states what the learner should be able to do as an outcome of a learning process.

Performance indicators: measures for assessing the quantitative performance of a system.

Period of account: the period of time over which costs are measured.

Pilots: see **field trials**.

Post-tests: tests given to learners after they complete a lesson, module or course, to assess what they have learned; contrast **pre-test**.

Pre-tests: tests given to learners before they begin a lesson, module or course; they serve two purposes: to check that the learner has the necessary prior knowledge, skills and perhaps attitudes to undertake the course; and to compare the results obtained with those obtained in subsequent post-tests to establish how much the learner has learned; contrast **post-test**.

Printer: the person who oversees the physical reproduction of learning materials, including collating, binding and packaging.

Printing: the actual manufacture of printed distance learning materials; the industrial process or processes required to put the production manager's requirements into their final physical form.

Process costing: a method of costing by which expenditures are accumulated into costs of production and allocated to units of the product.

Production: the overall process of taking a manuscript and managing it through to printed, finished copies.

Project costing: a method of costing used when the manufacturing process is not continuous, but is a series of large, special-order contracts.

Psychomotor domain: in the context of teaching and learning, the domain of learning activities that deal with learning physical skills; normally associated with vocational training.

Quality: the fitness for purpose of a product or service according to a set of required standards.

Quality assurance (QA): an approach to organising work that: ensures the institution's mission and aims are clear and known to all; ensures the systems through which work will be done are well thought out, foolproof and communicated to everyone; ensures everyone's responsibilities are clear and understood; defines and documents the institution's sense of 'quality'; sets in place systems to check that everything is working to plan; and when things go wrong — and they will — there are agreed ways of putting them right.

Quantitative analysis: the process of identifying the discrete components of some phenomenon and the relationships that obtain between them, emphasising entities that can be counted or measured.

Rate of return: the percentage return on the investment.

Recurrent costs: costs that recur year after year (or period of account after period of account).

Regional centres: see **learning centres**.

Relevant range: the range of activities within which fixed operating costs are set.

Revenue cost: also called an **operating cost**; expenditure that is expected to benefit only the current period.

Satellite feed: broadcast material sent via a satellite that is orbiting the earth.

Self-assessment: a type of assessment carried on by the learner him or herself.

Self-contained: a course that contains all the subject material as well as the features of self-instructional courses; to produce a self-contained course one writes everything that would be included in a textbook as well as all the activities and so on that would turn it into a tutorial in print.

Self-instruction: a process in which materials take learners step-by-step through an instructional process; self-assessment exercises are a central feature and instruction can be paper-based or computer-based.

Single-mode institution: an institution that has been set up solely to offer programmes of study at a distance.

Stakeholders: groups or sometimes individuals who have a significant interest in the successful outcome of some initiative or activity; in the case of an educational institution, stakeholders can include funding agencies, employers of those who eventually graduate, the staff of the institution and existing and potential learners.

Standards: the parts of a learning objective that describe how well the learner will be expected to perform, expressed in terms of accuracy, speed or quality.

Stepped fixed cost: a cost that varies with the level of activity, but only has a number of possible values, each of which applies over a relevant range.

Study guides: the part of learning materials that are used in conjunction with collections of articles, textbooks, audio cassettes, video cassettes and broadcast programmes; they are more substantial than handbooks but less labour intensive than interactive textbooks; they are probably the most commonly produced print materials for course packages.

Subjective assessment: evaluation designed to take into account the learner's own thoughts, feelings and experiences and ability to express them, rather than factual knowledge alone.

Summative assessment: evaluation of learning that takes place on completion of the learning activity or activities.

Summative evaluation: assessment that occurs at the completion of a course or project, which provides a summary account of its effectiveness and the extent to which it met its goals and objectives; contrast **formative evaluation**.

Surface learning: an intention on the part of the learner to memorise information and to follow instructions rather than to understand and challenge; contrast **deep learning**.

Synchronous: see **networked learning**.

Synthesis: a level of learning activities that involves combining parts to form a new whole.

Systems approach: an approach to organising the tasks required to accomplish one's goals, which sets the conditions for proceeding in an orderly way; a systems approach recognises that all the components of the system are interrelated, so that a change in one component will bring about changes in the others.

Task analysis: the process that identifies the skills and knowledge a competent person needs to complete a task to ensure that they are included in the learning process.

Technical or vocational training: training that is designed to prepare technicians, middle management and other skilled personnel for one or a group of occupations, trades or jobs.

Technology-based education: in the context of teaching and learning, a system in which a media other than print has a major role.

Telephone tutoring: the use of the telephone for providing academic help to learners, either one-on-one or in groups (see **audio conference**).

Tendering: the process of calling for bids on a project or supply of products or services.

Total cost: the sum of all the costs attributed to some specific object or activity.

Tutor-marked assignments: assignments marked by the learner's tutor.

Tutorial tryouts: a method of developmental testing that involves testing the materials with one learner or a small group of learners.

Tutoring: the provision of academic assistance to learners in two major forms: (1) stand-alone (for example, computer-assisted learning (CAL) and computer-managed learning (CML)) and (2) conferenced (video, audio or computer).

Two-way instructional radio: radio broadcasts for educational purposes that are combined with some form of telecommunications or that use two-way radio links to enable learners to interact with teachers and other learners.

Variable costs: costs that vary with volume of output.

Variances: measures of financial performance derived by comparing actual expenses to original budget plans.

Video conference: a technological arrangement in which television monitors, cameras and microphones are linked so that people in three or more sites can all see, hear and speak to one another.

Video disc: a disc on which video and audio signals are recorded for television use; a video disc requires a video player compatible with the video disc.

Visual designer: see **media designer**.

World Wide Web (WWW): a communication protocol of the Internet that deals with text, audio, video, animation, graphics and colour — anything that a computer programme can produce.

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About this document
and COL's "Training toolkits"

This introduction to open and distance learning was based on introductory materials in COL's "training toolkits."

The development of the toolkits, in various topics related to open and distance learning, involved the time and dedication of a number of organisations and individuals. Much of the material was developed by the International Extension College (UK). The impetus and financial support that enabled COL to embark on this undertaking came from the Asian Development Bank. Under the terms and conditions of the ADB Regional Technical Assistance Project for Capacity Building in Distance Education for Primary Teacher Training, COL was commissioned to prepare materials for use in three training workshops in the Asian region. COL decided to concurrently develop an additional three toolkits. The toolkits were published in early 2000 and are now available in the following topic areas:

- overview of open and distance learning
- designing open and distance learning materials
- planning and management of open and distance learning
- use and integration of media in open and distance learning
- quality assurance in open and distance learning
- learner support in open and distance learning
- copyright and distance education

Each of the training toolkits incorporates several elements, including:

1. detailed trainer's guide, including training strategies, exercises and activities
2. master overhead transparencies
3. recommended reading list
4. case studies of best practices

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