

March 2005/12

Policy development

Statement of policy

No action is required

This document sets out our strategy and implementation plan for supporting higher education institutions to develop and embed e-learning over the next 10 years. It reflects responses to the consultation on our draft strategy, and has been developed jointly with the Higher Education Academy and the Joint Information Systems Committee.

HEFCE strategy for e-learning

Foreword

'People use the internet and new technologies every day – for finding information, communicating, and seeking entertainment, goods and services. Learners are bringing new expectations of the power of technology into higher education. And the curiosity and innovation of those in higher education is driving them to explore new approaches to learning supported by technologies. It is the excitement and interest of learners, teachers and the sector in general that drives our e-learning strategy. Our goal is to help the sector use new technology as effectively as they can, so that it becomes a 'normal' or embedded part of their activities. That does not mean telling universities and colleges what their aims for e-learning should be, nor how they should go about reaching them. But it is about describing overall aspirations for how e-learning can transform learning and teaching, and about supporting institutions in setting their own visions and plans.

'We recognise that we cannot deliver and develop our strategy alone. We will work closely with our implementation partners, the Higher Education Academy and the Joint Information Systems Committee (JISC). We will seek to learn from and get the best out of joined-up approaches to the exploration of e-learning, working with the DfES e-learning strategy. Above all, we will put institutions, their teachers and learners, at the heart of our strategy, and ensure we review and develop it over its 10-year horizons, taking account of the real impact we have made on teaching and learning.'

Liz Beaty
Director, Learning and Teaching, HEFCE

'Many universities and colleges we work with have highlighted the need to understand more about effective ways of using information and communications technology to enhance the student learning experience. This national strategy will provide a broad framework for bodies such as the Higher Education Academy and JISC to dovetail our efforts, to ensure that institutions carry forward strategies based on evidence of what works, advice and guidance from around the sector and beyond.'

Cliff Allan
Director of Programmes, Higher Education Academy

'UK education and research has benefited enormously from its investment in ICT over many years and remains at the forefront of the innovative use of technology. HEFCE's e-Learning strategy, which emphasises many things central to JISC's own activities – such as the provision of personalised user experiences, supporting student progression, and supporting institutions in the innovative use of ICT – will ensure that UK education and research continues to benefit from this investment. JISC looks forward to playing its part in supporting this strategy.'

Malcolm Read
JISC Executive Secretary

HEFCE strategy for e-learning

To	Heads of HEFCE-funded higher education institutions Heads of HEFCE-funded further education colleges
Of interest to those responsible for	Teaching and learning; Information and communications technologies
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Executive summary

Purpose

1. This document sets out HEFCE's strategy and implementation plan for supporting e-learning in higher education institutions.

Key points

2. We are committed to working with partners to fully embed e-learning in a sustainable way within the next 10 years.
3. This strategy reflects responses to our consultation (Circular Letter 21/2003), which was conducted in parallel with the DfES consultation on e-learning for all levels of education. It sets out the aims, objectives and principles we will adopt, and a detailed implementation plan that has been developed jointly with the Higher Education Academy and the Joint Information Systems Committee.

Action required

4. This document is for information.

Introduction

5. We are committed to working with partners on plans to embed e-learning in higher education in a full and sustainable way within the next 10 years, as announced in the Government's White Paper 'The future of higher education'.

6. We consulted on our draft strategy for e-learning in August 2003 (Circular Letter 21/2003), in parallel with the consultation on the Government's e-learning strategy for all levels of education (www.dfes.gov.uk/consultations). Responses were made by 1 December 2003.

7. We have been working with UK eUniversities Worldwide Ltd (UKeU) on a restructuring of the e-University project. In July 2004 we announced final changes to the project, with the transfer of major activities in support of e-learning from UKeU to the Higher Education Academy and individual higher education institutions (HEIs). We noted then that we intended to focus our e-learning strategy on support for the chosen missions and partnerships of individual institutions, including distributing the residual grant originally allocated for the e-University project. We have delayed finalising our strategy so that we could take account of conclusions on the UKeU, and also to link with development of the Government's strategy (www.dfes.gov.uk/elearningstrategy).

