



Enhancing practice

Flexible Delivery

An overview of the work of the
Enhancement Theme 2004-06

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ISBN 1 84482 576 0

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Preface

The approach to quality and standards in Scotland is enhancement-led and learner-centred. It was developed through a partnership of the Scottish Funding Council (SFC), Universities Scotland, the National Union of Students in Scotland (NUS Scotland) and the Quality Assurance Agency for Higher Education (QAA) Scotland. The Higher Education Academy has also joined that partnership. The Enhancement Themes are a key element of a five-part framework which has been designed to provide an integrated approach to quality assurance and enhancement, supporting learners and staff at all levels in enhancing higher education in Scotland drawing on developing, innovative practice within the UK and internationally.

The five elements of the framework are:

- a comprehensive programme of subject-level reviews undertaken by the higher education institutions themselves; guidance on internal reviews is published by SFC (www.sfc.ac.uk)
- enhancement-led institutional review (ELIR) run by QAA Scotland (www.qaa.ac.uk/reviews/ELIR)
- improved forms of public information about quality; guidance on the information to be published by higher education institutions is provided by SFC (www.sfc.ac.uk)
- a greater voice for students in institutional quality systems, supported by a national development service - student participation in quality scotland (sparqs) (www.sparqs.org.uk)
- a national programme of Enhancement Themes aimed at developing and sharing good practice to enhance the student learning experience, which are facilitated by QAA Scotland (www.enhancementthemes.ac.uk).

The topics for the Themes are identified through consultation with the sector and implemented by steering committees whose members are drawn from the sector and the student body. The steering committees have the task of developing a programme of development activities, which draw upon national and international good practice. Publications emerging from each Theme are intended to provide important reference points for higher education institutions in the ongoing strategic enhancement of their teaching and learning provision. Full details of each Theme, its steering committee, the range of research and development activities, and the outcomes are published on the Enhancement Themes website (www.enhancementthemes.ac.uk).

To further support the implementation and embedding of a quality enhancement culture within the sector, including taking forward the outcomes of the various Enhancement Themes, a new overarching committee has been established, chaired by Professor Kenneth Miller (Vice-Principal, University of Strathclyde). It has the important dual role of supporting the overall approach of the enhancement themes, including the five-year rolling plan, and of supporting institutional enhancement strategies and management of quality. We very much hope that the new committee, working with the individual topic-based Themes' steering committees, will provide a powerful vehicle for the progression of the enhancement-led approach to quality and standards in Scottish higher education.



Norman Sharp, Director, QAA Scotland

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Acknowledgements

This overview is drawn directly from the reports of the various outputs indicated in the text. I warmly acknowledge the invaluable contribution made by the members of the Steering Committee (full membership given in Annex A). Thanks must go to Gill Tucker, who chaired the Theme for most of the first year of its work, and to consultants Jane Denholm and Ruth Whittaker who were commissioned to provide specific reports. Special mention should be made of Thelma Barron of QAA, who has supported the work of this Steering Committee with an exemplary level of efficiency and tact.

Terry Mayes

Chair, Steering Committee for the Enhancement Theme for Flexible Delivery

Scoping the Flexible Delivery Enhancement Theme

Forty-five years ago the primary teaching task of a university was to acculturate its students into the community and practice of their chosen discipline or profession. Today the task is perhaps not so different, but back then students would have demonstrated through a highly competitive selection process that they already possessed most of the attributes of graduateship. Teaching then was achieved almost entirely through a standard model of provision, with full-time, state-funded students engaged in unbroken study of one of a traditional range of disciplines delivered conventionally in comparatively small groups on a single campus. The notion of flexible delivery, or for that matter pedagogy, would have been incomprehensible to all but a few prescient academics who had anticipated the impact of coming change.

Higher education (HE) now is almost unrecognisable by comparison. The development of mass HE has been accompanied by a huge increase in diversity. This diversity is to be found in the characteristics of students, institutions, subject matter, mode, timing and place of study, and in the approach to learning itself. Degree programmes are modular, and the attainment of qualifications advances by progressive accumulation, which can be interrupted and resumed, and in the case of Scotland can be measured against the Scottish Credit and Qualifications Framework (SCQF). The wider context of change encompasses the development of 'borderless' HE with a global span;¹ within Europe, the driver for change is represented by the Bologna process.²

A key question is posed by the pace and depth of change: is the current delivery of HE in Scotland still fit for purpose? Or might there be a fundamental misalignment through the centrality of a model of full-time school-leaver undergraduates studying in traditional degree programmes on traditional campuses? Indeed, the overarching aim of the Enhancement Themes programme is to:

- address the problems and challenges inherent in twenty-first century mass and global HE
- find high-quality, effective solutions to improve the student experience
- be more efficient and effective in delivering transformational change.

Accepting this challenge, the Steering Committee for the Flexible Delivery Enhancement Theme identified the following broad objectives for a sector-wide enhancement debate about flexibility:

'The [Theme] seeks to address the challenges inherent in a mass HE system, to meet the emerging demand from students for a more learner-centred approach, and improve the efficiency and effectiveness of the Scottish HE sector in taking forward the learner-centred agenda. By providing a vision of, and tools for, a learning environment that addresses the diverse needs of different types of learners, the Committee aims to transform the way HEIs in Scotland consider flexible delivery'.³

In this overview of the Theme's work we firstly describe how the scope of the Theme was outlined, and how Scottish higher education institutions (HEIs) responded to our questions about their priorities for current and future developments in the areas identified. We draw out the themes that emerged from this consultation, giving us a picture of the state of thinking about flexible delivery in the Scottish HE sector, which we then consider in relation to those we found in a global scan. The

international case studies identified in this scan inspired a number of workshops, and these in turn provided the context in which the Steering Committee agreed on a typology of flexible delivery. Finally, we describe the six developmental projects, based on this typology, which constituted the concluding stage of the work of the Theme.

The first task of the Steering Committee, then, was to pin down the scope of the Theme. Initially, two sets of **scoping studies** were undertaken across the Scottish HE sector.⁴ A scoping study of institutional views was undertaken by a group drawn from the Universities Scotland Educational Development Subcommittee. Similarly, QAA Scotland, in consultation with a range of advisers, developed a questionnaire for students, which was issued to all student associations in Scottish HEIs. Jane Denholm of Critical Thinking analysed students' responses.

It was clear even at this stage that the sector wanted the scope of the Theme to be broad, acknowledging that flexibilities in delivery encompassed a wide range of possibilities. The Steering Committee decided to adopt a two-pronged strategy, comprising the development of a **vision** for the future and **practical tools** for achieving this vision.

Institutions' view of flexible delivery and how it will be effectively developed

The Steering Committee's next step was to try to identify what Scottish institutions considered to be priority areas for strategic development in flexible delivery. A **sector-wide consultation**⁵ was initiated to enable Scottish HEIs to map their own stage of development, and also to help the Steering Committee to assess the level of engagement across the sector with various aspects of flexible delivery. Student opinion was also canvassed on the kinds of flexibility they would like to see in the delivery of academic programmes, related support and services. The design of the questionnaire was informed by the staff and student scoping studies, and by Annex C of the *Joint SFEFC/SHEFC E-Learning Group: Final Report*.⁶

HEIs were asked to respond to the following questions.

- What has prompted you to develop strategies to increase flexibility?
- In what ways is your institution operating flexible delivery now?
- How does your institution intend to develop flexible delivery over the next five years?
- What impact will these developments have on your learners?
- What impact will these developments have on your institution?
- What impact will these developments have on your staff?

These questions were considered in relation to 12 areas:

- enrolment and matriculation
- programme management
- academic support and guidance
- other information and support for students
- process within the taught environment
- self-study of course materials and wider study
- assessment - formative and summative
- projects/dissertations
- collaborative teaching within and across institutions
- careers guidance
- alumni contact
- other.

Responses were received from 14 institutions.

Institutions emphasised that the **economic rationale** for developing flexible delivery as a more resource-efficient means of providing a high-quality learning experience, to a larger and more diverse student population in an increasingly competitive market, can be coupled with the **social rationale** of increasing accessibility and widening participation. This has resulted in the identification of flexible delivery, underpinned by the application of technology, as a key strategic priority.

The provision delivered by The Open University in Scotland, the University of the Highlands and Islands Millennium Institute (UHIMI) and the University of Glasgow's Crichton Campus is based firmly on the principle of flexibility. All of the other institutions which responded to the survey are committed to developing flexible delivery opportunities as an alternative to, or to strengthen, their traditional provision.

