CHAPTER 2 • HOW TO GET STARTED IN ODL

By Rikke Schultz [Denmark]
CVU-FYN Adult Teacher Training College, Odense
revised by Kerttu Lohmus [Estonia]

The chapter will take a look at certain issues that need to be considered when deciding on composing the content for ODL:
- The pedagogical platform - creating a model for the overall approach to the use of ODL in a specific context
- The modularity of ODL - modules, work-packages and learning objects
- How to get started - the steps in instructional design

1. THE PEDAGOGICAL PLATFORM

Deciding on the kind of pedagogical platform to use is fundamental in any education system but especially given the individual and independent learning that characterises ODL.

A pedagogical platform is an abstract thing; it is a model that includes the following considerations:
- the pedagogical (how to teach – goals, aims and methods suitable for target group)
- the technological (what media to use that are suitable for the target group)
- the technical (what equipment is best to use for the chosen methods and media)
- the organisational (resources and planning, development, management and maintenance of ODL).

In practice the pedagogical platform will comprise:
- electronic user facilities (virtual classrooms, learning management systems)
- sign in agreements
- work flow and agreements with teachers
- a variety of study materials
- supplementary offerings such as seminars, conferences, and introductory or taster courses
- marketing of the study-program

...in short all the considerations needed to be an ODL provider.

For institutions considering ODL it is crucial to decide what kind of pedagogical platform(s) will be used to facilitate the learning events or courses.

The chosen pedagogical platform reflects the pedagogical thinking regarding the entire learning event; in ODL this entails the interaction between participants, teacher and content.

When deciding on a platform the questions to ask include:
- Will the chosen pedagogical platform encompass and support the participants' different backgrounds and their learning styles?
• In the chosen pedagogical platform, what will the different roles of the teacher/tutor be?
• Will the chosen pedagogical platform support the use of different study materials and software tools?

The choice of a pedagogical platform (fig. 2.1) will reflect the chosen material and the form of communication of the learning event(s).

![Diagram](image-url)

**Fig. 2.1** The pedagogical platform consists of the interaction between the pedagogy, technology and technical aspects in an organisation.

A pedagogical platform and its technological solutions must suit the learning event and participating target group. Many organisations have suffered from the consequences of taking decisions in reverse by first purchasing a technological platform which later turned out not to suit their needs.

2. DIFFERENCES BETWEEN TRADITIONAL AND OPEN AND DISTANCE LEARNING

The main differences between traditional education and ODL, besides flexibility in time and space, include the opportunities that ODL offers for new and more creative ways to compose and (re)organise the materials used in learning process.

In traditional face-to-face learning the learning process usually follows an inflexible scheme and schedule concerning time, place and content with a principle of linearity - learners all together start at point A and move through points B-C-D- (n), trying to follow a logical path, which is considered by tradition or by the teacher to be rational.

This traditional scheme of the learning process is built on the idea of a curriculum based on a study programme/syllabus and assignments. The learner is expected to go through this certain pre-defined (sometimes even the objectives are defined for the learner!) and pre-designed syllabus, to finish certain pre-designed assignments and to pass certain exams and tests before the institution can accredit the learning. A buzzword for such a traditional scheme could be “just-in-case” curriculum – something is good to know, just in case one might need it. In one example of this type of learning, the learner follows the curriculum as a part of their professional tradition; they learn something that they as representative of their profession (businessman/lawyer/carpenter) are supposed to know, just in case they need it.

Thus the traditional learning can be characterised as involving:
• Linear progression from the simple to the complex
• A knowledge based curriculum
• Learning tradition based on “just-in-case” knowledge
• Objectives defined in terms of the acquisition of knowledge

If learners have rather similar backgrounds or if the curriculum is for absolute beginners, such a linear “just-in-case” structure is justified and relevant to use. In reality though this is seldom a case. Adult learners differ in backgrounds, needs and expectations; it is common for adult learners to be well motivated and have demands that are concrete and related to practical life. Therefore in adult learning such linear structures of learning may not be the most efficient solution.

The converse, a flexible way to organise ODL content, could be described with the “buzzword” “just-in-time” learning. The key idea of this way of thinking is flexibility. Content is organised in a way that it is available for the learner at the time they need it. A clear example of this way of organising learning is the “how to get started” programs that are often included in electronic software.

