capdm WHITE PAPER

# An introduction to distance learning

## A primer for the higher education provider

December 2006

# Contents

# Introduction

## What is distance learning?

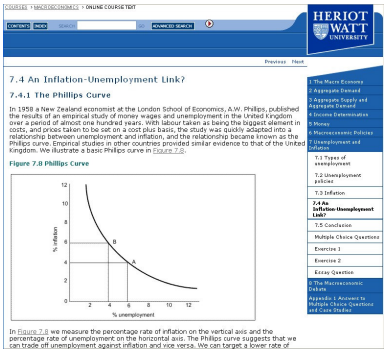
There are many ways to define what is meant by 'Distance Learning'. Our preferred definition is:

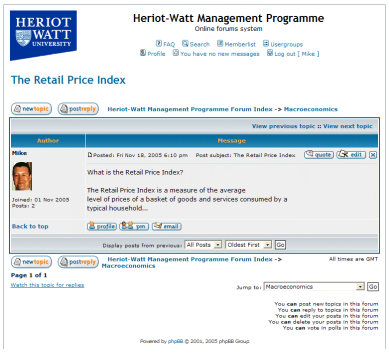
*"A process whereby a student participates in a formal learning process without the instructor being present."*

Distance learning takes a variety of forms but all methods have the following characteristics:

- separation (in place and/or in time) between the instructor and learners and/or between learners and learning resources;
- interaction between learners and instructor and/or between learners and learning resources conducted through one or more media.

Historically, the media used was limited to printed materials, which were mailed back and forth (the original 'correspondence' course). Today, technology provides a wide range of alternatives such as audio/video recordings, video-conferencing, broadcasts and online communications.





**Online textbooks, debating forums, video conferencing and podcasting – examples of new technology alternatives available to the distance educator today**

1. The correspondence model – remote learners with limited communications technology.

2. The multimedia model – printed materials supplemented with CD ROM, radio or video materials.

3. The telelearning model – learning facilitated by telecommunications.

4. The flexible learning model – combines best features of face to face learning, with the benefits of flexibility.

5. The intelligent flexible learning model – puts students in touch with each other and their tutors.

**Non-exclusive, market driven 'generations' of distance learning Taylor [1998]**

Although traditional delivery methods such as the postal service are still regularly used, the advent of new media has enabled much richer learning experiences to be created. The ability of distance learning to deliver effective and rewarding education has never been better.

## Why is distance learning different?

Distance learning is not simply a 'new technology' version of traditional 'face-to-face' education. It is a different process, using totally different methods and offering very different benefits. That said, there are good arguments for:

- basing a DL programme on existing on-campus programmes;
- treating all students as DL students;
- acknowledging the similarities as well as the differences.

DL and face-to-face tuition are at opposite ends of a spectrum of study mode options, with blended learning somewhere between the two. eLearning is ICT support for learning that fits in along the whole of the spectrum, though with different emphasis.


**The spectrum of study mode options available to educators**

Each study mode option has its merits and different options may suit the same student for different courses. For example, the student who finds quantitative subjects difficult may prefer a DL option where he can study at a pace, or at times, that suit him better.

This is exactly why DL based on an existing programme is attractive. It can be a single, common programme, offered by a number of study modes to suit the needs of a diverse set of students. By 'common' we mean one curriculum, common syllabuses, common materials, common assessments, but different study options. The benefit of this approach means that the underlying quality of the course, including its structure, its design, the course materials and the formative assessments, can be significantly enhanced by developing it for the purpose of distance learning. If all students are treated as distance learners, and all courses developed to a DL standard, then everyone benefits. Students get a better all-round learning experience, teachers can add quality above the base and off-campus exploitation becomes possible.

Distance learning is different however, and it is important to plan the characteristics of DL in an institution, such as business and pedagogical elements and the development of production and operational issues. These are new skills for many universities or colleges, which require a high degree of co-ordination and may involve partnering. DL does imply change.

# Where distance learning fits

Distance learning programmes can deliver a high quality educational experience. They can be used to supplement other teaching methods or deliver the complete programme package.

