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applied infokit

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Foreword

I am pleased to introduce this first version of the e-learning 'toolkit'. This resource has been produced following the report of the Councils' Joint e-Learning Working Group, which recommended that the Councils should support the development of good practice advice for institutions on e-learning.

e-Learning can have major implications for all parts of institutions, and it is important that colleagues involved in these developments have an appropriate understanding of what is involved. For some staff this means having an awareness of the main issues, while other staff will need access to more in-depth resources and tools. This summary version provides an overview of the issues and the resources which are available. In that sense it represents only the tip of the iceberg, and I would encourage you to explore the full toolkit on the web at <http://www.jiscinfonet.ac.uk/InfoKits/implementing-elearning>

This resource has been developed by JISC infoNet, in discussion with colleagues from Scottish colleges and higher education institutions. JISC infoNet supports institutions in the planning and implementation of information systems. The material draws on practice and experience from across the UK further and higher education sectors, including work undertaken as part of JISC and other funded projects. The structure and approach for the toolkit is based on the successful infoKits, with which you may already be familiar.

Although this has been compiled in response to a Scottish initiative, the issues it addresses are relevant for colleges and HE institutions throughout the UK. We are therefore making this document available through our fellow funding bodies in England, Wales and Northern Ireland for wider circulation. We would welcome any opportunities for wider collaboration which this publication may stimulate.

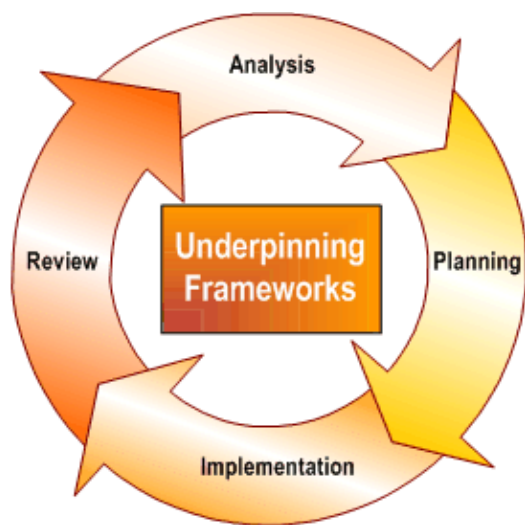
This is the first version of what we will hope will be an evolving resource. We would welcome your feedback, including suggestions for additional resources which might be included. Please send any comments to jiscinfonet@northumbria.ac.uk. We look forward to working with you on the development of these resources.

Dr Bill Harvey
Deputy Director for Learning and Teaching
Scottish Funding Councils for Further and Higher Education

Introduction

'The joint SFEFC/SHEFC e-learning report recommended that the Councils should support, in partnership with the sectors, the development of good practice advice, such as a 'toolkit' to support institutional managers in making decisions about future plans for investment in e-learning...' (Circular letters FE/08/04 and HE/09/04; Annex A, paragraph 1, bullet 3).

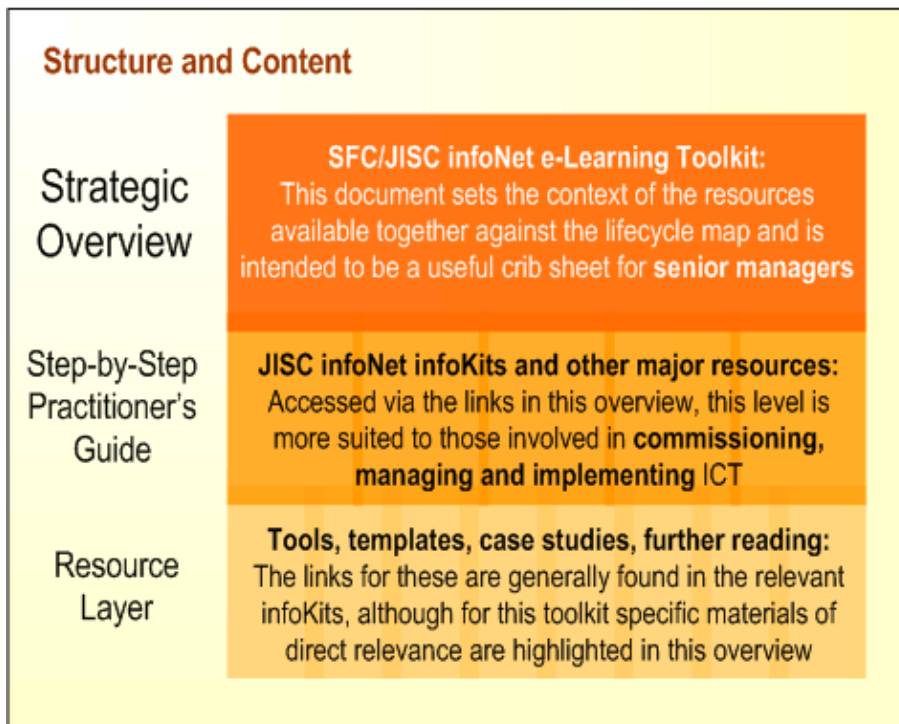
This toolkit has been created as part of our applied infoKit series, which take general best practice frameworks and shows how they might be applied to a specific area. The purpose of this overview is to signpost resources that can provide assistance in assessing the costs, benefits and risks of implementing and developing e-learning provision. This is not about re-inventing the wheel – it is based upon tried and tested approaches which circle around a sound Project Management approach underpinning a set of tools and techniques that will steer you through the systems lifecycle path of **analysis, planning, implementation** and **review**. In reality the model is rarely this rigid, and you will find yourself in an iterative cycle of development – this flexibility is often fundamental to the success of any implementation. The model does however provide a contextual framework off which to signpost resources; the resources themselves contain appropriate cross-references within them as you drill down to cover the iterative nature of the subject.