Flexible delivery is progressively developed, managed and supported through the use of technology, but this is not its defining feature. However, most of the institutions interpreted flexible delivery mainly in terms of the use of technology and e-learning within the context of enrolment, support, access to library and programme resources and programme development. Some adopted a broader definition and reported on the use of flexible admissions policies, and the use of recognition of prior informal learning (RPL), or accreditation of prior experiential learning (APEL), as a means of gaining entry to or credit within programmes. There was also significant interest in an interpretation of flexible delivery that emphasises the provision of access programmes, of further education (FE)/HE articulation and jointly delivered programmes, and not least the provision of part-time and/or negotiated and/or work-based learning (WBL) programmes. Some of these developments incorporated the use of technology and some did not.

The emerging themes

The continuum of flexibility

In the context of programme development, flexible delivery can be understood as a continuum of approaches in terms of time, place, content and mode of learning and assessment. Thus, as an institution moves along the continuum from fixed to flexible it starts to develop part-time, experiential, work-based and negotiated learning approaches. It also increasingly supports the development of innovative learning and teaching techniques. These generally involve the increased use of technology, as well as more learner-centred, experiential and problem-based learning approaches. All of the institutions are also increasingly using on-line approaches and virtual learning environments (VLEs) within traditional campus-based provision. Blended-learning approaches are now commonly employed, and all institutions plan to develop this mode further.

Simply put, flexible delivery enables the HE sector to be more responsive to the changing market and demographic shifts in the nature of the student population. The provision of flexible learning opportunities enables institutions to recruit more postgraduate, distance, part-time, international and under-represented groups of learners. All the institutions can be positioned at varying points on the fixed-flexible continuum at programme, departmental and faculty/school level and for support, administrative and library functions. There are inevitably hotspots of development within all institutions. Developing and embedding flexible delivery is clearly regarded as a key strategic priority across the sector.

Learner autonomy

Institutions considered that the development of flexible delivery should facilitate a more learner-centred approach, recognising diversity of learning experience and learning styles. The use of on-line tools within programme and support systems should help to break down the boundaries between full-time, part-time and distance learning. The use of new technology in application, registration and student support systems should enable easier access to resources, often on a 24-7 basis, and with less duplication of effort. Pre-entry guidance delivered on-line enables learners to be better informed on entry, while on-line registration as part of an integrated student information or records system can provide immediate access to information technology (IT) and library facilities. On-line support should enable the provision of more timely information and guidance.

Greater flexibility means greater student choice and greater autonomy. There is a growing emphasis on learning as a partnership between staff and learners. The emphasis is shifting towards greater choice in mode, pace and content of study, meaning that students will need help and guidance in choosing appropriate pathways. Within this context, there is rising awareness by students and staff of the value of personal development planning (PDP) as a tool to support and promote flexible learning. Not only does PDP promote a proactive, self-directed approach to learning, it also helps to develop the skills of reflection and critical thinking which are fundamental to such flexible delivery approaches as RPL/APEL, WBL and negotiated learning.

Students should be empowered as effective independent learners. The development of information and e-literacy skills needed to use technology-enhanced learning, as well as information discovery and handling, directly contributes to the development of employability skills. The increased choice and responsibility associated with flexible delivery can provide an effective basis for developing these skills. The rolling out of the Accessible Curriculum and Teachability⁷ within institutions in response to disability discrimination legislation, as well as the development of assistive technologies and specialised support, has enhanced the learning experience for students with special needs. The Accessible Curriculum is generating improved learning resources, which benefits all students in the institution.

Exploring effective learning environments

All institutions recognised that the application of technology to flexible delivery should be driven by pedagogy. The use of technology should be justified by gains in effectiveness or efficiency, and institutions need to explore the optimal combination of on-line and blended learning. The needs and expectations of different learner groups should be taken into account when planning entirely on-line programmes. It is clearly important to consider whether the benefits of engaging in the social aspects of being a student - learning from and meeting and interacting with others - outweigh the benefits of on-line delivery at a distance for particular student groups. The need for continual review of the curriculum, as well as innovative curriculum development, through closer collaboration by academic, library and technical staff was evident in the responses.

Cross-institution and cross-sector development: multidisciplinary teamworking

The development of flexible delivery approaches requires collaboration by academic, technical, administrative and library staff. Institutions recognised that this requires new forms of teamworking that cross professional boundaries to develop administrative, support and learning processes. VLEs, which integrate library resources and support, require library and other support staff to be central to the teaching and learning process. Library staff are becoming more engaged in supporting curricular activities and are likely to be increasingly engaged in assessment activities. IT support staff and e-learning developers are also working more closely with academic staff than previously in terms of curriculum development, the development of on-line materials, learning and assessment tools, and delivery.

The growing need for institutional collaboration at regional, national and global level was acknowledged. Institutions considered that this collaboration will include pooling of resources to ensure more comprehensive and effective access to learning and support by students, as well as access to wider student markets. Collaboration enables risk-sharing and efficiency gains. The demand for multidisciplinary programmes is also a factor in promoting collaboration. It is increasingly difficult for a single institution to offer a broad range of specialisms. There was also a view that, to exploit e-learning fully, a broader resource is required in terms of finance, skills and markets than any one institution can provide.

Institutions also plan to develop greater FE/HE articulation to enable more direct entry routes into

programmes at levels 2 and 3 (SCQF levels 8 and 9). This can include 2+2 articulation programmes, which give students at the partner college access to learning materials and on-line learning through an HEI intranet prior to joining the HEI. Partnerships between universities and colleges are set to increase.

Staff development

Flexible delivery requires staff to engage in learner-centred, reflective teaching. The application of technology to administrative, guidance and teaching and learning processes requires technical skills and a pedagogical understanding of the approach. The development of on-line resources and e-assessment, the support of e-portfolios and the moderating of on-line discussion, for example, represent a significant shift away from traditional teaching techniques. This is an easier transition for some staff than for others. However, all staff need initial training and support in the new approaches to learning and teaching introduced through flexible delivery. Institutions recognised that a raised profile for staff development programmes is required if they are to invest appropriately in the skill profile and teaching expertise of their staff.⁸

Clearly, the exploration of ways in which on-line delivery can provide an effective alternative to traditional delivery is as important an area of staff development as the technical skills associated with its development and use. The acceptance and use of flexible delivery approaches requires a cultural change within institutions. There is clearly a need to raise confidence in both the process and outcomes of flexible delivery approaches, particularly in relation to e-learning.

Resources

The resource requirements identified by institutions for developing and implementing flexible delivery related largely to establishing infrastructure, purchasing and updating hardware, VLE platforms, software and updated equipment for both staff and students, and programme and resource development. Less emphasised, but crucial, were the resources needed for allocation to staff development, whether academic, support, guidance or library. Time needs to be allocated to staff for monitoring, evaluating and adapting flexible delivery approaches and materials.

Institutions acknowledged that staff are likely to be required to work more flexibly, outside normal working hours, which may have contractual implications. Arrangements for external assessment may also need to be reviewed as more diverse modes of learning and assessment are used within programmes.

Institutions also acknowledged that a key aim of most forms of flexible delivery is reduced contact hours, and the need for less teaching space on campus. The greater availability of on-line sources of information and guidance should enable staff to spend less time on routine procedural enquiries and more time with students who need additional support, or students who are 'at risk'. The use of asynchronous electronic forms of communication with students through email, on-line tutorials and discussion groups, e-moderating and on-line formative assessment enables support to be provided at a time and location that suits both staff and students.

However, there is mounting evidence that electronic interaction is just as consuming of academic time - or more so - though less visible than conventional contact. In general, it is more individually targeted and more likely to lead to enhanced learning outcomes for students, but not obviously to increased cost-effectiveness. The time spent by staff in participating in on-line discussions or responding to emails needs to be recognised and formally timetabled. Currently, many staff are working from home in their own time to carry out these activities.

Current and planned developments in flexible delivery in Scottish HEIs

Flexible entry

Pre-entry guidance is being developed as an internet-based service in some institutions to provide mentoring, transition activities and community-based delivery. Students are better informed on entry about the role of student services, including learning support. This enables better decision-making by community learners and Higher National Qualification (HNQ) entrants, for example. The provision of on-line advising, supported by enhanced provision of information over the web (for example, software assisting students to select course combinations that satisfy timetable and regulation requirements), allows staff to spend less time advising students on routine procedural issues of progression and programme requirements. This allows advisers and support staff to spend more time on students who are most in need of support and guidance.

On-line application and registration have been developed by several institutions, enabling students easy access to information about course choice, to track the progress of their application more easily, and to receive more rapid feedback. On-line registration is often linked to the automatic creation of email, network and library accounts for students. Most HEIs now offer a range of admission routes, including articulation agreements and bridging programmes, and have increased the number of entry points in the year. A number of institutions use RPL/APEL as a means of providing entry to programmes for students who do not have traditional entry qualifications, but do have relevant prior experiential learning. RPL/APEL are also used as a means of providing credit within programmes.