Results of consultation

8. We received 114 responses to our consultation, and a summary of the responses to the Government's e-learning consultation that were relevant to higher education (HE).

9. We published a summary of responses, prepared by independent consultants, in May 2004 (available at www.hefce.ac.uk under Publications/R&D reports). Some of the key points from this summary are given in more detail below.

10. A comment made by a significant number of respondents was that HEFCE's strategy should focus more on e-learning in the HE sector. The emphasis in the document on the roles of the Higher Education Academy and the Joint Information Systems Committee (JISC) was welcomed, but it was felt that this should be balanced by an analysis of e-learning developments within the sector. In particular, respondents emphasised the importance of benchmarking the present state of e-learning in the HE sector.

11. Many respondents felt that the strategy should provide a definition and vision of e-learning, so that there is greater clarity about how the sector is placed, as well as about the potential aspirations and development of e-learning in HE. Many argued for a definition that did not place so much emphasis on distance learning, but instead embraced the use of information and communications technologies (ICT) more widely in learning and teaching on the campus.

12. While the strands of the strategy and many of the specific activities within them were supported, many respondents asked for an e-learning strategy that took a 'whole institution' view and brought together a number of strategies, for example, those for learning and teaching

and human resources (HR). Respondents also stressed the importance of a cross-sectoral approach linked with the DfES e-learning strategy.

Our strategy

Why have an e-learning strategy?

13. Over the past few years, education has been affected by rapid developments in the use of ICT. It is timely to consider the need to support the sector further in taking best advantage of these developments, as it moves to:

- meet the greater diversity of student needs
- increase flexibility of provision
- enhance the capacity for integrating study with work and leisure through work-based and home-based learning
- develop approaches to individualised support for planning and recording achievements.

14. Although there has been rapid development in HE, our evidence base and responses to our consultation suggest that institutions are still struggling to 'normalise' e-learning as part of higher education processes. Much research and many initiatives have been undertaken over the past 10 years, and as a result we now know much more about what the opportunities are and where difficulties lie. As our draft strategy identified, the early concentration on infrastructure has given way to a focus on pedagogy, and on connecting electronic communications with other processes, in a new blend of approaches to learning and teaching. Distance learning is now seen as one end of a continuum where e-learning offers opportunities across all programmes and all education sectors.

15. E-learning has been criticised for being technology led, with a focus on providing materials, but has relatively recently focused more on the learner and enabling students and other users to develop more independence in learning and to share resources. This change matches the developments in pedagogy and the increasing need to support diversity and flexibility in higher education.

16. Our consultation responses tell us that there remain challenges for institutions that wish to:

- manage change in approaches to learning
- make investment decisions on e-learning
- access the knowledge and experience of others in pursuing their own aspirations, and benchmarking progress.

17. Our primary rationale then for producing an e-learning strategy is to help institutions and practitioners explore the possibilities of transforming the future learning experience. However, e-learning can also advance the flexibility and personalisation of learning, to support progression and lifelong learning. It provides opportunities to advance workplace learning and hence the relevance of learning to employers and employees. So although our strategy focuses on the learner and the learning experience, we need to make broader connections to other aspects of policy, which then need to be reflected in our strategy.

Definition of e-learning and scope of our strategy

18. Our initial strategy and responses to the consultation reflect that there is a great diversity of uses of ICT. We agree with respondents that our strategy should not focus solely or even primarily on the use of technologies in distance learning. (Nevertheless, creating a wholly e-based learning experience remains an interesting challenge, which may open up understanding of the full potential of the technology.) New technologies clearly provide exciting opportunities for enhancement and innovation in learning opportunities on the campus, or within the workplace or home. The definition of e-learning should be sufficiently broad to encompass the many uses of ICT that individual universities and colleges decide to adopt in their learning and teaching missions. Our strategy should promote and support this diversity.

19. Similarly, there is clearly a range of aspirations and aims for the full use of ICT in learning; and institutions are at different stages in defining those aspirations and aims, and then moving towards them. Responses to our consultation showed that individual institutions were concerned to clarify their aspirations and to benchmark their progress towards 'embedding'. There is a danger that if we adopt too narrow a definition in our strategy of what we mean by 'embedding', we may reduce the diversity of approaches of individual HEIs. Also, there is a danger that we might impede exploration of the full potential of e-learning, because new understanding of the possibilities for using the technology may lead to new aspirations about what full embedding might mean.