A student can select a delivery mechanism and an education provider. Education providers can choose from a range of alternative delivery mechanisms, capable of capitalising on the knowledge assets owned by individuals and institutions.

The net result is a massive potential benefit to both students and education providers. So, although distance learning cannot deliver all the benefits of face-to-face learning, it does offer some unique benefits of its own. It is able to enhance the learning experience and make the overall education process both more efficient and more effective.

DL is becoming important for educational institutions, and universities in particular, who have maintained a relatively stable role and status in society over many decades if not centuries. Changes that have taken place have been evolutionary rather than revolutionary, mainly involving the introduction of new subjects (for example, social sciences in the 1960s and media studies in the 1990s). There has been little change in organisational objectives or structure.

Traditionally, and particularly in Europe, these institutions tended to have implicit, often vague, objectives including:

- supplying educational services to society;
- advancing the frontiers of knowledge;
- implicitly maintaining a rather ill-defined financial viability.

Vague objectives allow new developments to be adopted without systematic evaluation or assessment. However there are changes being imposed, stimulated by rapid developments in information technology, the growth of the global education market and much more stringent financial constraints. The traditional university model is under pressure, in terms of its overall objectives and the strategies employed to attain those objectives.

For example, there is an increasing need for educational institutions to state their objectives more rigorously, particularly for teaching and research. In addition, there has been a growth of external assessments on all aspects of universities' activities to ensure that the objectives are met. Though the role of research is of prime importance, as it provides the basis for the allocation of future public funding, there is now a need to generate funds from the private sector in order to maintain financial viability and, optimally, to generate surpluses. DL is included in the strategic plans of nearly all HE institutions and many colleges.

# Overcoming barriers to the adoption of distance learning

The adoption of distance learning techniques involves a number of significant changes to traditional teaching methodologies. The basic information may be the same and the desired outcome very similar but the delivery processes call for a radically different approach.

Learning institutions, such as universities, often underestimate these differences. They may, in some cases, pretend they don't exist! Videoing a lecture and sending the students the recording might embellish a DL programme but it cannot form the programme core.

## The team approach

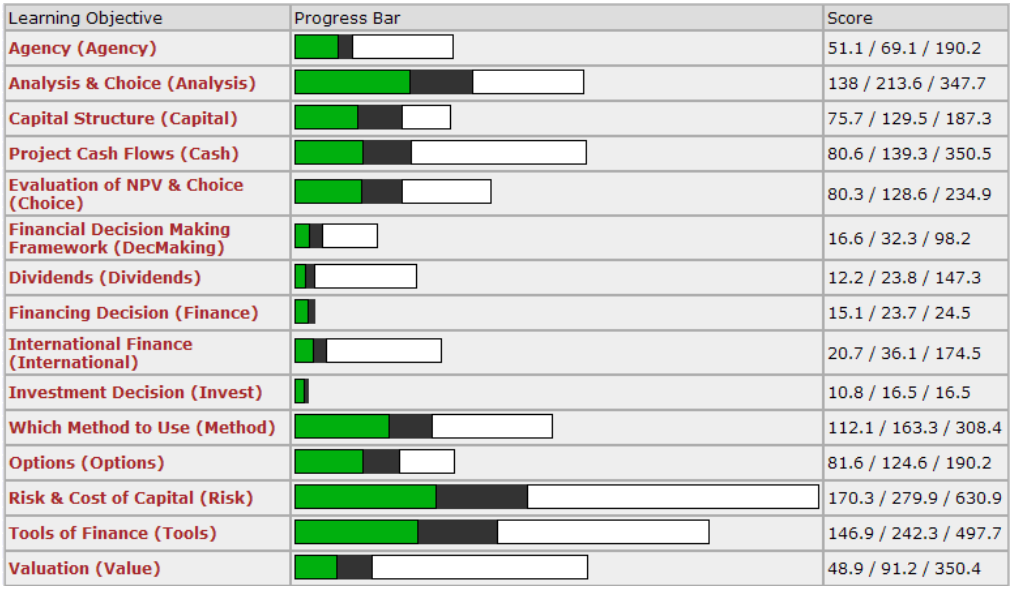
Developing and maintaining a DL programme requires a range of skills which only a few individuals possess. This means that building a DL programme generally needs to be a 'team effort'. Even then, some of the skills required may not be available within the institution, and external support and assistance is often required. The key here is to form a team that has all the necessary skills and then to capitalise on everyone's strengths to deliver the final result.