Integrated administrative systems enable on-line matriculation/enrolment and the automatic creation of IT and library accounts from the student record. They can also accommodate variable access points for entrants. Enrolment on a module-by-module basis is seen by some institutions as a way to enhance flexibility. In a truly integrated on-line system students can access their own records and correct them as appropriate. Integration facilitates the process of advising and supporting students as well as providing improved information for planning and monitoring. On-line electronic timetabling can support module choice and facilitate part-time delivery. On-line student accommodation registration can improve students' selection of accommodation and increase the efficiency of processing applications.

Induction/summer schools are limited in their current flexibility of delivery, though they provide a crucial bridging role for many students. Induction for certain cohorts, such as postgraduates, part-time students and distance learners, is delivered at convenient times outside the main enrolment or matriculation period. Many institutions provide tailored induction for HNQ students and summer schools as a preparation for HE in general. On-line methods of pre-entry guidance and induction by video-conferencing can usefully support college/HEI transition.⁹ Nevertheless, other Enhancement Themes¹⁰ have called for a more radical rethink of induction, involving perhaps a set of activities extended over a semester or an academic year, tailored to individual needs. On-line induction is being developed in some institutions for distance learners as well as for part-time, remote and other flexible learners.

Flexible programmes

Flexible modes of study represent a central plank of flexible delivery policy. Examples include part-time courses, with evening and weekend classes, and an increasing number of courses delivered in distance or blended-learning mode through on-line delivery. There are also increasing opportunities for students to negotiate the content of their programmes, including flexible degree structures and learning contract programmes. Some institutions, such as the University of Stirling, offer flexible transfer between part-time and full-time modes of study as well as transfer between programmes of study within the first year (except those with professional body requirements). Several institutions are looking at ways of creating greater customisation of programmes for mature students and for continuing professional development. This includes developing new business partnerships in which HEIs act as the learning provider for individuals who wish to remain in full-time employment during their period of study.

E-learning is seen by all institutions as crucial for flexible delivery. Within programmes, e-learning developments will allow full-time, part-time, on-and-off-campus and mixed/blended modes of learning. Many institutions now equate the development of e-learning with the introduction of VLEs. VLEs have often been developed and tailored in-house,¹¹ and open-source VLEs, such as Moodle, are receiving a good deal of current attention. However, the dominant platforms are the commercially developed and maintained Blackboard and WebCT.

VLEs are being used more extensively across institutions to support learning for both on and off-campus students. They enable the tracking of student progress, on an individual and cohort basis, and monitoring of students' use of programme materials. This can enable the provision of more proactive support to students who are not engaging with the materials. VLEs can support a variety of pedagogical approaches, and there is a general move across the sector to develop their use beyond the provision of content, even though that provision is becoming more sophisticated as reusable learning objects are developed. Other content-based approaches include video-streaming parts of lectures and critical incidents, digitised materials from HERON (Higher Education Resources On Demand), and simulations and the virtual experiences of labs and field trips.

Increasingly, however, VLEs are being employed to facilitate interaction between lecturer and students, and between students, using synchronous and asynchronous on-line communication. It is possible to see how quite soon the use of mobile phones, PDAs (personal digital assistants) and instant messaging will be integrated with VLE usage to facilitate more interaction, and more 'just for me' information for students. VLEs will increasingly produce an integration of administrative and teaching and learning systems.

Personalisation of the learning environment is expected to increase the possibilities for a learner-centred approach to become the prevailing pedagogy, through increased project and group work, problem-based learning, and generally learning through a social-constructivist approach emphasising taking responsibility for your own learning outcomes. Consistent with this will be an increasing use of e-portfolios for formative self-assessments and self-diagnosis, and use of the emerging social software tools on the Internet, such as weblogs, podcasting and wikis. An increased use of diagnostic assessment, particularly for Internet and study skills, is needed to enhance the targeting of individualised support.

Academic support and guidance

Integrated, proactive student support services to facilitate identification and support for 'at risk' students and/or programmes are being developed across the sector. Several institutions are developing web-based forms of communication with students. The development of on-line student guides containing a range of support materials, linked to access to helplines, is also underway. Also widely planned is on-line peer support. Significant development is now aimed at improving the integration of library management systems with programme management, and providing effective support environments. Library materials are increasingly being integrated into programme and module development, reflecting closer integration of library staff with academic and technical staff. Learners will have easier access to a range of academic support and guidance whatever their mode of study. This will make access to materials more equitable for part-time and distance learners. Support will be increasingly available 'just in time', rather than restricted to 'office hours'.

Further developments are expected to include the use of electronic signatures for document delivery and alternative technologies linked to the library website (for example, mobile phone technologies). The development of support services is also focusing on more effectively meeting the needs of students with additional or special needs, and on helping to generate a more inclusive environment. This will serve to improve both wider access and retention. Specialist advisory teams are forming in some institutions, especially aimed at students studying on a part-time or distance-learning basis and on access programmes.

PDP is being developed across the sector, and is supported electronically in many institutions. PDP is increasingly being linked to on-line portfolio and self-diagnostic tools and improved signposting to on-line support and resources. PDP can be linked to the further development of personal tutoring systems offering more structured, proactive support. Within the Scottish HE sector, a joint Scottish

Advisory Committee on Credit and Access/Universities Scotland Working Group has developed an approach called the **Effective Learning Framework (ELF)**¹² (see Figure 1), aimed at helping institutions to implement PDP. ELF basically sets the development of self-review processes within an overall model of the student's academic, career and personal experience and aspirations. It offers prompts, questions and information sources designed to support learners in developing and planning their learning, personal and career activities.

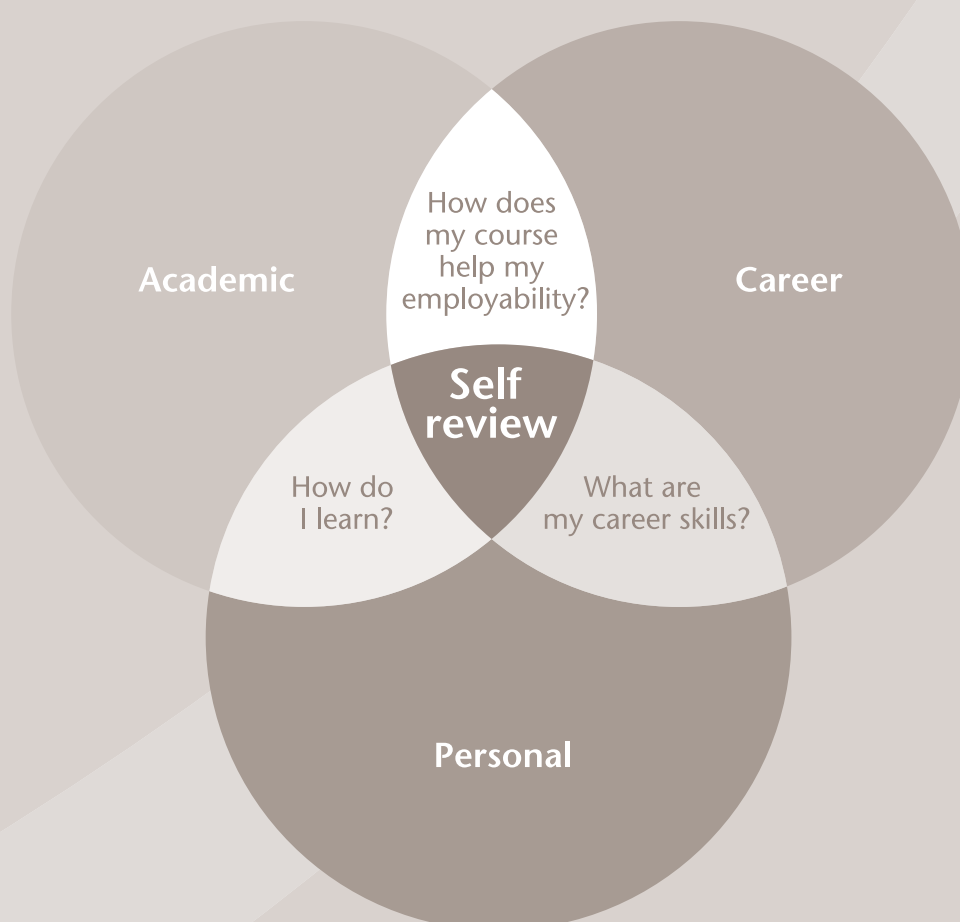


Figure 1: The Effective Learning Framework

Peer support is seen as a highly important aspect of student support, not yet fully developed in the sector. It may be developed further by training student volunteers and through peer support groups, student mentoring and the introduction of 'buddying' schemes. Academic credit can be sought in some institutions for learning and development undertaken in peer support volunteering.