As this package is devised to specifically address the e-learning agenda there are also references to resources which directly address key issues of pedagogy.

Structure and Content

The issues are complex and interwoven, and are presented at different levels – you choose how far to drill down into the detail. The layers of detail are represented on the mapping diagram below:



The materials – particularly at the resource level – are synthesised from a variety of different sources, and although many are hosted on the main JISC infoNet site some links will take you to external sources. At this stage in its evolution there are some gaps in the available resources (notably in the 'Costing' and 'Review' areas); we will be working on guidance to address these too and in the meantime we point you towards any interim material that is available.

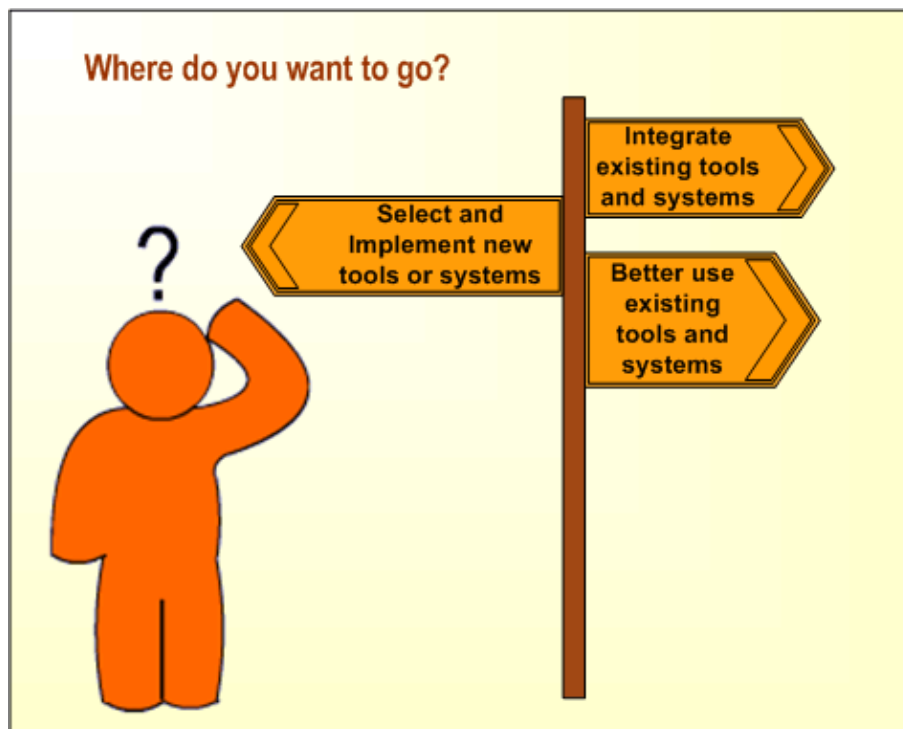
The structure deliberately addresses both the FE and HE sectors (although there may be sector-specific materials in the resource layer) as the issues are similar to both. We positively encourage practitioner-sharing across the sectors and the guidance very much emphasises the need to constantly remind ourselves that it is the learner that lies at the heart of these investments. We believe the strategic aims across both sectors to be similar in their concerns about getting value for money and getting something that enhances teaching, learning and, depending on the institution, research.

Gauging Your Position: Where Do You Want To Go?

This set of resources attempts to cover the whole spectrum of advice that you might need to consider in relation to e-learning development. The lifecycle approach means that you can step on or off at any point – so the set of tools provided here can be used whether you are starting out on this road, are half-way along the route or have come to a cul-de-sac pondering how to progress – you may even need to do a U-turn...

The context and emphasis of each of the resources will depend on where you are starting from and where you are wanting to go...at a very generic level the options are represented below. The core good practice models that follow this section will be needed whatever your situation, although their context and priority may differ. However, within each of the individual phases some resources may be applicable to a lesser or greater extent depending on your position – e.g. the System Selection infoKit under the Planning Phase will be of little use if you are not selecting new tools or systems; however components of the Implementation infoKit such as Training and Staff Development will be of use even if you're not implementing new tools. Each of the analysis, planning, implementation and review quadrants is prefaced by some pointers on how resources may fit the context of your general goals.