Three broad sets of skills are required:

- creative academic authoring;
- product production and management;
- sales and marketing.

The primary creative role is the design of suitable pedagogies and pedagogical structures for the development of the DL programme. This will be a function of the needs of the programme, the subject matter and the institution. Though this is the academic side of the product design, the pedagogical aims must dovetail into the business objectives. For example there is no point in designing intensive tutor support into an overall model that is intended to be tutor-light. Once the product is designed, content sourcing, including authoring, becomes the main issue.

Authoring for DL is new to many academics. It can be highly creative, but one may be authoring for a branded product (a course within a designed programme), in which case it has to be fit for purpose and reviewed and revised until it meets the necessary quality level. 'Fit for purpose' is critical. The purpose is not to write a revered academic treatise; it is to write learning materials that can be studied and understood by the remote student who will be subsequently assessed on that understanding and application.



| Learning Objective | Progress Bar | Score |
|---|---|---|
| Agency (Agency) | | 51.1 / 69.1 / 190.2 |
| Analysis & Choice (Analysis) | | 138 / 213.6 / 347.7 |
| Capital Structure (Capital) | | 75.7 / 129.5 / 187.3 |
| Project Cash Flows (Cash) | | 80.6 / 139.3 / 350.5 |
| Evaluation of NPV & Choice (Choice) | | 80.3 / 128.6 / 234.9 |
| Financial Decision Making Framework (DecMaking) | | 16.6 / 32.3 / 98.2 |
| Dividends (Dividends) | | 12.2 / 23.8 / 147.3 |
| Financing Decision (Finance) | | 15.1 / 23.7 / 24.5 |
| International Finance (International) | | 20.7 / 36.1 / 174.5 |
| Investment Decision (Invest) | | 10.8 / 16.5 / 16.5 |
| Which Method to Use (Method) | | 112.1 / 163.3 / 308.4 |
| Options (Options) | | 81.6 / 124.6 / 190.2 |
| Risk & Cost of Capital (Risk) | | 170.3 / 279.9 / 630.9 |
| Tools of Finance (Tools) | | 146.9 / 242.3 / 497.7 |
| Valuation (Value) | | 48.9 / 91.2 / 350.4 |

**Illustration of learning objectives authored to provide improved self-assessment feedback for online learners. The white bar indicates for each learning objective how much self-assessment materials there are available. The black bar shows how much has been attempted so far, and the green bar shows the level of correct responses.**

These materials are also the primary interface between the remote student and the institution, so any quality defects will be disastrous for both parties. Content authors have to be able to satisfy the demands of the programme editor, This is a critical role that must be determined early on.

The production and management role must be geared to the creation of the initial product, and be able to manage the product over its lifetime – which will typically be long. Though there will be a temptation to develop a DL product within one of the many virtual learning environments (VLEs) that are to be found in universities and colleges, the product should really be developed for distance learning, and potentially delivered through these platforms. It is important that knowledge management principles, not transient technologies, guide the production, curation and delivery of the learning materials. There is also creativity at this stage, as styles have to be developed.

Finally products only have value if they can be sold. Universities and colleges are not good at sales and marketing, so the option of partnering should be included in the development business models. Partnering is an eminently sensible way to plug the team skills gap.

Problems most frequently encountered include:

- content sourcing;
- institutional support;
- professional production and delivery
- sales and marketing.

Institutions should assess their internal skills and fill any identified gaps in the team. Initial planning skills may sometimes need to be sourced externally.