Thus, flexible learning can be characterised as involving:
• No predefined progression
• Orientation to concrete problem solving
• A modular structure learning based around a theme
• A learning tradition based on “just in time” sensibilities
• Objectives defined in terms of competencies to be mastered.

To further the discussion on creation of flexible content a four-level model is introduced:
• Information objects (text, illustration, video or audio) in forms that can be combined
• Learning objects in forms that can be combined
• Work package in forms that can be combined
• Modules

3. INFORMATION OBJECTS AND LEARNING OBJECTS – MODULARITY AT A NEW LEVEL

A Learning Object (LO) is the smallest chunk of actual learning-material that can, in combination with other relevant LOs, construct a meaningful chunk of information for a learner to acquire new knowledge. A meaningful chunk of information gives a learner a clear understanding of a concept, principle, procedure, fact or process.

One of the core principles of a LO is its re-usability in various materials and its nature of independence from the overall outcome of the learning materials. The principle that learning materials should correspond to learning objects has become an important characteristic of international standards. The learning object’s appropriateness for constructing learning material is often compared with Lego™ building bricks. This comparison was first used by Wayne Hodgins, chairman of the IEEE Learning Technology Standard Committee who observed his grandchildren constructing a building with Lego. The rules about requirements for learning objects are defined by Learning Object Metadata - i.e. data about the learning data. LOM standardisation supports content interoperability between different ICT, platform, or Learning Management System solutions. Under such standards it is possible for institutions to develop and register as well as to describe e-learning objects to exchange or trade them.
Most of the standards consist of the following data:

- title
- creator
- subject
- description
- publisher
- contributor
- date
- type
- format
- language
- relation
- rights

For more information, see the IEEE Learning Technology Standard Committee, which has provided development and maintenance of Learning Object Metadata since 1997.

4. SCORM

SCORM (Sharable Content Object Reference Model) is one of the most commonly used international standards today. SCORM is a collection of specifications adapted from multiple sources to provide a comprehensive suite of e-learning capabilities that enable interoperability, accessibility and reusability of web-based learning content. SCORM aims to coordinate emerging technologies and commercial and public implementation (see www.adlnet.org).

SCORM is a demanding standard when it comes to technical data and a new provider it can find it difficult to work with SCORM. SCORM might also conflict with branding by providers.

Work packages

![Diagram of a work package containing different learning objects (LOs), consisting of open assignments, literature, tasks and feedback.]

Fig. 2.2 A work package contains different learning objects (LOs), consisting of open assignments, literature, tasks and feedback.

Work packages (fig. 2.2) are a way of organizing the content of an ODL module. A work package includes:

- One or more learning objects that contain materials and assignments for the learner to work with
- Supplementary material or references.

A “work package” in ODL can be compared to a “subject” or “topic” found in traditional learning.

A work-package must be well defined to consider:

- Different preconditions and learning styles of learners
- Learning Objectives
- Content
- Working methods
- Evaluation

The amount of flexibility possible in the learning process may be limited by the curriculum but work packages are the creative part of an ODL programme. It is in the specific combinations of learning objects and learning methods used that an institution can create its own specific brand of ODL.

5. MODULES

A module is defined as a programme or a curriculum. In formal education the curriculum will be more or less open to interpretation depending on national and professional traditions. In non-formal education or self-paced education curriculum is almost always open. An ODL provider must reflect on the possibilities of flexibility depending on the curriculum. A curriculum defined by core objectives is more open than a curriculum defined by a syllabus.

In formal education module-based learning usually leads to specific qualifications and training ends with an examination, issuing of a licence, diploma, certificate etc.

In informal learning taking a module can also be a pedagogical event itself, providing the learner with a new competence of a more personal nature – for example enhancing one’s own knowledge and soft-skills on employability, democracy, overall management and so on. While in formal education the final evaluation of the learner will influence the planning of the course (and thus also work-packages and learning objects) in a specific way (tests, examinations), in informal education self-evaluation tools to be used during the process will often be preferred.
Designing an ODL concept is often called Instructional Design (ID) and it normally starts with designing the curriculum. In an ID process a variety of practices are converted into widely used models, to name some:

- **Dick and Carey Design Module** (fig. 2.3) ¹⁷

![fig. 2.3 Dick and Carey Design Model](image)

- **Knirk and Gustafson Design Model** (fig. 2.4) ¹⁴

![fig. 2.4 Knirk and Gustafson Design Model](image)

- **Gerlach and Ely Design Model** (fig. 2.5) ¹⁹

![fig. 2.5 Gerlach and Ely Design Model](image)