A useful tool for analysing where you are and where you want to go with regard to e-learning is the matrix that was developed as part of the JISC/UCISA Landscape Survey. This allows you to evaluate your current and planned position on a spectrum that goes from the use of some standalone e-learning tools to the integration of organisational systems and components (processes and IT) that support teaching and learning into what has been termed a 'Managed Learning Environment' (MLE).

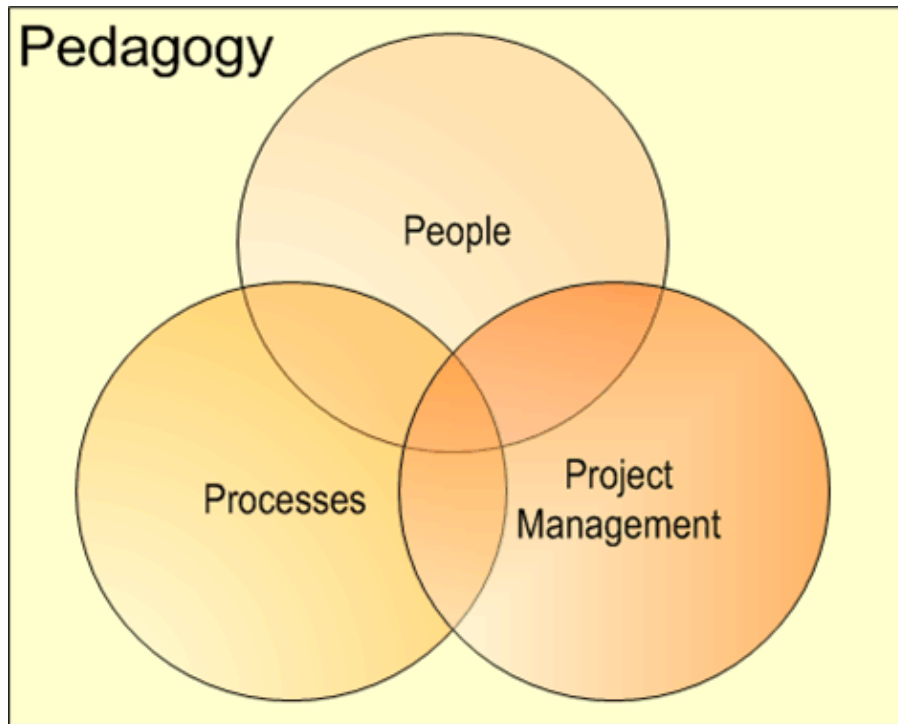


Core Good Practice Models

Some of the resources here may not seem readily identifiable with e-learning. Although the pedagogic angle is undoubtedly a critical element of a successful e-learning implementation – and materials on this subject are included within this toolkit – to fulfil a truly strategic approach, it needs to be recognised that such new innovations should 'gel' with your business processes and systems. A strategic approach to developing and implementing such systems will also take into account the unique culture of the organisation. Culture is defined in an organisation context as the core beliefs, traditions and values of the organisation and is therefore vitally important for those implementing e-learning to understand.

Whatever your starting position and wherever you are wanting to go, there are a number of core good practice models included here which will be of assistance to you. You may use them to a lesser or greater extent, or in different contexts depending on your goals, but put simply, the main core of this resource can be summarised as considering the 'Four Ps':

People, **Processes** and **Project Management** within a **Pedagogic** framework.



Pedagogy

If e-learning is viewed as a mix of interactivity, use of various media and allowing branching by the learners, then the pedagogy (the design and development approach of the teaching and learning) is different to that of more traditional face-to-face approaches.

There is a growing awareness of the need for effective dialogue among practitioners, educational researchers and developers of standards and systems, to ensure that e-learning systems are usable in flexible and appropriate ways that meet the needs of learners and enhance the learning experience. There is a demand from practitioners for effective guidance on good pedagogical practice, particularly in designing activities for virtual learning environments. The pedagogy of e-learning places more emphasis on the individualisation of learning with each learner making their own learning pathways at a speed that is appropriate to them.

e-Learning enables a more active participation than classroom based activities, with learners not having to wait around whilst others catch up or feeling under pressure to complete tasks more quickly than they feel competent to do. Learners work on tasks tailored to their needs.

As e-learning is 24/7, with learners creating their own timetables for some or all of their learning, the role and activities of the tutor change. Also materials, tasks, assessments and communication modes must be made available well in advance of timescales associated with class room settings.

Whether used in purely distance learning or a blended mode, the pedagogy of e-learning needs to be taken into account by tutors and learners.

Any type of learning needs to be meaningful, (for each learner), memorable (otherwise it is pointless) and motivational (the learner has to want to learn, the tutor cannot do this for them). However, e-learning is more demanding due to the surrounding hype and (often) high expectations of the e-learners.