## Organisation and leadership

As with all team efforts, it is crucial to have a competent and effective leader. This person does not need to possess all the relevant skills – indeed they do not need to have any of the skills in sufficient quantity to carry out any particular part of the work. They must, however, be a 'leader' and a 'champion for the cause', selecting and motivating members of the team and anyone else the team has to rely on.

"The literature on managing distance learning is unambiguous in its assertion that in order for this mode to be delivered efficiently, a tight, hierarchical structure of management is necessary."

**Rumble 1981, Carl et al. 1992, Kirkpatrick and Jakupec 1997, Peters 2001, Farrell 2001.**

The leader has to be able to persuade the senior management of their institution that they should be backing the initiative as part of the institutional strategy. The leader must also be able to form a link to the development team and encourage them to undertake the significant development and management tasks that represent a long term commitment. Both parties must also be confident that the leader has the vision, managerial aptitude and the drive to lead the development to a long term success.

The team formed to implement the development may require some initial instruction in DL techniques and may need to study equivalent programmes from other suppliers. It must then develop a 'project plan' that sets realistic timescales and resource requirements, capable of gaining higher level approval.

## Resources

Finding available funds and other resources to invest in this type of development usually requires some effort. Unfortunately, the potential spend is, generally viewed as a cost to an institution rather than as an investment. It must, however, be seen as an investment for the future growth and success of the sponsoring institution. There are many possible benefits to be obtained from a DL programme, such as:

- opening up new income streams;
- enhancing the overall student learning experience;
- improving teaching quality;
- protecting the 'information assets' of the institution.

Licensing third party content resources from individuals or commercial publishers can reduce the up-front resource development cost, circumvent any difficulties of authoring effective learning materials, and accelerate time to market. This short to medium term tactic can also be used successfully to get a programme development started when available funds are low and can be used to diversify an existing programme with specialisms in subject areas not deemed core for the institution. The level of permitted adaptation, however, is usually low, and can result in restricting the way the programme is provided and evolved.

A commitment to developing in-house materials and authoring capability will provide the best return in the long term, creating substantial assets for the institution to cherish as intellectual assets. Providing the development process is properly managed with skilled and motivated people plus efficient processes and materials management, the resulting repository will form a flexible and strategic foundation on which to build future knowledge and commercial successes.

## Culture

Educational providers that do embrace DL should do so with the clear understanding that there will be a need to introduce changes to the culture of the relevant parts of the organisation. These changes need not be radical, but they should be transformational and seen as beneficial in the long term. For example:

- developing new approaches to pedagogical development and delivery;
- providing new opportunities for staff;
- rationalising production and delivery of key curriculum areas.

> "The need to build a 'tripod' or appropriate structure, culture, and processes in order to manage a cultural shift towards distance or blended learning."
>
> **Clarke, from Morrison [1998]**

# Key factors for distance learning success

## Distance learning & knowledge management

Distance learning is not a new idea, but advances in computer and communications technology have enhanced the attraction of DL for institutions. While it is easy to become seduced by the technology, success also depends on pedagogical factors, such as quality, learning content, study options and student support. Success also relies on business and operational decisions that shape product development and the way it is managed.

Although there are many facets to building a good DL programme, high-quality content lies at the heart of effective distance learning. There are two main reasons for emphasising this. Firstly, all DL programmes have to be 'fit for purpose' and their primary purpose is to enable students to learn from expert and reliable sources. Secondly, educational institutions are seen as reliable 'custodians of knowledge'. Therefore if the content does not support the overall learning process, or if its accuracy is called into question, the institution's reputation may be adversely affected.

This implies that there will be a good content base at the heart of any development. There is, therefore, an expectation that DL providers will have sound knowledge management strategies in place.

These will include the formal management of quality learning content. In other words, the institution will be, or should be, developing and maintaining asset repositories of 'fit for purpose' learning content, which can also create clear areas of competitive advantage when the target market develops.

This strategic approach to information, its use, and its management is one reason why it is common to link involvement in DL to knowledge management within an educational institution.