Assessment

Flexible assessment methods are being developed to meet the needs of a diverse range of purposes that assessment is now designed to achieve. The gradual shift from summative methods to continuous and formative methods is a process that has been advancing for a number of years. This shift has been accelerated by the development of on-line learning. Assessment is increasingly integrated into the learning process itself.¹³

In many disciplines, formative assessment is now the principal form of tutorial support. The main goal of formative assessment is to capture the learner's current level of understanding and use this analysis to create timely feedback that deepens the learning. Ideally, students receive individualised feedback, but constraints mean that tutors cannot provide detailed feedback on every task that students may have attempted. A computerised formative assessment system can, however, provide large numbers of formative interactive multimedia tasks for students to work through. The number selected is under students' control, and the tasks can be repeated as many times as students wish. When the interactive exercises are combined with appropriate feedback, these systems become effective interactive teaching tools.

Assessment methods also include on-line assessments, group assessments, peer assessments and presentations. Individualised assessment procedures are being developed for students with special needs. Some institutions also organise off-campus examinations and invigilation arrangements. Greater administrative support than is often currently available is needed for this wider range of assessment options. The wider range of assessment options also has implications for programme management and external assessment.

E-assessment is receiving much current attention.¹⁴ The widespread feeling in the sector is that assessment is the area where technology can offer the highest cost-efficiency gains of all; concerns that it tends to assess only surface knowledge have now largely been dispelled. Many methods under development go well beyond simple on-screen testing, such as learning journals, e-portfolios, discussion forums, and automated and shared feedback. Robust approaches to handling and quality assuring the assessment process are required, and significant staff training and support in on-line assessment techniques are also needed.

There is acknowledgement across the sector that electronic plagiarism has become a serious problem for assessment. Methods for detecting plagiarism are being developed at a UK sectoral level,¹⁵ particularly in relation to e-learning. Often, though, plagiarism can be effectively reduced through training in study and essay-writing skills, where accepted practices in citation can be effectively reinforced.

Careers guidance

Flexible delivery can also apply to the way in which careers information, advice and guidance are provided. A key message of the Employability Enhancement Theme was the need for further

integration of careers planning into the mainstream curriculum. Further development of web-based resources for careers guidance is underway, including interactive careers materials and self-help career tools such as on-line tutorials and job-search tools. Some institutions are looking at the development of career-planning modules, or the career-planning component of accredited PDP modules, as core or optional modules in programmes of study. The extended use of PDP as a means of facilitating careers planning aims to support a more developmental approach by students as they progress through their programme, as well as more explicitly addressing employability skills.

Flexible learning spaces

An element that institutions have been keen to discuss within the context of flexible delivery is the design of physical learning spaces. An increasing need for more cost-effective use of space - coupled with awareness of how learning can be directly influenced by the physical setting in which it occurs - makes it increasingly important for institutions to keep abreast of new thinking about the design of technology-rich learning spaces.¹⁶ There is a good deal of innovation in this area across the Scottish HE sector, with investment in new managed teaching clusters, flexible spaces for teaching, and the integrated use of wireless and mobile computing. In some new learning resource centres, all departments involved in the development, delivery and support of learning are located together to act as a hub for staff/student learning activities.

Collaborative teaching within and across institutions

Collaboration by HEIs in developing and delivering programmes in particular professional areas, such as social work and teacher education, is already to be seen across the sector. Institutions now expect to see collaboration develop at a new level: collaboration over delivery and support, facilitated largely through e-learning. This will provide increased flexible learning opportunities that can be contextually relevant and locally supported. Institutions will benefit from increased student numbers across collaborating institutions, but will need front-loading of resources to establish these collaborative partnerships and joint programmes. Such partnerships will also enable more collaboration in research. In addition, it is anticipated that collaboration with Scotland's colleges will press ahead in terms of joint programme delivery as well as access courses.

Student exchange and study abroad opportunities are available in some programmes, and their benefits for students are increasingly recognised. More European and international collaborations in programme delivery are anticipated, for example in European master's programmes. This will help to internationalise learning by establishing peer groups of home, European and international students who are all studying the same module(s), and will enhance students' knowledge of cultural, ethnic and social diversity. Across the sector, there is growing emphasis on interdisciplinarity in many programmes, developed through collaboration between and across faculties and schools, and sometimes benefiting from close involvement by employers.

Flexible delivery: a global scan

To extend the Theme's understanding of flexible delivery developments beyond Scotland, the Steering Committee considered a range of potential examples of flexibility drawn from key institutions worldwide that have established expertise in innovative methods of delivery. From this global scan the Steering Committee identified six different case studies relating to the theme of flexible delivery.

Four of the case studies are concerned with individual institutional practice. The other two examine regional, holistic approaches, involving cooperation by groups of institutions. In practice, these two categories were quite blurred and, indeed, one of the regional case studies yielded a further two institutional case studies. One of the institutional case studies also yielded a mini-case study of its own. Each case study has its own unique features, but many commonalities also emerged, particularly across the six institutional case studies.

As well as being exemplars of flexible provision and approaches in themselves, the case studies proved to be a rich source of more general themes. There are challenges and lessons - both positive and negative - for the Scottish HE sector. The key themes with implications for flexible delivery generally were distilled by the Steering Committee and summarised in a report downloadable from the Enhancement Themes website (www.enhancementthemes.ac.uk).¹⁷

The six case studies are as follows.

1 Ontario Province, Canada: *Portals and Pathways*

This case study examines the aftermath of the publication of *Portals and Pathways*, a report by Ontario Ministry of Training, Colleges and Universities' Investing in Students Task Force, published in 2001. During the investigation, two fascinating institutional case studies - OntarioLearn.com and the University of Guelph-Humber (UGH) - came to light.

2 Athabasca University, Alberta Province, Canada

This case study considers 'Canada's Open University', which 'strives to remove the barriers of time, space, past educational experience, and, to a great degree, level of income' for people wishing to further their higher education.

3 University of Southern Queensland (USQ): e-university project

This case study considers the e-university project, a university-wide change programme. It was conceived in the late 1990s to help in coordinating the transitions that both distance-learning and campus-based provision at USQ were already making, or needed to make, in changes to techniques and methods to take full advantage of modern communications technology.

4 University of Maryland University College (UMUC)

This case study examines practice in an institution aimed at providing distance learning and on-line learning opportunities for adults, including a significant number of military personnel. The UMUC

Information and Library Services, featuring an on-line, 24-7, information and library service offered to learners worldwide, emerged as a mini-case study in its own right.

5 Finland, Tampere city and area: e-learning cluster

This case study considers the Tampere e-learning cluster - a partnership that promotes e-learning in the Tampere area of Finland and represents a collective, as opposed to an institutional, approach to e-learning.

6 Oxford Brookes University

This case study examines practice in a university with a longstanding reputation for learner-centredness, with particular reference to its work in modularity and e-learning.

Lessons to be drawn from the global scan

The global scan revealed that some innovative flexibilities are demonstrably workable, while other innovations can lapse into inertia. Nevertheless, in meeting students' needs our case-study institutions employ a range of flexibilities that could serve as exemplars for Scottish HEIs. These include, for example:

- the 'continuous enrolment' monthly start date for studies at Athabasca
- the combined degree/diploma at the UGH
- the potential to migrate from face-to-face to on-line learning, as studies progress and the learner matures, at the USQ
- the opportunity to study face to face or wholly on-line at the UMUC
- the UMUC Information and Library Service, which is designed to meet the particular needs of the University's learners, offering 24-7 access to materials to its worldwide student body.

A general conclusion was that institutions with a significant role in distance education are particularly well placed to grasp the changes and opportunities required and afforded by technology and the internet. The case studies also reveal that it is hard to sustain even apparently successful innovations in flexibility. The Steering Committee's summary report demonstrated the fragile nature of converting policy into practice.

All of the institutional case studies are highly customer focused and demand led. The drivers for institutional behaviour are largely student related, but are of necessity also closely tied to economic factors. By enhancing the student experience, the institution is able to secure markets. Of the five case studies concerned with distance and on-line provision, all showed evidence of evolutionary and strategic use of technology to take advantage of market opportunities. Two of the institutions were clear that making full use of new technology requires new pedagogies and new ways of thinking about how to organise learning and teaching, including new roles for academic staff. The latter are

no longer the focus of the course as students take on a more prominent and active role. Five of the examples investigated work on a large scale, with distance education as a significant, and in most cases major, element of their offering. All considered that e-learning technology would enable their existing provision to become highly scaleable.

Giving an alternative example of strategic aims, the UGH case study provides a model for collaboration that may offer lessons for HE/FE articulation in Scotland. The whole initiative was planned jointly and involved bringing staff together from both parent institutions from the start, so that the student experience is truly seamless. There might be lessons from this example for new forms of articulation, possibly facilitating a step-change in articulation to complement existing '2+2 with some adjustment at the margins'.