Much experience in this area has been gained over the last few years and the initial phase of the JISC e-Learning and Pedagogy Programme surveyed this experience; summarising the current state as well as attempting to answer the question 'What do practitioners need to help them with e-learning pedagogy?'. Recommendations (for example of e-learning tools requirements) are to be

fed into other JISC programmes or tenders for development sought. The second phase of this programme focuses on the learners and their experiences of e-learning. The programme website is kept up-to-date with reports and outputs from the programme with an associated JISC mailbox being used for communication and discussion.

There are many other resources available and in particular an infoKit on using VLEs effectively draws a number of these together.

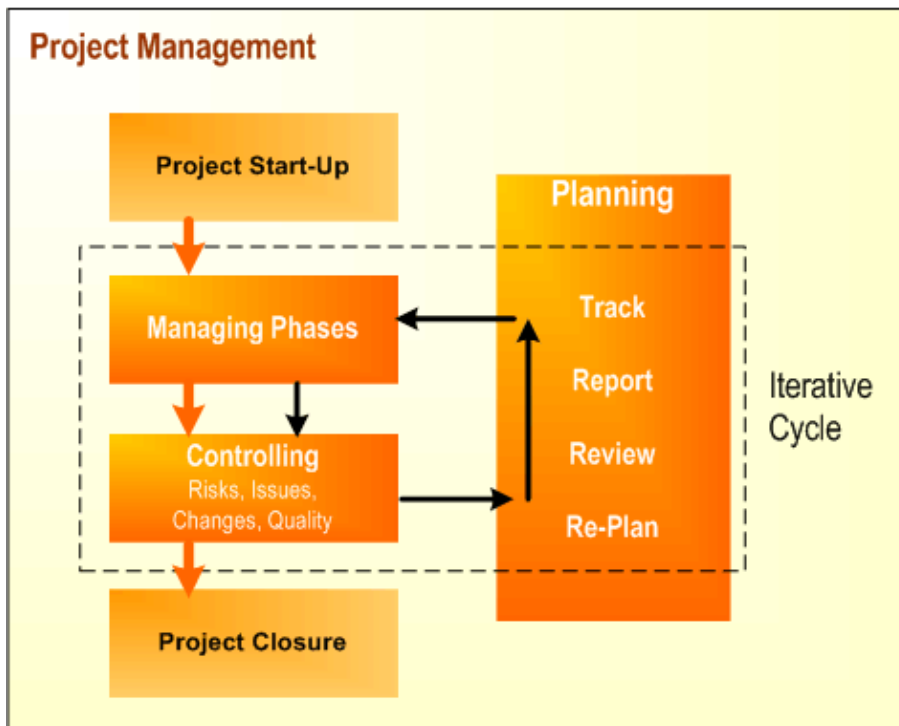
The e-Learning and Pedagogy Programme is one strand of the JISC e-Learning Programme and is a new initiative that will offer a comprehensive guide to effective practice in e-learning. The Innovation strand deals with pedagogical and technological issues, identifying areas where technologies can be harnessed to support learning.

Project Management

One thing stands out in the analysis of all projects – few systems projects fail for technical reasons, and e-learning systems and tools are no exception to this. Most projects fail because they are not effectively managed. In short projects are about **people**. There is no magic formula for ensuring that a project is successful, but JISC infoNet's Project Management infoKit uses well-proven techniques that will increase your chances of success. The Kit is aimed at people who are managing a project for the first time and people with some experience of projects who recognise the need for a structured approach. It takes an approach that is based on the government-approved project management methodology – PRINCE2.

PRINCE2 is a comprehensive methodology that can be applied to projects no matter how large and complex. The JISC infoNet method pares down PRINCE2 to a framework suitable for managing any project, taking an education context and with particular emphasis on people. The method is scalable and is suitable for Further and Higher Education colleges and institutions of all sizes. Properly applied it should be a user-friendly framework that matches the size, risk level and complexity of your project.

The diagram below shows the main components of the JISC infoNet project management methodology. Some elements, namely Project Start-up and Project Closure, occur only once. The remaining elements, Planning, Managing and Controlling, form an iterative cycle that may repeat many times before the project is complete.



The methodology is a framework and nothing more. It is a tried and tested, structured approach that will give you a sound basis for running a successful project.

It is not, however, a substitute for creativity. Projects are always unique; they necessarily involve uncertainty and risk and they will require all your flexibility and ingenuity if they are to succeed.

That's what's exciting about managing a project!

Change

Implementing e-learning will undoubtedly bring about change to your organisation. It is likely to involve the use of tools and/or systems that are new to your staff and your learners and, unless the organisation is properly prepared for the change, the e-learning tools themselves will be seen as the cause of change and may be resented and resisted. e-Learning (and the implementation of a VLE or MLE) is necessarily part of an institutional strategy about learning and teaching, but an institution cannot be turned into a different type of learning organisation simply by implementing a new set of tools. The organisation must anticipate, prepare for, manage and undergo major change from one state to a newer state. This involves looking at

- Organisational values and mission
- The environment in which you are operating both internally and externally
- Business processes and ways of working
- Skills of the people in your organisation

How you approach the change depends largely on the prevailing culture within your organisation and we have brought together a number of approaches you can use to help in [Understanding your Organisation](#).