There are two main areas for consideration when defining the characteristics of the programme:

1. The business model needs to ensure that the characteristics of the potential market are understood, the target market is defined, the barriers to adoption within the supplying institution are addressed and all the stakeholder interests are made explicit. The model should also take account of development timescales, the income profile and the expected returns on investment over the lifetime of the programme. These are the pivots for a valid business plan.

2. The pedagogical model defines the actual academic product offering, its variations and requirements, plus the content sources and quality. This forms the basis for the contributions required from the people who will provide the academic designs and materials to meet the needs of the product. For example, all materials may be written internally (thereby avoiding IPR issues) or may be sourced externally, under licence. The study modes and the support options for the students are also defined within this model, and quality and 'fitness for purpose' standards established.

## Funding

The detailed consideration of business issues may not appeal to those anxious to 'get on with the job'. But simply re-working existing practices and materials that are used on-campus does not produce a viable DL programme that can be scaled up when required. Funding councils and university/college administrations recognise this and are keen to move away from 'cottage industry' approaches towards the coherent, strategic planning of DL. This has to be reflected in forward-thinking and in the business plan.

## Technology and media

Technology, as noted above, is not the driver of DL but its use obviously shapes the options for delivery and support of distance education. It is necessary at the planning stage to look at all of the available options and adjust business and pedagogical model designs accordingly. One of the first considerations is how a programme will be delivered.

## Programme delivery

There is no single medium that is best for distance learning. All have their advantages and limitations and it is really up to the student to make the decision about how they want to learn and how they plan their study. But this implies giving them choice.

Ideally the student should be presented with all the learning materials they need to study successfully. These should be presented in flexible forms that can be adapted to support individual styles of study. In practice the best distance learning experiences will combine a variety of media, selected for different purposes in carefully constructed learning environments.

Though new technologies present innovative and exciting opportunities, one particular medium is generally always used. Print still has an important role to play - as generations of distance learners can testify.

**Professionally produced textbooks still provide substantial value to distance learning students**

## Media choice

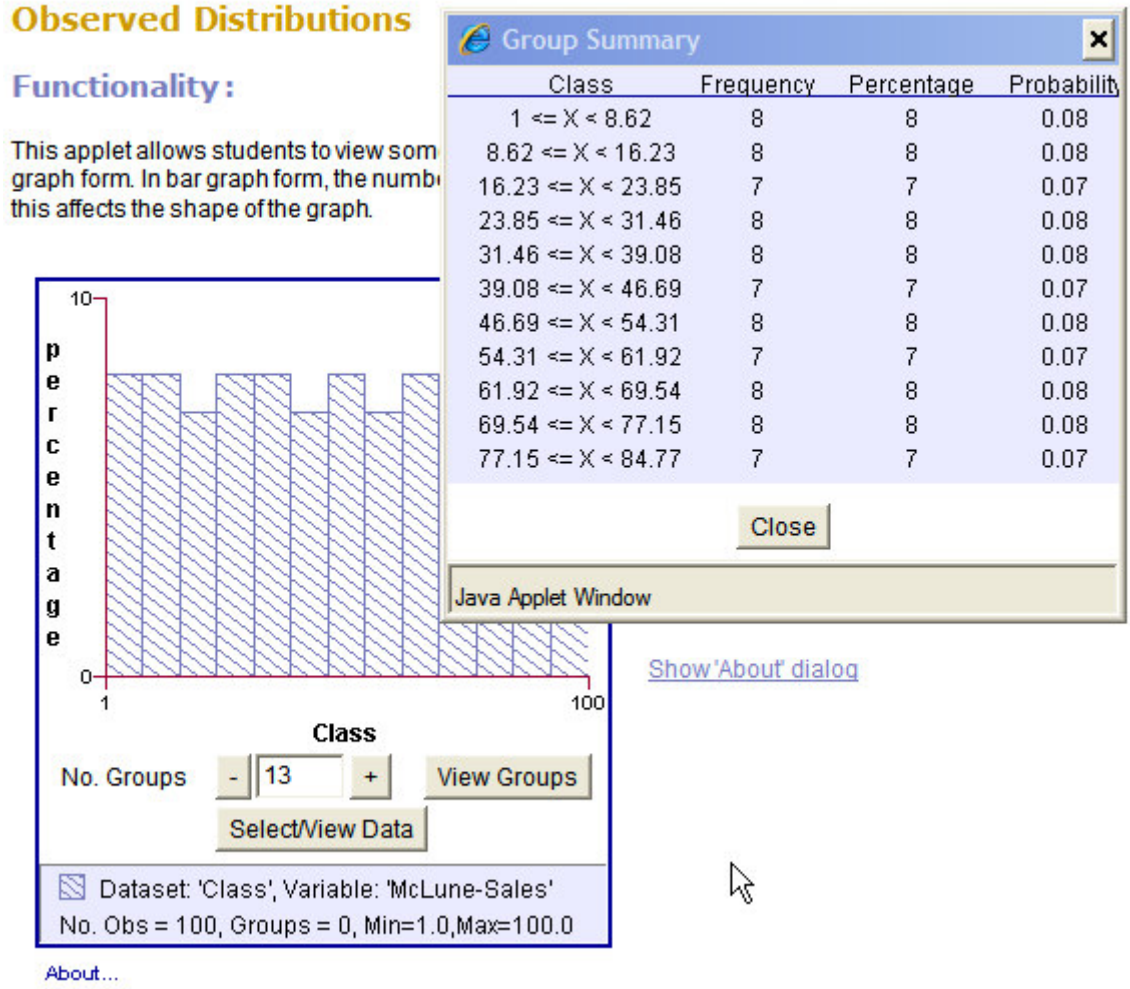
Details of media alternatives, the technologies involved and the operational requirements are covered by other sources and are generally well understood. For the purposes of this primer, the most relevant media employed for Distance learning include:

- course books (generally loose-leaf);
- briefing and tutorial papers;
- audio CDs, tape and podcasts;
- video DVDs , tape, streams, podcasts;
- video-conferencing and video casting;
- computer based training and simulation packages;
- Internet based virtual learning environments.

# Advanced learning options

New technologies also offer a number of advanced learning options. Assessments and collaboration deserve particular attention.

Many on-line assessments are simply an implementation of traditional self-assessment sections (generally found in the printed materials that accompany a book) or act as a substitution for handing in assignments for tutor feedback. On-line implementation adds a potential convenience factor for those with good access to the Internet or a computer. With this approach, instructors can develop highly interactive questions that are much more informative and demanding than simple multiple-choice questions.




**Interactive drag & drop questions, applet and group based simulations can be used to enrich teaching and learning processes**

Furthermore, within a properly designed syllabus, feedback can also show how well students are performing in each area of a course, how these areas relate (link) into the core learning materials and actions the students can take to improve their performance. Facilities such as this can also reduce the level of demand on tutors for marking and/or holding feedback sessions.

Technology can also enable collaboration and communication. Discussion boards have become an essential support tool in DL programmes. They can offer distance students a direct channel to their tutors, who may be on-line or off-line, and/or to their peers. Shared file areas allow materials to be distributed to students, and allow students to submit assignments. There are many optional facilities that can be adopted for such purposes.

## Developing distance learning programmes

A much-appreciated benefit of a DL programme is that it allows learners to fit their study into their lifestyles. They are able to allocate appropriate priorities to other demands on their time, such as jobs, domestic priorities, social commitments and relaxation/exercise, while fulfilling the requirements of the study programme.

This implies that the student is not locked into a fixed period of study time and that learning can be designed to allow students to progress at their own rates. They can skip over what they already know or repeat parts they have difficulty with, and they can be assessed when they are ready. This flexibility is one of DL's key benefits. Despite this, many DL programme developers still persist with designs that do not take this into account, often because they take inappropriate short-cuts in the overall programme design.

There is no single pedagogy that is best for distance learning. The optimum choice has to take account of many factors but the primary objective should always be to make the learning process attractive, efficient and effective as possible. A programme that exhibits all these characteristics is virtually guaranteed to achieve a good share of its target market.