20. We have debated whether we need to adopt a specific definition of e-learning at all, since it might curb exploration and restrict diversity. However, we believe we should limit the scope of our strategy, to be sufficiently focused, to the use of technologies in learning opportunities. The Government e-learning strategy defines e-learning as any learning that uses ICT. In embedding this strategy we want to ensure that there is confident use of the full range of pedagogic opportunities provided by ICT. For HE this will encompass flexible learning as well as distance learning, and the use of ICT as a communications and delivery tool between individuals and groups, to support students and improve the management of learning.

Aims, objectives and principles of our strategy

21. E-learning will develop and become embedded in higher education through the efforts of universities and colleges, their senior managers, individual practitioners and subject and practice communities, and students themselves. In the light of our rationale and definition for our e-learning strategy, we therefore **aim to support the HE sector as it moves towards embedding e-learning appropriately, using technology to transform higher education into a more student-focused and flexible system, as part of lifelong learning for all who can benefit.**

22. The highest priority objective of our strategy is **to enable institutions to meet the needs of learners and their own aspirations for development.** We will achieve this by ensuring that our strategy is not prescriptive about the particular form or use that e-learning is put to in institutions, but supports institutions' own chosen e-learning missions. Linked to this, we will encourage and support institutions in setting their own e-learning goals, appropriate to

their missions and state of embedding, and in measuring their own progress, by providing tools for benchmarking (described in paragraph 31).

23. To ensure that e-learning is integral to institutions' broader strategies for learning and teaching, and to work with the grain of a 'whole institution' approach to embedding e-learning, we will not ask HEIs to develop specific e-learning strategies of their own in response to ours. We will, however, consider the embedding of e-learning within our own learning and teaching strategy when we review it in 2005, and consult the sector on new proposals for learning and teaching strategies thereafter. (We also aim to encompass a variety of approaches to learning such as workplace and flexible learning within our learning and teaching strategy.) We will draw together opportunities to support and enhance e-learning from our other strategic initiatives, including learning and teaching and HR strategies, project capital, and JISC.

24. **We will seek to support institutions in the strategic planning, change management and process development that are necessary to underpin their development and embedding of e-learning.** This will include strategic approaches to sustainable funding, infrastructure investment, and the development of teaching quality and technological standards. In particular we will support the establishment within institutions of processes and structures that are appropriate for the development and delivery of high quality education underpinned by technology. We recognise that the embedding and scaling of e-learning will impact on all aspects of institutions and are drivers for change to meet the needs to be flexible, responsive and cost-effective. We will encourage and help institutions to design effective processes and structures, for both people and technology, to align strategies and to develop and deliver quality in services.

25. **We aim to promote learning research, innovation and development that begin with a focus on student learning rather than on developments in technology per se, enabling students to learn through and be supported by technology.** We will achieve this by working closely with our partners, the Higher Education Academy and JISC, on supporting and disseminating innovation in e-learning. We are providing funding through the academy and JISC for pathfinder projects, with a linked advice and support service (see paragraph 29). Through our strategy we will address support to institutions and their practitioners for developing staff capacity for e-learning, including approaches to curriculum design and pedagogy and HR practices and procedures. We will also address learning resource and quality considerations.

26. Finally, we will seek through our strategy **to support lifelong learning by joining up our strategy with those of other sectors of education, enabling connections between academic learning and experiential learning in the workplace and other aspects of life.** We will do this by adopting a partnership approach to implementation and review; and by providing support for approaches to collaboration, progression and student support that can help embed e-learning in broader policies and activities, joined up across sectors within and outside education. We will also be informed by good practice and collaborate as appropriate across the UK and in Europe.