Change may focus on goals, structures, resources, or people – or any combination. It is rarely easy or simple but often messy, difficult and challenging. There are many different types of change and different approaches to managing change – it's a topic subject to more than its fair share of management fads and gurus pedalling quick fixes or guaranteed win approaches. Our [Change Management infoKit](#) aims to help you in finding an approach that suits your situation.

Managing Risk

Setting out your strategic intent can give you a basis for defining the scope of your e-learning implementation and pretty soon you will be asking yourself 'what will it cost?' and 'what could go wrong?'. Risk Management is an essential part of good management practice and is featuring increasingly prominently on the agendas of senior managers and the education funding bodies. Whilst risk management applies to all areas of institutional activity its relevance is particularly clear in relation to projects, particularly projects with an IT or systems component such as implementing e-learning tools. It is probably fair to say that risk management is the single most important component of project management, and so JISC infoNet has produced an infoKit with a focus on managing risk as part of a project approach. This includes links to materials on the risks specifically associated with e-learning which are outputs from a joint project at the University of Strathclyde and Kilmarnock College funded by the JISC.

Risk management is fundamentally about making better decisions. In education, as in any other environment, you can't decide not to take risks: that simply isn't an option in today's world. All of us take risks and it's a question of which risks we take. The materials within the infoKit will help you evaluate your own approach to risk and give you some practical suggestions on how to manage the risks you do take.

Costing

e-Learning developments and their associated risks cost money and we need to be able to plan for this and set realistic budgets. The costing section of the Risk Management infoKit briefly covers various models.

Whatever your situation there is no such thing as a 'no cost' option if you are to develop e-learning provision! Some examples of where costs may occur are given below.

If you are:	Then costs may be incurred by:
Integrating existing tools and systems	<ul style="list-style-type: none"> • purchase of middleware to connect systems • buying in additional staff resource e.g. programmers • deferring work in other areas while existing staff prioritise integration (opportunity cost)
Seeking to better use existing tools and systems	<ul style="list-style-type: none"> • training and staff development • the costs of developing on-line materials (these can often be higher than anticipated)
Selecting and Implementing new tools or systems	<ul style="list-style-type: none"> • costs of selection project (staff time, accommodation, selection events etc) • hardware and software procurement costs • ongoing training and maintenance costs • it's no secret that implementation costs often spiral out of control!

The Insight Project at the University of Strathclyde, launched with funding from the JISC, investigates evaluation of the costs and benefits of IT Usage in a Higher Education Environment. The project is concerned with evaluating the use of Information Technology (IT) within the Higher Education Sector. The objective is to produce a model which can provide relevant and consistent information on the benefits and costs of IT, thereby providing a framework for decision making and benchmarking within the University of Strathclyde and potentially within other institutions.

In particular if looking to use new open source software components either as e-learning tools or as integration middleware, it is a common myth that 'open source equals no cost'. Apart from the obvious costs of technical support/development staff, open source software incurs many of the same categories of cost as that of developing in-house or implementing commercial products, this may still include licensing and maintenance elements although these will usually be lower than their commercial counterparts. As the sector progresses towards 'community source' software – inter-institutional collaborative development of software tools and systems – there is a real hope that this may lessen the total cost of ownership, as products are more tailored to educational needs and/or more flexibly manipulated, rather than incurring the high costs of customised, clumsy 'bolt-ons' to commercial products that are ill-fitting to FE and HE needs. The University of Strathclyde have provided a [guide](#) to investing in such software and services.

Additional resources on costing models will be developed for inclusion within this Kit. Much is made of costing e-learning provision and developments, but have other forms of learning been accurately costed previously? This will be of particular interest as organisations move towards models of blended learning.

Records Management

The final core good practice model for e-learning development is that of Records Management and in particular the Information Audit.

Records management is a wide-ranging management discipline vital to the efficient running of your institution's daily operations. It is also the essential tool which underpins your institution's legal and regulatory compliance. The necessary skills include ensuring that your institution is compliant in a very practical way with all the legislation and regulation that affects its operations, staff and students. Other elements range from the development of 'good housekeeping' of information and records to long-term preservation (10 years+) of electronic data, and the selection of records for eventual inclusion in the historical archive of your institution.

The [Records Management infoKit](#) details technical aspects of the role but also emphasises that much of your time will be spent on communication, negotiation and persuasion.

Perhaps the most useful tool here to address the holistic concept of processes, business and learning systems is that of the [Information Audit](#). The techniques here centre around the analysis of business processes and systems which currently create and use information in the institution and as well as being vital to the Records Management function within an organisation this analysis can go hand in hand with other process review tools as you move on into the Analysis phase.