## Initiating development of a distance learning programme

Once the objectives for a distance learning programme are in place, it is time to deliver. This is where problems can start but it also where the foundations for an effective programme are laid. There are two new areas to consider:

1. The production model determines how the product will be physically developed and maintained, and should be a reflection of business and pedagogical decisions taken earlier. Examples of issues to resolve here include which production standards to use (e.g. XML), how to render the final media formats required, and how to manage revisions and derivations of materials held in an asset repository.

2. The operations & administration model determines the operational mode, levels and nature of student support, sustained maintenance of the programme, and systems/procedures for administration.

## Making programmes work

Success is not determined by the launch of a programme, but by its continued viability downstream of launch. Issues that are vital here include supporting ongoing development, student support teams, administering the needs of a student-centred programme and assessing feedback.

The characteristics of the final delivered product will have been considered in the earlier stages and decisions taken then will influence factors such as the technology of delivery and support, the various media formats and production and administrative processes. The product represents an asset for the owning institution, and should be treated as such. It is a high value asset with a long life span during which it will almost certainly undergo many revisions. This suggests a need for an information architecture and process models for maintaining and revising the underlying content.

Universities and colleges are not generally set up to handle sales and marketing for DL programmes. This suggests the need for a partner. The ambitions of the DL development must be specified, however, and the Business Model carefully calculated to determine how a partner can best be involved. These holistic models show where an institution's expertise and experience lie. They also show what is missing, and they highlight areas where partnerships should be formed. The word 'partnership' is used deliberately here as these developments are for the long term.

# Programme success

Success is operating a programme over many years, generating an income stream (or hitting some other strategic objective), and managing people, change and revisions throughout the lifetime of the programme. Production, sales and marketing are key activities and are often best addressed by effective partnerships, rather than undertaken reluctantly as an extension of the core educational activity.

There are a number of good examples of DL programmes in the UK. Some are successful on a global scale, while others target specific local markets. Most are characterised by their commitment to the principles of DL and by the acceptance of change within the institution.

There are also many examples of programmes that show a lack of commitment and ambition. Many of these are technology-led, adopt pedagogical and support models that limit the number of students that the institution can have on the programme and/or incorporate designs that are designed for the convenience of the institution, not the learner.

Experience shows that many of the subjective views and beliefs that are held about DL often evaporate once an institution is in the operational phase. Success therefore comes from developing an early understanding of the processes involved and the challenges ahead.

When this is accompanied by thorough planning and the full commitment of the associated team, it nearly always results in highly successful programmes.

## What makes a programme work?

Factors contributing to a successful DL programme include:

- People: Within the institution it is essential to get the right blend of business, academic and technical input to ensure that the vision for the programme is holistic and coherent. It is also important to involve people with the skills needed to develop the programme effectively.

- Good design: 'Fit for purpose' is crucial. It is important to ensure that designs are directed towards meeting this end, eliminating subjectivity and offering students as much flexibility as possible to adapt the programme to suit their study patterns.

- Institutional backing: No matter how good the vision and the design, if there is no institutional backing then the motivation of the staff will be quickly eroded.

- Good partnerships: No institution can do everything. It is important to be realistic, to be prepared to partner for success and to work to maintain those partnerships.

- Good management: A clear and scalable business plan, executed by competent programme and project managers, will deliver success more quickly, and help to sustain it as the market develops.

## The benefits of success

Successful distance learning programmes deliver many benefits to the education provider, particularly to universities and colleges. These include:

- greater flexibility and study mode options for the student;
- enhanced quality of on-campus and DL options alike;
- additional revenue to support on-campus learning and research;
- enhanced reputation as the provider of quality learning programmes;
- contact with a much wider student base – potentially for both on-campus and off-campus programmes.

DL also introduces change into the institution itself. In addition to more explicit objectives, the institution has to accept knowledge management practices, to recognise and cherish its assets and to co-ordinate the assessment of its options. Does this restrict academic freedom? There is no reason that it should, but there is every reason to believe that success can bring rewards that can support greater academic freedom.

**Fruits of success: The Edinburgh Business School operates the UK's largest distance learning MBA programme, and the second largest in the World**