The case studies show that traditional funding routes are often not responsive to innovations in flexible delivery. Different means of providing learning require different ways of funding, and different funding models are arising. In general terms, almost all of the examples considered as part of this study exhibited a high degree of private funding and a trend towards a shift in the balance of funding from public to private sources. This trend has challenging implications for HE funding policy in Scotland.

From the case studies it is evident that quality assurance and accreditation, and having access to the mechanisms to secure them, could become increasingly important as learning goes global. Innovative and flexible methods of learning - particularly on-line education practice - are far ahead of the research and quality assurance systems, which may need to catch up to ensure that they are credible in the eyes of others.

Workshop series

The global scan provided the basis for a series of five flexible delivery workshops, which ran from December 2004 to May 2005. Exploring in turn different strategic aspects of flexible delivery, each workshop programme combined keynote speakers, drawn from four of the examples identified in the global scan, with other speakers drawn primarily from the Scottish HE sector, who presented relevant case studies. One workshop was run jointly with the Joint Information Systems Committee (JISC) and focused on the pedagogy of e-learning.

The workshops aimed to balance strategic management perspectives with practical applications. Breakout sessions afforded an opportunity for practitioners to discuss institutional and sectoral issues in the context of global developments and experiences. Two visiting speakers, Professor Jim Taylor and Mr Dan Holland, very generously agreed to further institutional visits, participating variously in further informal seminars at the QAA Scotland Office, University of St Andrews and Inverness College, UHIMI.

The workshops were as follows.

Workshop	Date	Theme	Keynote speaker
Workshop 1	6 December 2004, Heriot-Watt University	The institutional perspective	Mr George Roberts, Development Director, Off-campus e-Learning, Oxford Brookes University
Workshop 2	4 March 2005, University of Edinburgh	E-learning as open learning	Dr Dominique Abrioux, President, University of Athabasca
Workshop 3* *run jointly with JISC	21 March 2005, University of Dundee	Designing for flexible learning	Mr Alan Staley, Head of Learning Technology Development Unit, University of Central England in Birmingham
Workshop 4	21 April 2005	Developing institutional strategies for flexible delivery	Professor Jim Taylor, Deputy Vice-Chancellor, Academic and Global Learning, USQ
Workshop 5	13 May 2005	Models of collaboration	Mr Dan Holland, former Chair of OntarioLearn and currently Dean of Business and Applied Arts, Loyalist College, Belleville, Ontario

Details of the workshops can be found on the Enhancement Themes website (www.enhancementthemes.ac.uk), where copies of all the presentations are available for free download.

The workshops afforded an opportunity to gain a deeper understanding of the institutional developments selected in the global scan, in the context of particular initiatives and developing practice in Scottish HE, to inform the Theme's developmental work.

Flexible delivery enhancement projects

To fulfil its requirement to provide tools or outputs that would support further activity on the theme of enhancing flexible delivery, the Steering Committee agreed on a 'typology' of flexible delivery, informed by the consultations. It then used this typology as a framework for developmental work. As a result, six development projects were commissioned, including a number involving cross-institutional collaborations.

These projects are:

- supporting the development of the flexible curriculum: flexible entry and flexible programmes
- a model for analysis and implementation of flexible programme delivery
- Scottish HE developers' learning objects and distributed services
- accessing JISC and Higher Education Academy resources to support flexible delivery
- the use of VLEs for HE in Scotland
- a personal vision for flexible learning from a systems perspective.

In addition to these projects, James Dunphy, the student member of the Steering Committee, is writing a student briefing on their outcomes, which will be aimed primarily at student officers, including officers and staff of students' associations. The main objective is to promote students' understanding of the concept of flexible delivery and what it offers them, and how learners stand to benefit from a flexible, student-centred approach to learning.

Project 1: Supporting the development of the flexible curriculum: flexible entry and flexible programmes¹⁸

This project had two strands which sought to address practitioners' needs in Scottish HEIs for developing and operating flexible entry (RPL and credit transfer) and flexible programmes (part-time, distance, WBL and negotiated learning) within HEIs in the context of the SCQF.

Summary of project outcomes

- Establishment of HE coordination groups for flexible entry and flexible programmes.

Practitioners within Scottish HEIs with an interest or expertise in flexible entry and flexible programmes have been invited to participate in HE coordination groups to contribute to achieving the project's objectives. Members of the newly formed coordination groups agreed that these groups would provide a much-needed support network for practitioners, in terms of sharing practice and experience and encouraging collaboration.

- *Flexible entry staff development pack: Recognising prior informal learning and credit transfer within the context of the Scottish Credit and Qualifications Framework.*

The purpose of the pack is to support staff within HEIs in developing and operating flexible entry processes within the context of the SCQF.

The *SCQF RPL guidelines and SCQF credit transfer guidelines* form the basis of this pack.¹⁹ Illustrations of some of the key features of RPL and credit transfer are based on examples of practice within HEIs. The pack also provides a reflective staff development exercise and sources of further information. It is designed to be used flexibly by HEIs to underpin staff development for new and experienced staff, the production of staff guides to flexible entry, and paper-based or on-line resources that can act as a source of reference for staff.

- *Flexible entry resource pack: Recognising prior informal learning and credit transfer within the context of the Scottish Credit and Qualifications Framework*

The purpose of the *Flexible Entry Resource Pack* is to support staff within the HE sector in implementing the SCQF guidelines for RPL and credit transfer, and to support the use of the *Flexible Entry Staff Development Pack*.

- Review of staff development needs in relation to the development and operation of flexible programmes

The review developed a working definition of flexible learning to try to gauge its prevalence, or otherwise, and consider related issues. A range of staff development needs emerged from this review. The report proposes that these provide an outline to form the basis of ongoing work by the HE Coordination Group for Flexible Programmes. In addition, consideration of the resources that need to be developed to support such staff development will be required.

Recommendations

Flexible entry and flexible programmes are clearly located within strategies of widening access, participation and social inclusion, and are integral to the lifelong learning agenda within Scotland. In order to sustain the momentum for developing a more flexible curriculum, key issues need to be addressed. It is proposed that these form part of a wider agenda for action for both the Enhancement Themes and the SCQF.

The coordination groups for flexible entry and flexible programmes could play a significant role in supporting practitioners as the sector seeks to address these challenges. The groups could also provide a forum to enable practitioners within HEIs to both inform and be informed by developments at national and European levels.

Project 2: A model for analysis and implementation of flexible programme delivery²⁰

This project's ambitious aim was to produce a framework that would allow identification and analysis of the interrelated components of flexible learning. The team drew on an initial literature survey to choose a working framework for institutional change and a methodology that would allow identification and analysis of the interrelated components of flexibility and consideration of planning issues at all levels.

The chosen framework was that of Collis et al²¹ and Collis and Moonen,²² who identified three main levels for planning flexible learning: institutional, implementational and pedagogical, with a central technological component. Within these levels they identified 19 dimensions of course flexibility. The project team adopted this framework as a working model in gathering material for case studies.

Summary of project outcomes

The project produced the following:

- 1 A literature review
- 2 A developed model for flexible programme delivery (FPD)
- 3 Case-study summaries
- 4 A practitioners' guide
- 5 A brief guide to action research.

These are downloadable as two publications:

- A model for analysis and implementation of flexible programme delivery (incorporating outputs 1 and 2)
- A practical guide to providing flexible learning in further and higher education (incorporating outputs 3, 4 and 5).

Case studies²³

Four programmes, two from UHI and two from the University of Dundee, provided case studies to consider and analyse flexible learning processes. They were chosen for their varying approaches to flexibility, their range in SCQF level and types of students, and their ability to provide comparisons across the two institutions.

A model for analysis and implementation of flexible programme delivery

This publication includes a literature review that explores the concept of FPD within FE and HE institutions. It highlights the key features of FPD, including explicit and implicit assumptions about why flexibility is needed and the perceived barriers and solutions to implementing it. The shareable model described in this publication has been developed for use by institutions as an auditing and implementation tool for developing flexibility within teaching and learning. This model can be viewed as a 'planning tool' or 'framework' that supports exploration of explicit and implicit rationales for introducing FPD.

A practical guide to providing flexible learning in further and higher education

This practical guide introduces the shareable model of flexible learning, which will be invaluable for those requiring a quick grounding in the practical and strategic issues involved in introducing

flexibility into their institutions. A wide-ranging examination of the issues is accompanied by a critical evaluation of the factors likely to impede flexibility. The aim is to provide a solid foundation for readers to develop workable approaches to introducing flexibility in their own working contexts. The guide includes a 'Quickstart' section and a range of appendices covering such topics as planning blended learning, using action research, assessing flexibility, benchmarking e-learning, staff development, and an introduction to some key teaching models.