The information audit contains two interlinked elements which are of importance if the benefits of a records management programme are to be realised:

- Analysis of the business processes and systems which currently create and use information in the institution – i.e. process review
- The audit of the information content itself

If at all possible the person conducting the audit will attempt to deal with both elements in a single pass. However in some processes and some large organisations this will not be possible and the two elements will have to be conducted separately. The infoKit contains a number of examples from UK FE and HE to which you can refer and we strongly recommend that you have a look at some of these as part of your preliminary preparation work – all are practical and deal with both the triumphs and difficulties of the records audit and management process.

So far we have covered a number of core good practice models which should be of use whatever the aims of your institution. We're now going to move onto the standard system lifecycle elements –

analysis, planning, implementation and review – and highlight how resources can be used in each of the three contexts outlined earlier.

The Analysis Phase

"Before you build a better mousetrap it helps to know if there are any mice out there" – Yogi Berra

New projects may be initiated to improve performance, information quality or process efficiency, coupled with making best use of new technologies in order to more effectively serve a wide range of stakeholders and in particular to focus on the customer (the learner). Requirements need to be clearly and accurately defined and the scope of the project agreed.

Whether you are integrating or seeking to better use existing systems and tools, or selecting and implementing new ones, our core resources for this phase are of use in each context. You need to:

- **review** your processes to ascertain the 'as-is' position
- **agree** the 'to-be' position
- **define** what you need to get to that position – what are you aiming for?

Throughout, the **focus** should be on the learner, and how your institution's course of action can **add value** to their learning experience.

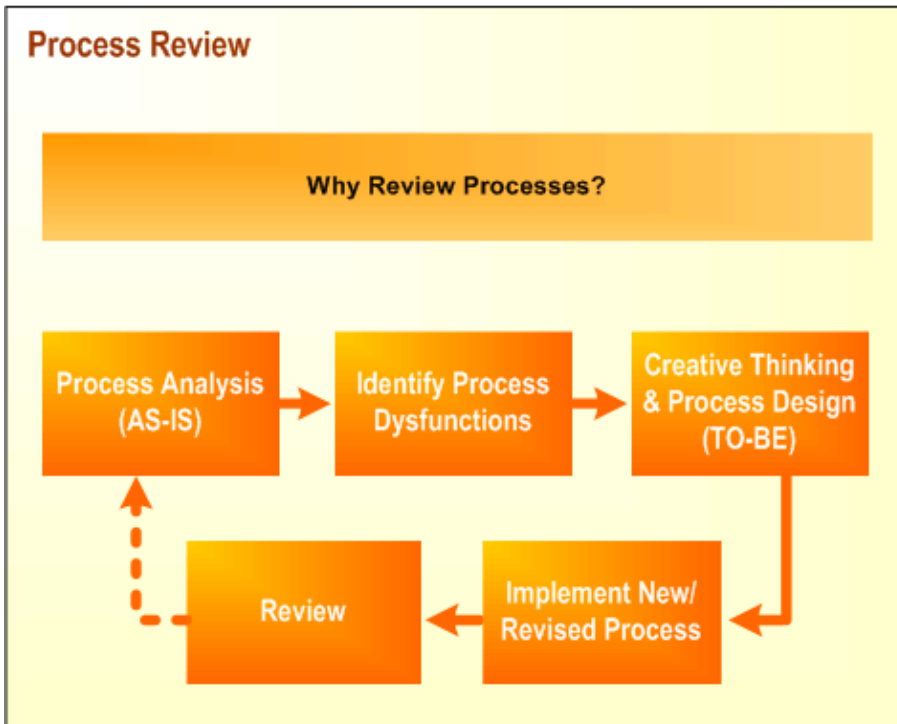
Learner–Centred Process Review

A key part of the organisational change needed to move learning and teaching practice forward is consideration of the processes that support learning and teaching. Both our organisational structures and administrative processes have grown incrementally over time and the underpinning processes sometimes seem designed to meet the needs of internal fiefdoms rather than serving the needs of the learner.

Most of us recognise that some of these processes could be improved but it is often difficult to know how to tackle the issues or indeed what to tackle first. The problem is neatly summed up in a quote from AA Milne's Winnie the Pooh:

"Here I am, coming down the stairs, bump, bump, bump, on the back of my head. It is, as far as I know, the only way– Maybe there is a better way. If only I could stop bumping for a moment and think of it."

We have already looked at change management as an essential component of transforming your organisation with e–learning and nowhere is this more important than in reviewing processes. Processes that are complex, bureaucratic, or even downright silly, often reflect assumptions, misconceptions and organisational barriers that lie at the very core of your organisational culture.



In Scotland, the Councils place great emphasis on effective student engagement in quality processes. Students have an important role to play in processes to improve the quality of provision in FE and HE institutions and the Councils support student representation through a national development service called sparqs.