27. A number of principles underlie our approach. We will:

- implement our strategy through a partnership approach and will not set up new organisations. We already fund JISC and the Higher Education Academy to further e-learning, and we will draw upon their networks to work with wider partners within and outside the HE sector
- build upon our investments in learning and teaching, and use additional funds to enhance these, rather than setting up separate programmes
- review the success of our strategy in the context of our wider integrated learning and teaching strategy, which will include considering flexible learning and workplace learning.

Implementation

28. Annex A sets out the implementation plan for our e-learning strategy, which has been devised jointly with the Higher Education Academy and JISC. This plan reflects the aims, objectives and principles identified above as well as detailed points made in consultation. It contains the following strands:

- **Strand 1** Pedagogy, curriculum design and development
- **Strand 2** Learning resources and networked learning
- **Strand 3** Student support, progression and collaboration
- **Strand 4** Strategic management, human resources and capacity development
- **Strand 5** Quality
- **Strand 6** Research and evaluation
- **Strand 7** Infrastructure and technical standards.

Additional funding for e-learning

29. We have made it a principle of our strategy (see paragraph 27) that we should address e-learning in the context of our existing strategic investments in HE, rather than support stand-alone projects. However, we have said that we will make available any residual funding from the e-University project to support e-learning in the sector. We will be allocating residual capital grant through our current capital funding process, and will send a circular letter to institutions shortly with further information on this. We have also agreed with the Higher Education Academy and JISC to provide funds to help embed e-learning in HEIs, and to disseminate case studies and models across the sector. These will complement insights to be disseminated by the academy from HEFCE's Centres for Excellence in Teaching and Learning (CETLs) initiative. Further details on funding for embedding e-learning will be available in due course via the web-sites of the Higher Education Academy and JISC.

30. The programme will be supported by the Higher Education Academy and JISC through a 'virtual' national e-learning advisory and support centre. This centre will co-ordinate activities and provide leadership, with the overall objective of embedding e-learning in HE. It will draw in a range of partners, including the Leadership Foundation and the Association for Learning Technology. Among other activities, the centre will manage a national dissemination programme involving nominated e-learning 'champions' from HEIs and further education colleges, and create and supply online resources for staff development.

How will we know we have achieved our goal?

31. We agree with the respondents to our consultation that we should know more about the present state of all forms of e-learning in HE. This is essential to provide a baseline to judge the success of this strategy. However, understanding HE e-learning is not just a matter for HEFCE. Possibly more important is for us to help individual institutions understand their own positions on e-learning, to set their aspirations and goals for embedding e-learning – and then to benchmark themselves and their progress against institutions with similar goals, and across the sector. We have therefore asked JISC and the Higher Education Academy to take forward a project with a view to identifying a benchmarking tool for HEIs. This tool may also then provide information, at a sector-wide anonymised level, to help us and our partners draw conclusions on the state of e-learning, progress towards embedding it, and the impact of our strategy.

32. We intend to evaluate our strategy every three years in conjunction with JISC and the Higher Education Academy, and in the context of our broader learning and teaching strategy. Our review will be informed by the research and evaluation strand of our implementation plan, by the benchmarking proposed above, and by reviews of our investments in enhancement of the learning experience more generally. The implementation process will include continuous review and refinement.

33. We have said (paragraphs 18-20) that we should adopt broad definitions of ‘e-learning’ and ‘embedding’ which expand rather than reduce possibilities. For these reasons, we do not think it is appropriate to set hard targets for our strategy, which would require very precise definitions. We therefore propose to adopt the broad measures of success listed in the box below, which we believe will tell us when the HE sector has fully embedded e-learning.

34. We will assess progress towards these measures of success for embedding e-learning, with our partners as part of our strategic reviews.

35. We look forward to working with JISC and the Higher Education Academy, and through them with wider partners within and outside education, and individual institutions, to take forward this strategy for e-learning.