- **Jerrold/Kemp Design Model** (fig. 2.6) ²⁰

![fig. 2.6 Jerrold/Kemp Design Model](image)
The given models may vary in their details but they all have a common structure of processes:

- Needs analysis - comprises 3% of the total time in the process
- Setting instructional objectives and goals - 3% of total time
- Elaborating the profile of the target-group - 2% of total time
- Analysis of existing study materials - 7% of total time
- Creating new study materials found to be absent after analysis - 28% of total time
- Selecting the appropriate media for materials - 13% of total time
- Creating storyboard(s) describing learning process - 15% of total time
- Choosing suitable technological solutions and technical equipment to use - 3% of total time
- Creating the layout - 1% of total time
- Evaluating the entire Instructional Design process - 20% of total time

### 7. ODL - FOR WHOM

Analysing your target groups (learners) and return on investment (ROI) are inseparable aspects of ODL. When conducting the ROI analysis all stakeholders, as well as specialists to be involved, must be carefully considered and informed of the possible outcomes. Often ODL projects (especially in corporate internal training) fail because of insufficient support from management or due to poorly disseminated information on the process.

There are two possible paths when considering ROI and target-groups:

- Traditionally, large investments\(^1\) demand a large number of participants to justify the costs
- Smaller investments and taking advantage of collaborative learning make it possible to make learning available for user-groups of different sizes.

As explained elsewhere, an ODL provider must reflect on the needs and potential of their target group. The provider should ask the following questions:

- Who are we aiming at with our programme and materials?
- What are their needs and what forms of ODL will it be possible for them to use?
- How can we reach them?
- Can we combine ODL with other activities?

### 8. SETTING OBJECTIVES

The core objective describes the expected outcome of an ODL course:

- What qualifications and competencies do we expect the students/learners to develop during the course?
- What competencies do the learners currently have?
- What are the learners’ characteristics (e.g. demographics and educational background; ICT, learning and communication skills; learning styles; motivation, expectations and fears etc.)?

Objectives can be categorised in different ways. When selecting/creating content we can talk of enhancing:

- Professional skills
- Personal skills
- Social competencies
- Learning abilities

In good practice it is often possible to combine development of the different categories of objectives. During collaborative learning processes it is possible to combine development of professional skills with the development of social competencies. Using reflection exercises it is possible to combine the development of personal skills and learning abilities. Open assignments and positive feedback can improve self-confidence and creative thinking while developing professional skills. An ODL provider must reflect on objectives and especially on the possibility of combining different objectives in the same work packages.

**Example of a description of core objectives:**

The Pedagogical ICT licence is a course concept that offers educators basic ICT skills on a personal and professional level by focusing on pedagogical integration of ICT in teaching practice. Using ideas from problem-based learning, team-based activities, peer teaching and critical response together with principles for e-learning, we have managed to create a course concept that has been used by more than 55,000 (1/2 of all) teachers and educators in Denmark during a period of three years. Although the licence is not a compulsory part of professional education, it has become a formal and nationally recognised certificate (www.school-ict.org).

### 9. DESIGN OF WORK PACKAGES

When the curriculum, the target group, the core objectives of a course and the pedagogical platform have been determined, it is time to decide which work packages the course will consist of and how the content will be delivered.

Work packages are a matter of pedagogy and design of work packages can be done with or without specific technical knowledge. But it should be noted again that it is in the design of work packages that the clash between pedagogy and technology starts.

### 10. THE TRADITION OF WORK PACKAGES

Traditional distance education was without any technological support except from the post office or via telephone calls. Work packages were designed by teachers; books and assignments were delivered by post to learners; assignments were sent back to teachers who corrected them and returned to the learner and so on. As technology improved, audiotapes, videotapes, CD-ROMs, online tests, synchronised communication and collaboration tools, external internet sources, and supported textbooks — to give only several examples — appeared. Though the variety of tools and media has increased the skills, experience and comfortable habits of teachers/tutors have often remained too limited for them to take full advantage of the possibilities.\(^2\) In the first generation of Internet-supported ODL the available media are still mostly used simply as communication tools. Some providers focus on publishing study materials and assignments on the net while others focus on the net as the communication medium between teacher/tutor and student/learner.