Implementing new systems is often a driver for considering how we carry out business processes, but you don't necessarily need technological change to do things in a better way. The Process Review infoKit is aimed at people new to the topic and those who have undertaken process reviews in the past who want to find out about different tools and techniques. It offers a simple, fast-track method of evaluating your processes and finding better ways of doing things to better suit the needs of the customer – i.e. the learner – and the material available here will be of particular use to those of you who are undertaking e-learning transformation projects funded by the SFC.

Aims

So what are you trying to achieve? At the risk of stating the obvious, early questions when considering e-learning development should establish your reasons for pursuing that path, this will then also form the basis of your scope. We've already touched on resources looking at the 'why-what-how' that form the strategic approach and also mentioned that e-learning cannot be viewed in isolation without reference to the business processes and systems with which it is inextricably linked. As a core component of an organisation's Managed Learning Environment (MLE) it is important that the definition of what that environment might comprise and the reasons why you might want one are understood. As institutional MLEs can vary massively in terms of their system components and processes this is not as straightforward a question as it may first appear, and indeed there are increasing numbers of organisations who are linking MLEs across partners to provide truly distributed e-learning.

JISC infoNet also hosts the evalKit, a directory of ICT evaluation tools and toolkits for use by the education sector covering the broad area of curriculum development, media selection, resource selection, quality assurance and evaluation of ICT development projects. The resource base within the evalKit includes a database of evaluation tools and toolkits and this contains models that can be applied to e-learning development.

The Planning Phase

"It does not do to leave a live dragon out of your calculations, if you live near him." – J.R.R.Tolkien, 'The Hobbit'

New systems must meet current and future requirements as well as being compatible with existing infrastructure and legacy systems' functions. Most importantly of all the system must support relevant institutional strategies. The selection of an optimal solution, or the enhancement, integration or better use of existing components requires careful planning.

Whether you are integrating or seeking to better use existing systems and tools, or selecting and implementing new ones, resources for this phase can be contextualised for what you want to achieve. You need to:

- use a robust selection methodology and evaluation criteria to match new products – systems or middleware components for integrating existing functions – to the agreed requirements arrived at during the analysis phase
- if buying new software, know how to negotiate a contract

Planning: Resources

A brief scan of any of the special interest group mailing lists reveals that at any one time a sizeable percentage of the UK's colleges and universities are somewhere in the process of selecting a new system or set of tools to support one or more of their processes, whether these are for business, learning or both.

System change is often prompted by seemingly insoluble problems with existing hardware and software and is often unwelcome both to those who have to cope with it and those who have to fund it. One of the themes running through the infoKits is the opportunity afforded by system change to add value to not only the business but to teaching, learning and research. This depends, of course, on selecting the right system in the first place.

Buying new software to support institution-wide goals can be a major undertaking and it's an area where it's all too easy to be taken in by the hype. Most products look very good at face value, especially if you are moving from an outdated system, but how do you tell if the functionality will really meet your needs?

Analysis of the market shows that there is a considerable range of software and software bundles in use, and so the System Selection infoKit offers a simple five-stage approach to choosing new software. The emphasis is on putting you in the driving seat and allowing you to set the agenda for potential vendors to follow. The scalable model is applicable to any type of application and any scale of implementation and has been successfully used by a number of institutions. It gives guidance on testing out functionality against your own specific requirements so that you can be confident the system chosen is right for your purposes and not the result of being bowled over by a slick marketing demo.



A complementary infoKit on [Contract Negotiation](#) provides straightforward advice on how to steer through the legal minefield of negotiating contracts with suppliers.

For those involved in integrating e-learning tools and systems with their business systems further information is available in the sections on [Gathering Requirements](#) and [Technology Options](#) from the MLE infoKit.

The Implementation Phase

"Strategy gets you on the playing field, but execution pays the bills." – Gordon Eubanks

Having chosen your path, your implementation can begin. Users, who will interact with the new system on a regular basis, need to play a full part if the implementation is to be as smooth as possible.

If you are not selecting and implementing new tools or systems you may be tempted to skip this section, however resources within this phase are relevant for those integrating existing systems or seeking to improve their use of existing products, as materials cover:

- system testing – which is needed for integration and re-configuration of existing systems as well as new systems
- (holistic) system design
- training and staff development
- ongoing maintenance and support
- user involvement

Implementation: Resources

System implementation projects can often be long difficult journeys by which organisations move from an old set of technology to a new one. Following a trend that goes back to the 1980s, these projects are far more common now than software development projects. Few colleges or universities have the combination of size, uniqueness and a wealth of technical resources to justify developing systems from scratch. Coupled with changing internal demands and

increasingly–dynamic external changes for both inputs and outputs to these systems, most tend to buy systems if they are available. Commercial systems developed for learning delivery raise many challenges against accepted pedagogic practice.