Measures of success

We consider the HE sector to have embedded e-learning where:

- a. ICT is commonly accepted into all aspects of the student experience of higher education, with innovation for enhancement and flexible learning, connecting areas of HE with other aspects of life and work.
- b. Due to more coherence and collaboration, technical issues have been addressed to give better value for money.
- c. Students are able to access information, tutor support, expertise and guidance, and communicate with each other effectively wherever they are. They are able to check and record their achievement in a form designed for multiple uses to enable personal and professional development.
- d. Tutors have tools for course design to enable better communication between them and their students, giving feedback and targeted support. Individual teachers have access to information about the materials available, and support for continuous improvement of them.
- e. Subject communities are able to share materials in ways that enhance their ability to produce customised high quality courses. They are supported to work collaboratively in designing materials, which are effectively quality assured and widely disseminated. They have access to research information to inform curriculum development and research-based teaching.
- f. Institutions are able to build appropriate infrastructure and resources support for integrating registration and learning functions. They have links with regional networks of institutions to support progression and community involvement.
- g. Lifelong learning networks support connectivity between institutions to provide seamless access for students and staff.
- h. Staff are supported at all stages to develop appropriate skills in e-learning, and these skills are recognised in their roles and responsibilities and in reward structures. They have access to accreditation for their level of skills and professional practice in linking learning technology with teaching.

Annex A

Joint implementation plan for embedding e-learning in HE

The implementation of HEFCE's e-learning strategy will be undertaken in partnership with JISC and the Higher Education Academy.

The strategy covers a 10-year period but we expect to keep it under review, especially in terms of the activities in the implementation plan, as we expect these to change during the lifetime of the strategy. A partnership board will oversee the activities, whose membership includes representatives from HEFCE, JISC and the Higher Education Academy.

The aim of the strategy is 'to support the HE sector as it moves towards embedding e-learning, appropriately, using technology to transform higher education into a more student-focused and flexible system, as part of lifelong learning for all who can benefit'. Measures set out in the implementation plan are intended to help institutions to achieve this through addressing seven strands of activity (listed in paragraph 28).

This plan outlines the activities that the Higher Education Academy and JISC currently provide or will implement, and the activities that they will jointly manage such as the new e-learning centre. It builds upon a history of collaboration between the two organisations, including:

- the development of the learning and teaching web portal, Connect
- the successful collaboration between the subject centres of the Learning and Teaching Support Network and the Resource Discovery Networks
- the current distributed e-learning programme.

Strand 1 Pedagogy, curriculum design and development		
	Objectives	Actions
1.1	Reward excellence and promote and encourage innovation in e-learning.	<ul style="list-style-type: none">• HEFCE to identify and fund 74 CETLs. The Higher Education Academy to disseminate e-learning experience from CETLs and the Fund for the Development of Teaching and Learning (FDTL) across the HE sector.• JISC and the academy to advise HEFCE on what type of projects an e-learning innovation fund could support.
1.2	Encourage the design of technology for students to manage their own individual and shared learning.	<ul style="list-style-type: none">• The academy and HEFCE to build upon the work of the expanded National Teaching Fellowship scheme, including awards for all experts contributing to the learning experience (to reward individuals for innovation in e-learning).
1.3	Encourage the use of technology to enable electronic assessment.	<ul style="list-style-type: none">• JISC and the academy to build upon the work with HEIs in identifying and developing models of recognition and reward, and disseminate

		these across the sector (for example, could reward institutions/departments/units for embedding e-learning into an institution).
1.4	Produce and disseminate models of good e-learning practice including assessment.	<ul style="list-style-type: none"> • JISC and the academy to co-ordinate initiatives and align priorities to provide a national support infrastructure comprising e-learning tools, pedagogical and technical advice, and examples of innovative practice in the design and provision of e-learning opportunities (advisory and support centre). The existing eChina project is one example. Phase 2 of the eChina project will probe many issues of pedagogy, curriculum design and development further. • The academy to identify measures to support curriculum innovation and collaborative team-based e-learning development in institutions. The academy also to identify measures to support the evaluation of student experiences of e-learning, and its impact on student performance. Allow access to research outputs to facilitate curriculum development and design.
1.5	Encourage the effective use of technology to enable work-based learning.	<ul style="list-style-type: none"> • HEFCE to support and encourage vocational and work-based learning through targeted strategic development funds, such as for Lifelong Learning Networks. • Concordat to be developed between the Higher Education Academy, UUK/SCOP and Lifelong Learning and other Sector Skills Councils to assist in articulating employers' perspectives on e-learning needs in the curriculum, including delivery options and e-skills. • The academy and JISC to explore the effectiveness of tools to support innovative curriculum design for different learning contexts, including internationally.