Project 3: Scottish higher education developers' learning objects and distributed services (SHEDLOADS)²⁴

This project was intended to demonstrate an example of effective cross-institutional collaboration in an area where HEIs see little advantage in competing and agree that there is much to be gained by sharing resources across the sector. This area is staff development. Successful cross-sectoral collaboration over staff development would represent an important example of flexible delivery.

SHEDLOADS attempted to build on the already established network of the Scottish Higher Education Developers' Subcommittee of the Teaching and Learning Committee of Universities Scotland. The project report provides a critical, reflective account of the process of engaging a cohort of heads of Scottish educational development units to share existing, and develop future, resources and procedures for flexibly delivering education and training for learning and teaching or academic practice in HE. In addition, it documents a range of successful products of this engagement, as the major outcomes.

Summary of project outcomes

The resources produced represent a demonstration of the 'proof of concept' of the project, including a community of practitioners committed to:

- sharing resources (at sub-programme level for certificated courses in teaching and learning or academic practice)
- defining and supplying to the major resource - a project website (<http://www.shedloads.org.uk/>) and database for reuse - a limited number of examples of sub-programme-level resources as learning objects
- supplying contextualised guidance notes for using the resources to facilitate reuse, thus creating a reusable learning object (RLO) pool
- co-developing existing and new resources through shared delivery and evaluating, adopting, refining and adapting these resources through experiences gained of their use in practice
- supplying contact names of academic, discipline-based staff and educational development staff to provide access to a wide community of expertise and experience for delivery of training and development activities

- disseminating the outcomes of engaging in the development of tools supporting the ongoing activities of the group
- updating the website (through the business of the Scottish Higher Education Developers' Subcommittee)
- evaluating the advantages and disadvantages of this collaborative, sharing approach to developing resources and expertise to support teaching and learning or academic practice
- contributing to ongoing developments in the pedagogic theory emerging for the development of flexible delivery in HE programmes.

The major collaborative resource, the website, provides an accessible source for a range of resources, including a news service, reports on interviews with heads of educational development units, case studies, RLOs and their metadata (guidelines for use, or commentary on development), evaluation of the potential for use of a wiki, an on-line discussion board, and links to other resources. The website has been designed to facilitate future developments, including low-maintenance updating and uploading/downloading of resources.

One valuable outcome of the project has been the reflection on barriers to collaboration across institutions, even in an area where it is agreed that institutional competition is inappropriate, and where a pre-existing cross-sectoral network was already well established.

Project 4: Accessing JISC and Higher Education Academy resources to support flexible delivery²⁵

The rationale underpinning this project was provided by the belief expressed across the sector that vastly more resources are available to support the development of flexible delivery than most practitioners are aware of or know how to locate. This project therefore commissioned Glenaffric Ltd to develop an on-line resource for senior managers and practitioners to facilitate the use of appropriate JISC and Higher Education Academy development resources. This on-line resource particularly aimed to assist the Scottish HE sector to access relevant sources of information, tools and materials for supporting flexible delivery from JISC development programmes and the Higher Education Academy.

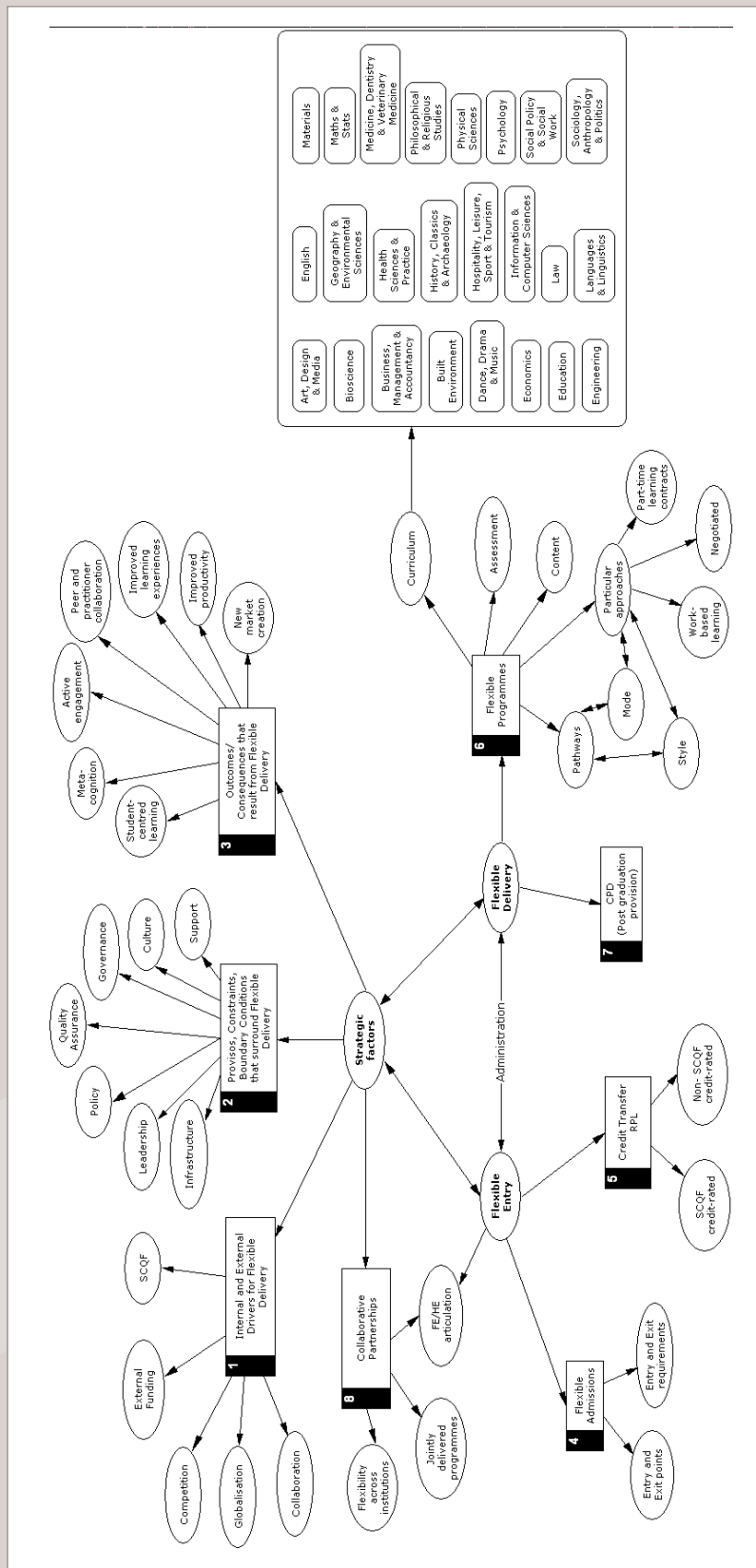
Summary of project outcomes

A typology of flexible delivery

A typology for flexible delivery was firstly developed as a practical means of organising the wide-ranging outcomes from the Enhancement Themes workshop series, and to ensure that the breadth of the Theme was reflected in the scope of its development projects.

In this project, the typology was further developed as a framework to classify existing resources and development initiatives to assist institutions in the use of e-learning to support flexible delivery. Materials and resources from previous and ongoing development initiatives were identified and drawn from a number of sources in support of the key elements.

Figure 2: Typology of flexible delivery



The JISC e learning Programme provides resources in support of an improved technical framework, the development of tools for e-learning, regional and subject-based collaboration, pedagogical approaches and experimentation with new technologies. Other key sources of tools and support are the JISC Managed Learning Environments for Lifelong Learning Programme and the eXchange for Learning Programme (X4L). The typology also drew resources from initiatives in other strands of QAA's quality enhancement work, the Scottish Funding Council's (SFC) e-learning transformation projects, and the work of the Higher Education Academy and its network of subject centres.

Accessing JISC and Higher Education Academy resources to support flexible delivery on-line resource

A demonstration on-line resource was developed in Drupal and is available at:

<http://www.glenaffric.co.uk/gcms>

JISC development projects and other resources were identified and tagged. The tags were applied to relevant resources using del.icio.us:

http://del.icio.us/flexible_delivery/

Discussions are now proceeding with JISC InfoNet with a view to JISC taking over future hosting and maintenance of the 'Accessing JISC and Higher Education Academy resources to support flexible delivery' on-line resource. It is anticipated that the resource will be uploaded to JISC Infonet in December 2006. This approach has a number of advantages. These include consistency with existing JISC development outputs and an opportunity to make the flexible delivery typology and structure for accessing resources available to a wider community of users across the UK's FE and HE sectors. The development of a community of practice around the use of e-learning resources for flexible delivery is also anticipated.