To implement a system successfully, a large number of inter–related tasks need to be carried out in an appropriate sequence. Utilising a well–proven implementation methodology and enlisting professional advice can help but often it is the number of tasks, poor planning and inadequate resourcing that causes problems with an implementation project, rather than any of the tasks being particularly difficult. Similarly with the cultural issues it is often the lack of adequate consultation and two–way communication that inhibits achievement of the desired results. The [System Implementation infoKit](#) currently being developed takes these issues into consideration as well as providing a step–by–step guide to the tasks undertaken during implementation.

As with all the JISC infoNet material, the guidance is scaleable and so cut–down versions of these best practice methods can be equally applied to small–scale, less complex implementations. If you are implementing smaller–scale tools for inclusion in your Managed Learning Environment, the Kit still can still provide sound advice in terms of planning, testing and training. Elements such as testing and training are equally valid if you are looking to better use existing software rather than select and implement new tools.

The JISC is looking at alternatives to the implementation of large–scale 'monolithic' systems for e–Learning. The [e–Learning Frameworks and Tools strand](#) of the e–Learning Programme is developing a resource base providing advice, case studies and 'glueware' code to enable sets of e–learning tools to interoperate, thus reducing dependence on commercial suppliers. Using bundles of such tools may prove cost–effective for some institutions but planning, consultation and consideration of process remain equally important in this type of scenario.

For those organisations looking at incorporating their e–learning into a Managed Learning Environment, other resources which may be of interest are the [MLE Design](#) section of the Creating an MLE infoKit and the [MLE Implementation](#) section of that same Kit. The current emphasis on lifelong learning means that institutions may be aiming to create joined–up learning environments on a regional basis and in these circumstances difficulties may be multiplied many times over. The JISC's MLE for Lifelong Learning Programme and new Distributed e–Learning Programme share the experiences of others in the sector who have gone down this route.

The Review Phase

"Experience is simply the name we give our mistakes." – Oscar Wilde

Once implemented, it is important that systems continue to meet changing statutory and user requirements as well as leveraging innovations in technology. Continued user involvement and timely evaluation and review, as well as ongoing technical maintenance and support, can inform ongoing development, upgrade or even replacement decisions.

It is widely accepted that, within the sector as a whole, we lack robust measures of evaluating the success of implementation projects. Having come this far using the core good practice models and using the phase resources in the context appropriate to your needs, you should be in a strong position to evaluate and critically assess the outcomes against your original aims. Resources are embedded in a number of the infoKits that can assist in this goal, and this is an area of resources we hope to expand significantly in future.

Review: Resources

Once your goals have been implemented – whether this is the introduction of new software or

optimising the use of existing technologies – you need to move forward embedding the changes so they become part of the institutional norm. Embedding implies that the technologies are employed seamlessly in cohort with processes and strategies, and a section on embedding within the Creating an MLE infoKit looks at this in more detail with regard to e-learning.

In many cases the benefits (or unexpected problems) of a project can't be assessed until the change has been in place for some time, and so as the changes are embedded, the review process should include a **post project review and evaluation**. This is required to check whether:

- **outcomes** are those expected;
- projected **benefits** have occurred;
- **operational working** is as planned;
- **costs** are as expected.

The project sponsor has overall responsibility for ensuring that the desired business benefits are achieved and it may be the sponsor who leads the review, particularly if the project manager has gone on to other duties. The review will also highlight any unanticipated issues and highlight any further changes required.

A good starting point is our Post Project Review form template. Post-project review is an area that is generally acknowledged to be weak in the sector, but if we are to continually seek to improve the learning experience it is an essential step. Perhaps it will even provide the stimulus for your next project ...

The outcomes of such a review will in most cases lead to suggestions for future improvements, and here the cycle loops round, as you enter the analysis phase to look at the feasibility of the options before moving to recommendations and then embarking on planning....and the wheel turns again!

In summary

To summarise, the components presented here cover broadly the following areas of advice:

- Ensure that investment in ICT is an integral part of institutional strategies
- Have senior management buy-in
- Plan and use a project management technique
- Set out your reasons for implementation
- Involve all stakeholders and communicate with the rest of the institution
- Don't underestimate the time required to understand institutional structures and cultures
- Examine institutional processes
- Concentrate on people and processes as opposed to technology – focus on the learner
- Be realistic and share experiences
- Remember that people fear change
- Don't leave the development as a project, embedding into the institution is important
- Review and learn
- Evaluate as an ongoing process

This guide has drawn heavily on the following existing infoKits and highlighted their use in the context of developing e-learning:

- Project Management
- Risk Management
- Records Management

- [Effective Use of VLEs](#)
- [Process Review](#)
- [System Selection](#)
- [Contract Negotiation](#)
- [System Implementation](#)
- [Creating an MLE](#)

As mentioned in the introduction, this Kit is designed to be an evolving set of materials. We welcome your feedback on the materials presented here, and suggestions on inclusion of additional resources. Please email us at jiscinonet@northumbria.ac.uk with your comments.

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