An example of the latter is from one of the first attempts in pedagogical education in Denmark to let students work together in groups on the net. Their task was to produce an electronic newspaper around a specific theme. The students got information about the theme from textbooks and articles in the same way as they would in traditional education. When the newspaper was finished the teacher gave feedback to the groups. This way of working is only possible in blended learning where students and teachers have the opportunity to meet from time to time to facilitate the process.

The converse example can be imagined where learners receive, in advance and with plenty of time, access to study materials published on the internet which they are asked to work through independently with access to weekly virtual office hours where the tutor posts questions received together with answers. By the end of the self-study these form FAQ sections on the material.
independent study is followed by a face-to-face study day with group work and seminars. The teacher marks the learners by the end of the day by assessing the given group assignment and the individual’s knowledge of the theme.

An example of electronic work packages comes from software companies themselves in the form of introduction programs related to the software. Most ICT users are familiar with the “how to get started” programmes included in computer software. The key characteristic of this type of program is that they are constructed as “just-in-time” learning. You can choose exactly what work package you need at the moment you need it. Such an approach is supported by the previously mentioned Learning Object structure as it enables a learner to construct their own study material with the topics, level of difficulty and learning style support most suitable for them. Often such self-service is compared with independent travelling where the destination, means of travel and time taken are decided by the traveller themselves with (if necessary) consultation from a travel agent.

Certainly such learning material packages must follow the rules of good and user-friendly design, have logical structure and be divided into small, digestible but discrete chunks of information. Today’s professional learning material designers use authoring tools (AT): software programmes that are a hybrid of graphical design and presentation programmes with applications to create tests and questionnaires and publish the entire content to CD-ROM, html or other relevant formats. Using such material is simple for the learner and does not require any other skills than basic browser use nor does one require specific software programme to view the material as it appears as usual HTML in website format.

11. CREATING WORK PACKAGES

As already mentioned, a work package is a pedagogical matter. It has to focus on learners’ pre-conditions and learning styles, the objectives of the course, the organisation and presentation of the content, suitable working methods and feedback to the student during the working process. In this section, we will focus on the presentation of the content and specifically the materials.

12. PRESENTATION OF CONTENT

When designing material, it is important to reflect separately on the media to be used:

- Text presentation (reading and listening)
- Visual presentation (static and dynamic graphics)
- Hands on (kinaesthetic practice)
- Feedback (reflection and self-evaluation)

13. TEXT PRESENTATION

Computer supported ODL is not a matter of just posting written articles on the internet. The advantage of using electronic media in adult learning is to reduce reading and to increase other means of communication. Second chance learners are especially likely to benefit from this. The media offer new possibilities for text presentation that ODL learners can benefit from.

Presenting text is, in general, not an easy task for a teacher. It requires good writing skills, the ability to structure text logically (and again in meaningful chunks!) and a sense of empathy for the reader to ease reading and understanding.

14. VISUAL AIDS

A picture is worth a thousand words. This statement can be true, but in ODL it is not always the case. Artistic pictures added just as illustrations can create more confusion than understanding. Visual material must be selected according to the learners’ level of visual literacy i.e. their way of visual thinking and ability to analyse and synthesise new meaning from the material perceived (Cross 2002).

When using visual aids in ODL it is important to follow commonly accepted symbols and rules. If this is done, visual aids can be a way of overcoming problems of understanding due to cultural barriers.

It is important to think about how visual aids can be used to greatest effect in the learning process. Video sequences can introduce case studies, an illustration can draw out the central message of a text, diagrams can illustrate the steps in a process, and multimedia applications can introduce a theme. Visual aids typically take the following forms:

- Pictures
- Diagrams
- Illustrations
- Video
- Multimedia applications

However, in using visual aids one should be careful of the possibility that they may decrease learning instead of increasing it by overloading material and thus learners’ memory. There are several principles for effective presentation, such as:

- Adding only meaningful graphics that will enhance learning
- Placing graphics close to text will enhance learning
- If a graphic is the central figure, adding audio to explain the graphic rather than text enhances learning
- Using repetitive text, graphics and sound simultaneously will reduce the learning effect
- Using meaningless illustrative elements disturbs learners’ concentration
- Using virtual assistants (animated helpers) enhances learning (Mayer, 2001)
15. HANDS-ON APPROACHES