Strand 2 Learning resources and networked learning		
	Objectives	Actions
2.1	Develop a comprehensive and coherent approach to the development and use of resources for learning and teaching, including digital resources and discovery tools.	<ul style="list-style-type: none"> • JISC and the Higher Education Academy to develop a strategy for learning resources for learning and teaching (based on the model of the Research Libraries Network). The strategy should build upon JISC's role in digital information provision and discovery, and the research and observatory function of the academy, and take account of activity

		<p>in the further education (FE) and schools sectors.</p> <ul style="list-style-type: none"> • JISC to support strategic agreements with publishers and content providers.
2.2	Enhance the quality of digital resources and tools for learners provided by JISC, and sources for teaching, learning, research and innovation.	<ul style="list-style-type: none"> • JISC and the academy to continue the development of tools for sharing resources, eg X4L, JORUM, Reload; and build upon JISC's role in digital information provision and discovery learning. • JISC and the academy to provide copyright, intellectual property rights (IPR) and licensing advice, and authentication services. • JISC and the academy to take forward development and implementation of frameworks and tools for the development and management (acquiring, adding, finding and delivering) of shareable resources and networked learning. • The academy, through CETLs and FDTL, to explore issues of developing and sharing learning resources within discipline groups and between institutions.
2.3	Promote the sharing of learning technology and resources across the HE sector and between sectors.	<ul style="list-style-type: none"> • JISC and the academy to provide a range of programmes that enable HE staff to create digital resources, populate resource banks and identify issues associated with the sharing of digital resources. • JISC to provide technical advice on hosting and managing online learning resources, practical metadata systems, searchable databases and repositories, and developing user interfaces. • JISC to provide practical guidelines for re-purposing, examples, simulations, modelling tools and case studies for embedding resources in the curriculum, taking account of cultural issues, and issues related to accessibility and the Disability Discrimination Act. • JISC and the academy to encourage use of outputs of the JISC/National Science Foundation Digital Libraries and Classroom Programme, National Learning Network materials, industry-based content and international sources of learning materials.

Strand 3 Student support, progression and collaboration		
	Objectives	Actions
3.1	Develop integrated learning environments for lifelong learning.	<ul style="list-style-type: none"> • JISC to work to encourage standards-based development of interoperable systems to facilitate integration, and access to virtual learning environments across schools, further education and HE.

		<ul style="list-style-type: none"> • JISC to provide information and guidance on the development of specifications and standards for interoperable systems. • HEFCE/JISC to support regional and international developments in distributed e-learning. • JISC to provide unified learner support through regional pilot projects in distributed e-learning.
3.2	Utilise e-learning for delivery and support of foundation degrees.	<ul style="list-style-type: none"> • HEFCE to explore issues around e-delivery of foundation degrees through evaluations and quality reviews. • HEFCE and the Higher Education Academy to explore and review, with Foundation Degree Forward and others, experiences of e-based delivery across FE and HE as part of ongoing evaluation of foundation degrees. • JISC and the academy to encourage current and new programmes to develop tools and resources for using e-learning to deliver foundation degrees; and help the HE community and FE partners to develop appropriate delivery methods and student support models.
3.3	Develop lifelong learning networks on a regional and national basis.	<ul style="list-style-type: none"> • HEFCE to encourage collaboration among institutions, including measures to support postgraduate and post-experience learning and links with Regional Development Agencies, with specific measures to address the balance of collaboration and competition.
3.4	Encourage e-based systems of describing learning achievement and personal development planning (PDP).	<ul style="list-style-type: none"> • JISC and the academy to continue to investigate the use of e-portfolios and other systems to support learner achievement and progression; and to promote and disseminate good practice in the development of new approaches for the use of e-portfolios and PDP. • JISC to continue with the development of technical tools to support the use of e-portfolios across institutions and sectors. • HEFCE to encourage the Europe Unit to support collaboration with European partners on the European Diploma Supplement. • JISC and the academy to promote links with agencies such as the Universities and Colleges Admissions Service, the Qualifications and Curriculum Authority and the British Standards Institution in developing e-based systems for PDP.