The on-line resource has links to relevant projects, reports, outputs and other artefacts in support of various elements of flexible delivery. Materials and resources are organised according to the key elements of the typology, based on a mapping of keywords and concepts. The additional tag 'Scottish' has been added to help to identify resources and outputs developed specifically in the HE and FE sector in Scotland.

For each key element, the screen displays a 'cloud' of relevant keywords and concepts. Clicking on any of the keywords accesses a further web page with links to relevant development programmes. Clicking on these links leads directly to these programme pages and resources. The on-line resource has a number of features to help users to identify the most useful materials among the large volume of potentially valuable development outputs. The size of the keyword in the 'cloud' is directly proportional to the number of projects and other links currently tagged with that concept. This means that users can tell at a glance the extent to which a relevant concept for flexible delivery has been the focus of development work to date.

The Higher Education Academy provides a range of generic pedagogic resources relating to flexible delivery. It also supports a network of 24 Subject Centres. These are a mix of single-site and consortium-based centres located within relevant subject departments and hosted by HEIs. Originally set up in 2000 as part of the Learning and Teaching Support Network, the centres have made a considerable impact over the last five years. Each centre engages in a wide variety of activities to support practitioners, subject departments and discipline communities.

Materials and resources in support of curriculum-based flexible delivery are organised in terms of these Higher Education Academy subject groupings. Relevant resources include content development projects working in specific subject areas, collaborative initiatives through the JISC X4L programme, and flexible delivery initiatives focusing on the application of e-learning in particular subject or curricular specialisms. A large number of high-quality on-line content resources have been developed through JISC work on digitisation and digital curation, including some significant archiving initiatives for teaching and research.

Project 5: The use of VLEs for HE in Scotland²⁶

The VLE has become central to the mass delivery of HE. As a tool of the institution, it has the potential to reflect cultural change and the diverse needs of students at the point of academic delivery, while stabilising the untrustworthy aspects of Internet-based data. Moving from the campus to home, the VLE enables remote and self-paced study. Thus, a convergence between the traditionally separate groups of distance and on-campus learners is forming around self-paced blended learning.

The side effects alone of this convergence are of historical and cultural significance. For example, in all likelihood the current student population is witnessing the demise of the lecture as a staple of learning. The VLE permits repeated attempts at mastering the same information, somewhat in the manner of the hierarchisation of levels of increasing difficulty in a PC game. This is not a trivial point. The one-off event of a lecture in real time is of course advantageous, to a limited but real degree, in terms of human interaction. But if that learning event can be repeated infinitely on-line, the loss of face-to-face contact may be more than outweighed by the potential for incremental learning. When face-to-face contact between student and tutor does take place, it can then be reserved for a more nuanced and definite purpose within the learning outcome. This can lead to savings in staff time and an **objectively demonstrable improvement** in the learning experience, including **raised levels of attainment**.

Previous surveys of VLE use, for example *Managed Learning Environment Activity in Further and Higher Education in the UK*,²⁷ have monitored take-up without being able to advance to an assessment of the quality and measurable gains of e-learning and flexible delivery.

This project sent a survey of VLE use in HE across Scotland to all heads of e-learning, or equivalent heads of learning technology support, plus other individuals with known responsibility for the

uptake of the VLE in their institution. The aims of the survey were, first, to identify the degree of VLE take-up across the institutions. Secondly, it sought to identify the particular VLE chosen, for example Blackboard, WebCT or other virtual environment(s), commercially available or bespoke. The third area of analysis was more diverse. It attempted to elicit, among other things: the degree of satisfaction with the VLE chosen; the patterns of use and depth of competent deployment among the academic and student communities; the associated tools and technologies which were thought to be key; and perhaps most tellingly, the drivers for change in this adoption of learning technology.

Summary of project outcomes

All respondents indicated that their institution had, or was in the process of acquiring, a VLE.

Many respondents indicated that:

- there was a preference for commercial solutions, eg Blackboard or WebCT
- financial constraints influenced choice
- VLE development would be influenced by tie-ins with products already acquired and agreements already signed
- a high percentage of courses (76 per cent across the HEIs) were VLE-supported, and this figure was rising
- on-line assessment, peer-group support and discussion forums were now identified as key
- institutional support for the VLE in the form of strategy documents and senior management encouragement had a significant impact.

The project concluded that the VLE is rapidly becoming a cornerstone in the provision of course materials. The high percentage of courses 'badged' as VLE-supported inevitably disguises an uneven terrain. Where the VLE is misused as one more repository for inert textual material in an already information-saturated environment, it clearly offers a poor service to its users. Staff development is key here, with survey respondents indicating a preference for individually oriented training in VLE use.

The answers on take-up of the VLE may be read in conjunction with those relating to financial constraints, strategy and tie-ins with particular companies. Clearly, the VLE is here to stay. Or rather, it is here to change - not simply keeping pace with what technology can perform, but mediated by the particular products of companies such as Blackboard, with whom HEIs have entered into agreements. There was speculation by respondents that relationships with commercial suppliers might be long-lasting but ultimately transient, and replaced by in-house and open-source solutions. Conversely, the possible outsourcing of IT provision arose as a possible future direction in the longer term.

A surprising conclusion emerged from our survey of VLE development: it may be deduced that VLE uptake is largely student led, rather than being driven by strategy or policy. Some of the later questions in the survey located the VLE as part of a varied technological palette, one that would also include wireless technology, laptop borrowing schemes and e-portfolios.

In sum, the VLE is set to increase the importance of its role in the flexible delivery of HE. It will inevitably become more sophisticated in both the student-led demands on it and what it can provide. A wider shift to web-based services will only intensify this trend. A relative newcomer to the traditional cut and thrust of resource allocation and the rest of institutional administration, the VLE is in rapid transition from being regarded as an adornment to being acknowledged as one of the foundations of core business. The inevitable rise in investments and costs will need to be acknowledged both by senior management teams and by SFC.

Project 6: A personal vision for flexible learning from a systems perspective²⁸

The final output from the projects under this Theme is a personal vision of flexible learning from Nigel Kay, from a systems perspective. In a reflective essay, he introduces a range of ideas and observations on a wide variety of topics, which singly and collectively could have a transformational impact on the future of flexible learning. It will be structured as a searchable resource in the form of web entries (www.enhancementthemes.ac.uk).

Summary of project outcomes

The essay comprises an introduction, followed by five sections, each addressing key aspects of flexible delivery, namely: personalised learning, societal and economic drivers of personalised learning, institutional change as a result of personalised learning, and a complex systems frame of reference for studying personalised learning.

Section 1 (personalised learning) addresses the development of the concept of personalised learning, its impact on learning in terms of the centrality and active involvement of the learner, and its impact on teachers, in terms of the development of new learning resources and new teaching and learning processes and methods. Personalised learning is contextualised by the expectations of the 'Net Generation', and their particular proficiencies.

Section 2 (societal and economic drivers of personalised learning) explores the current forces driving change, most notably globalisation, technology and connectivity. Characteristics of the modern living and working environment include networking of multiple components or agents; exponential increase in information; continuous innovation of products, services, processes and models of business; the decreasing amount of time during which any innovation is dominant. All these factors impact on the way in which people learn, and the way in which HEIs need to deliver their provision and support their learners flexibly, with all that implies for organisational and structural change.

Section 3 (institutional change as a result of personalised learning) considers the impact of the various drivers for change on the HE sector in Scotland. HEIs are already extending flexibility of choice, not only locally, but increasingly on a global stage. Personalised learning impacts on tangible university infrastructure, such as the design and use of physical spaces, and on the associated technology infrastructure, but there are also consequences for the organisation, management and

delivery of training and how it is facilitated by ICT. Cultural change to effect the delivery of personalised learning is more challenging; academics will need to develop a variety of new technological and pedagogical skills, as well as reappraising their relationship and communication with learners. To effect successful change, universities will need to develop a culture that supports experimentation and reflection.

Section 4 (information and knowledge management) suggests that having had a major role in globalisation and connectivity, technology now has a significant role to play in helping to develop personalised learning, as we move to a world of ubiquitous computing. The ability of the computer and sensor network to connect people, devices, instrumentation and other information resources, will dissolve boundaries and facilitate human cooperation. This is already evident in new style business and public services models; it could also apply to personalised learning. A major issue in HE information strategies is the future of the library and its services. Libraries are currently re-examining their role and services, influenced among other things by the emerging concept of 'creative commons', as a flexible alternative to traditional copyright laws. Overall, the digital library must be a more organic information base that is representative of both individual professional knowledge and the collective wisdom of many. Libraries also have a direct contribution to make to personalised learning skills development, including skills in searching, analysing, and synthesising information from a variety of sources and in a variety of formats.