Computer communication can be a two-way communication. Hands-on methods can be ODL’s gift to the learner. Different pedagogical approaches recommend different theories when it comes to hands-on assignments:

a) Constructivism

Constructivism - as the word implies - is based on the constructive nature of creating knowledge in the frame of a learning event. The constructivist approach prefers open assignments such as role-play, case studies, essays, student production of home pages, or electronic newspapers. The constructivist approach is usually dependent on communication amongst learners and direct feedback to the learner from other students and a teacher.

b) Constructionism

The core idea of constructionism is an emphasis on thesis and tests. Favourite methods are simulations (what is wrong, what can be done) or how to construct a. …(Ex. Lego has developed a CAD/CAM system, where models made of Lego can be controlled by computer programmes). Constructionism also prefers open assignments and direct feedback.

c) Instructive programmes

Instructive programmes are normally constructed as self-paced learning with very little need for tutoring during the learning process. The feedback is often contained within the programmes. Preferred approaches are:

- Programmed learning
- Training programmes
- Presentations and tests

16. FEEDBACK

Feedback is a substantial part of learning – whether it is accomplished by automatic feedback tests, tutor-assessed assignments or self-evaluation formulas – to the learner as well to the teacher/tutor. Feedback gives a learner information on their progress and for the teacher/tutor it shows the successes and highlights any pitfalls that needed to be corrected. Feedback can be either

- formative where feedback is given throughout the learning-event
- summative where the learning event ends with evaluation

The appropriate form is decided by considering the overall curriculum, target group, the objectives, and the resources available.

If a questionnaire is used the usual types of questions with automatic feedback are:

- True / False
- Multiple choice
- Fill in the blank
- Matching
- Drag and Drop
- Short Answers

Types of questions that require feedback from the tutor are:

- Essays or reports
- Case studies
- Designs or constructions

17. CONTENT SUITABLE FOR ODL

Formally there are no limitations on what you can teach using different media, but practice shows that some kinds of knowledge are more difficult to organise as ODL than others. To understand this, it can be useful to divide knowledge into categories. In English literature about teaching, knowledge is divided into 3 categories:

Knowledge that

Eg.
I know that Cuba produces sugar
I know that 2 + 2 = 4
I know that to be is a verb

Knowledge how

Eg.
I know how to ride a bicycle
I know how to speak, read and write English
I know how to make a pizza

Knowledge by acquaintance

Eg.
I know him
I know Venice
I know carpeting

But this division is not enough to analyse what kind of knowledge is suitable for ODL. We also have to distinguish between analogue and digital knowledge. To do this, we can introduce the work of Howard Gartner, which speaks of symbol systems of the first and second order.

Knowledge that fits into the symbol system of first order can be learned through the body or senses: to speak, to dance, to paint, to sing, and to count.

Knowledge that fits into the symbol system of second order can only be learned by being taught. You cannot learn to read by watching somebody reading a book. You need somebody to explain the meaning of the symbols for you.

These two theories make it possible to divide content of education into 6 categories:

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>First Order (analogue)</th>
<th>Second Order (digital)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge that</td>
<td>I know that sugar tastes sweet</td>
<td>I know that Cuba produces sugar</td>
</tr>
<tr>
<td></td>
<td>I know that 2 apples are more than one</td>
<td>I know that 2 + 2 = 4</td>
</tr>
<tr>
<td>Knowledge how</td>
<td>I know how to ride a bicycle</td>
<td>I know how to play on a computer</td>
</tr>
<tr>
<td></td>
<td>I know how to speak English</td>
<td>I know how to read and write</td>
</tr>
<tr>
<td></td>
<td>I know how to make a pizza</td>
<td>I know how to follow a receipt</td>
</tr>
<tr>
<td>Knowledge by</td>
<td>I know him</td>
<td>I know Microsoft’s Windows programs</td>
</tr>
<tr>
<td>acquaintance</td>
<td>I know Venice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I know carpeting</td>
<td></td>
</tr>
</tbody>
</table>

From practice we know, that knowledge of the 2nd order (digital knowledge) is easier to provide through ODL than knowledge of the 1st order.
18. CHOOSING AN APPROACH: TRADITIONAL DISTANCE LEARNING OR BLENDED LEARNING

To evaluate whether ODL or blended learning is more suitable, various questionnaires can be used, for example the Course DL Screening Form:

Each “yes” gives −1 and “no” +1 point

<table>
<thead>
<tr>
<th>Variable</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hands-on activities essential</td>
<td></td>
</tr>
<tr>
<td>Specialised tools or equipment required</td>
<td></td>
</tr>
<tr>
<td>Group training in functional terms required</td>
<td></td>
</tr>
<tr>
<td>Group problem solving required</td>
<td></td>
</tr>
<tr>
<td>Continuous feedback from instructor required</td>
<td></td>
</tr>
<tr>
<td>Instructor-guided discussion required</td>
<td></td>
</tr>
<tr>
<td>Group discussions conducted</td>
<td></td>
</tr>
<tr>
<td>Other requirements for physical presence of instructor and learner</td>
<td></td>
</tr>
<tr>
<td>Learner performance data required</td>
<td></td>
</tr>
<tr>
<td>Learning objectives involve physical risk to learner (reverse code= yes +1 no –1 point)</td>
<td></td>
</tr>
</tbody>
</table>

Add up “yes” and “no” points, number to interpret as follows:
- 0 or negative value: distance learning is not suitable
- 1-3: distance learning may not be suitable, consider using technology in a classroom setting
- 4-6: consider combined delivery
- 7+: distance learning is highly suitable

19. SUMMARY

As a potential ODL provider the following advice is recommended:

- Chose the pedagogical platform before investing in a learning management system
- Consider your content according to a “just in case” or “just in time” approach
- Choose standards for your learning objects
- Brand your ODL approach and use your branding criteria when designing work packages
- Reflect on the possibilities of combining objectives when designing work packages
- Be realistic about the needed investment, including staff working time
- Test the suitability of the content before using ODL

BIBLIOGRAPHY


Advanced Distributed Learning Portal at www.adlnet.org


Chapman, Bryan articles and webinars at www.brandonthall.com

Cross, Jay: Envisioning Learning.- Internet Time Group 2002

Danmarks ICT-Center for Uddannelse of Forksklning / The Danish ICT Centre for Education and Research at www.school-ict.org


Harris, Jeff: An Introduction to Authoring Tools. Learning Circuits Portal, 2002

http://www.designingwbt.com/elearningresources/toolCategories.asp


Kvalitetsudvikling I e-læring, arbejdsgruppe uddannelsesstyrelsen, Danmark 2001

Lauersen, Per Fibæk: Didaktik og kognition, 1999, p 84 f


Reusable Learning Objects Authoring Guidelines: How to Build Modules, Lessons and Topics CISCO Systems White Paper

Todd, Chris, Flexible Learning Best Practice Project: Literature and Website Reviews.- Labyrinth Consultancy, 2000
1. INTRODUCTION

Open and distance learning (ODL) can take many different forms and formats, from web-based courses or television broadcasts to courses involving CD’s or based on correspondence. It may include virtual worlds, simulations, role-playing, storytelling, learning by doing, or learning by teaching. ODL may or may not involve an instructor. It may require ‘life’ interaction (synchronous courses) but can also be completely independent from time and/or place (asynchronous courses). To make things worse, ODL can be any combination of the above. It may even be ‘blended’: part distance, part contact.

Form and content are never totally independent. Content can therefore help to choose the right form for an ODL course. Teaching people a critical skill will best be done involving an instructor, especially if the course leads to certification. Correspondence - snail mail - is obviously a poor vehicle for a course on contemporary music. But even the obvious may not always be true. Increasingly powerful simulations can go a long way in teaching people how to use a lifesaving tool like a defibrillator. Given easily accessible resources like CD’s, libraries, and so on a correspondence school could very well carry a course on contemporary music. This means that content is only partially a criterion to help decide on the right form and format of ODL.

The traditional modernist adage has it that form should follow function. In the context of ODL, this can mean only one thing: Form should follow learning experience and learning outcome. And since the learning outcome is largely a function of the learning experience, the most important questions to answer when deciding on the form of ODL are related to the (learning) experience of the learner. From a management perspective this means that we need to address the process that will take the project team involved in introducing ODL from thinking about the learning experience of the students to the actual implementation of a course. From a course designer’s perspective it means that he or she must take a look at the elements that contribute to the learning experience - the so-called learning objects and their relationships and interaction.

2. FORM FOLLOWS EXPERIENCE

Here is a rule of thumb: First think about the learning experience, then look for the technology that will help you create that experience for the learner. Do not start with the technology, however appealing it may look or however persuasive vendors may be. The technology-centred approach to ODL is not completely without merit but should be limited to situations where the goal is for the learner to acquire isolated bits of information. In more complex contexts, most people learn by focusing on meaning and on integrating new and older knowledge. Using an elec-