Section 5 (a complex systems frame of reference for studying personalised learning) looks at the complexity of the twenty-first century in terms of interconnectivity, interdependence between people, businesses, cities, countries, computing devices and sensors, and the resulting complex collective behaviour of organisations and committees. It examines the need for new frames of reference to model the intricacies of the world today, focusing on the fields of systems theory and complexity science. Complexity science, it is argued, has an increasingly important role to play in the future of personalised learning, as it begins to impact upon education and learning research.

Final thoughts: the challenge for the sector

The work of this Theme has raised awareness of the issues surrounding flexible delivery in HEIs in Scotland. All HEIs, including those in our global scan, are to some extent struggling to respond to the need for more flexible modes of delivery. The overall impression is that the Scottish sector has created very favourable conditions for this response to occur, although not all institutions are yet fully aware of our particular strengths. As we have examined the rapid developments in global delivery, it has become clear that there is little room for complacency in any of the HE contexts examined in this Theme.

The quality framework for enhancement is in itself an encouragement for all institutions to embrace the flexibility themes that have been highlighted. Scotland has, in the SCQF, a uniquely responsive framework in which to develop more rapidly the flexibilities required, such as work-based and negotiated learning contracts. One clear recommendation for the sector is to support the

mainstreaming of flexible entry and flexible programmes within HEIs. This requires explicit resourcing of the provision at national and institutional levels, and recognition of diverse approaches to achieving and demonstrating learning within programme design. Also required is the necessary training and support for staff developing and operating flexible entry processes and flexible programmes.

The focus on e-learning in the sector's current understanding of flexible delivery is understandable. The SFC e-learning transformation projects should take the whole HE sector, including higher education delivered in Scotland's colleges, a significant step along the path of understanding how best to exploit its potential. Nevertheless, in our survey of VLE development some evidence emerged that VLE uptake is largely student led, rather than being driven by strategy or policy. This encourages us to reflect on whether this may be the case for flexible delivery in general: that at policy level, our awareness of the drivers for flexibility, especially in the changing profiles of learners themselves, may not yet be sufficiently high. This provides a rationale for the Theme's continuing importance.

Notes

- 1 Committee of Vice-Chancellors and Principals and Higher Education Funding Council for England *The Business of Borderless Education: UK Perspectives. Summary Report*, downloadable from: <http://bookshop.universitiesuk.ac.uk/downloads/BorderlessSummary.pdf>
- 2 See <http://www.scqf.org.uk/>
- 3 Extract from the Flexible Delivery strategy document.
- 4 Summaries are available at: <http://www.enhancementthemes.ac.uk/>
- 5 The report on this consultation is available at:
http://www.enhancementthemes.ac.uk/uploads%5Cdocuments%5CInstitutional_Consultation_Final_Report.DOC
- 6 Scottish Further Education Funding Council/Scottish Higher Education Funding Council (2003) *Joint SFEFC/SHEFC E-Learning Group: Final Report*, available at:
http://www.sfc.ac.uk/publications/pubs_other_sfcarchive/elearning_report.pdf
- 7 See <http://www.teachability.strath.ac.uk/>
- 8 JISC (2004) *Higher Education Training Needs Analysis. Survey for Academic and Research Staff*
- 9 See the Mapping, Tracking and Bridging website at <http://www.scqf.org.uk/college2uni>
This site helps learners and providers of learning in Scotland to understand more about the links that currently exist between colleges and universities in Scotland, and where the different qualifications available sit within the SCQF.
- 10 The Student Needs Enhancement Theme has proposed a new approach to induction, as has the recently launched theme for the First Year (www.enhancementthemes.ac.uk).
- 11 An example is IBIS at the University of Chester.

- 12 Downloadable from: www.qaa.ac.uk/scotland/ELF/ELF%20Consultation%20Paper.pdf
- 13 The continuation of the Assessment Enhancement Theme is now called Integrative Assessment (www.enhancementthemes.ac.uk).
- 14 See, for example, JISC's e-Assessment Roadmap Project at: <http://kn.open.ac.uk/public/index.cfm?wpid=4996>
- 15 The JISC Plagiarism Advisory Service provides generic advice on preventing plagiarism, and access to a national plagiarism detection service: <http://www.jiscpas.ac.uk/>
- 16 See www.jiscinfonet.ac.uk/infokits/learning-space-design
- 17 Enhancement Theme on Flexible Delivery, Steering Committee (2004) *Flexible Delivery in Higher Education, Global Scan: Case Studies*, available at: http://www.enhancementthemes.ac.uk/uploads/documents/GlobalScanReport_Final_301104.doc
- 18 Project Director, Ruth Whittaker, with project team Vince Mills and Paula Cleary, both Glasgow Caledonian University, and Dr Hazel Knox, Paisley University.
- 19 The SCQF RPL *Guidelines and SCQF credit transfer guidelines* can be downloaded from the SCQF website: www.scqf.org.uk
- 20 Project Director, Dr Paddy Maher, UHIMI, with Co-Director, Professor Allison Littlejohn, University of Dundee, and project team John Casey, Pam Wilson, Wolfgang Greller and Elaine Sutherland, UHIMI, and Carey Normand, University of Dundee.
- 21 Collis B, Vingerhoets J and Moonen J (1997) 'Flexibility as a key construct in European training: The TeleScopiaProject', *British Journal of Educational Technology*, 28, 3, 199-218
- 22 Collis B and Moonen J (2004) *Flexible Learning in a Digital World*, 2nd edition, Oxon: Routledge Falmer; and Collis B and Moonen J (2005) *An Ongoing Journey: Technology as a Learning Workbench*, Faculty of Behavioural Sciences, Twente, the Netherlands: University of Twente
- 23 Extended summaries of the resulting four case studies are provided in Appendix 10 of the *Practical guide to providing flexible learning in further and higher education*, downloadable from: www.enhancementthemes.ac.uk
- 24 Project Director, Dr Colin Mason, with project team Dr Stephen Evans and Raymond Moir, University of St Andrews.
- 25 Project Director, Professor Roy Leitch, with Project Manager, Dr Wendy Nightingale, both Interactive University, and consultants Glenaffric Ltd and Carole Higgison, University of Bradford.
- 26 Project Director, Professor Geoff Ward, University of Dundee.
- 27 JISC/UCISA (2003) *Managed Learning Environment Activity in Further and Higher Education in the UK*
- 28 Project Director, Nigel Kay, University of Strathclyde, with expert adviser, Dr Christine Smith, University of Lancaster.

Annex A: List of Steering Committee members

Professor Terry Mayes	Glasgow Caledonian University (Chair, May 2005 to July 2006)
Professor Gill Tucker	Napier University (Chair, January 2004 to May 2005)
Mr Duncan Cockburn	sparqs
Mr James Dunphy	University of Aberdeen Students' Association
Mr Lawrence Hamburg	Higher Education Academy
Mr Nigel Kay	University of Strathclyde
Ms Sarah Knight	JISC
Dr Paddy Maher	The Open University in Scotland, UHIMI
Dr Colin Mason	University of St Andrews
Ms Lou McGill	JISC
Professor Fred Percival	Napier University
Professor Bob Reuben	Heriot-Watt University
Dr Paul Rodaway	University of Paisley
Ms Judith Smith	The Robert Gordon University
Professor Geoff Ward	University of Dundee

QAA Scotland officers:

Dr David Bottomley
Miss Thelma Barron
Ms Elizabeth Anderson
Ms Marjorie Craib

Annex B: List of project directors and project teams

Supporting the development of the flexible curriculum: flexible entry and flexible programmes

Project Director: Ruth Whittaker
Project team: Vince Mills and Paula Cleary, Glasgow Caledonian University, and Dr Hazel Knox, Paisley University

A model for effective implementation of flexible programme delivery

Project Director: Dr Paddy Maher, UHIMI
Co-Director: Professor Allison Littlejohn, University of Dundee
Project team: John Casey, Pam Wilson, Wolfgang Greller and Elaine Sutherland, UHIMI, and Carey Normand, University of Dundee

Scottish higher education developers' learning objects and distributed services

Project Director: Dr Colin Mason, University of St Andrews
Project team: Dr Stephen Evans and Raymond Moir, University of St Andrews

Accessing JISC and Higher Education Academy resources to support flexible delivery

Project Director: Professor Roy Leitch, Interactive University
Project Manager: Dr Wendy Nightingale, Interactive University
Consultants: Glenaffric Ltd and Carole Higgison, University of Bradford

The use of virtual learning environments for higher education in Scotland

Project Director: Professor Geoff Ward, University of Dundee

A personal vision for flexible learning from a systems perspective

Project Director: Nigel Kay, University of Strathclyde
Expert adviser: Dr Christine Smith, University of Lancaster