Strand 4 Strategic management, human resources and capacity development		
	Objectives	Actions
4.1	Seek to promote organisational change and technological risk management at a	<ul style="list-style-type: none"> • HEFCE to encourage strategic alliances between the Leadership Foundation, the Higher Education Academy and JISC on leadership in innovation in learning and teaching and technological risk, including international

	strategic level in the sector.	<p>dimensions.</p> <ul style="list-style-type: none"> • The academy, Leadership Foundation and JISC to scope strategic requirements for organisational change and risk management, addressing high-level issues regarding pedagogy of e-learning, strategic e-management, and the cultural challenges of change.
4.2	Encourage co-ordinated strategic management approaches to development of e-learning – through joining up learning and teaching, human resources, IT, and estates strategies – to maximise the benefits of technology across all HEI business activities.	<ul style="list-style-type: none"> • JISC to continue to support JISC services (eg JISC infoNet) providing information and advice on technological risk and organisational change. • JISC and the academy to work with partners including the Leadership Foundation, the Association for Learning Technology and eChina, on actions that facilitate the engagement of practitioners in strategic change management. • HEFCE to investigate costing methodologies/models for developing and delivering e-learning in the context of the review of its teaching funding method.
4.3	Encourage strategic management of IPR in HEIs in order to exploit e-learning.	<ul style="list-style-type: none"> • HEFCE to consider how reviews of institutions' corporate plans, annual monitoring statements and strategic processes might help to determine opportunities to increase co-ordinated approaches to the development of e-learning resources (see also action under 2.2 to provide copyright, IPR and licensing advice).
4.4	Address skills, knowledge and competencies for e-learning in training and continuing professional development for learning and teaching staff, including learning technologists.	<ul style="list-style-type: none"> • HEFCE to liaise with the academy and other partners on appropriate implementation of recommendations arising from the national consultation document, 'Towards a framework of professional teaching standards'. • The academy and JISC to support the work of the Association for Learning Technology and the Staff and Educational Development Association in developing and implementing a professional framework for learning technologists. • The academy and JISC, with appropriate partners, to look at staff development in the emerging role of the librarian assisting learners and teachers and supporting delivery.
4.5	Review the human capacity in the HE sector to deliver future e-learning growth.	<ul style="list-style-type: none"> • HEFCE, with the academy and JISC, to identify (through appropriate agencies) staffing profile, competences, development needs and recruitment strategies for the use of technology to support learning, teaching and research. This would link across education sectors and consider international developments and trends. • The academy and JISC to help to articulate professional roles and working practices for e-learning.

Strand 5 Quality		
	Objectives	Actions
5.1	Contribute to understanding of the assurance and enhancement issues for quality and standards raised by e-learning.	<ul style="list-style-type: none"> • HEFCE to encourage a strategic alliance between the Higher Education Academy and the Quality Assurance Agency (QAA) to include consideration of quality and standards in e-learning. • The academy and the QAA to promote good practice to support quality and standards in e-learning, with specific reference to key issues such as quality models, evaluation frameworks, metrics and embedding. • The academy and the QAA to encourage collaboration with other organisations such as the Universities and Colleges Information Systems Association (UCISA) and the Society of College National and University Libraries (SCONUL). • JISC and the academy to explore 'kite-marking', legal and insurance issues in the development of resources and delivery of learning experiences through technology. • The academy and the QAA to promote active engagement with and benchmarking against international standards for quality in e-learning.

Strand 6 Research and evaluation		
	Objectives	Actions
6.1	Contribute to the sector's understanding and appreciation of the wider issues posed by e-learning.	<ul style="list-style-type: none"> • HEFCE has established an e-learning research centre, based at the Higher Education Academy and the Universities of Manchester and Southampton, to co-ordinate and manage developments, interact with HEIs and ensure wide dissemination across the HE community. • The academy to promote research in gap areas and issues of particular relevance to the sector, including personalised learning and the development of learning communities through the Teaching and Learning Research Programme, the Engineering and Physical Sciences Research Council programme and other initiatives. • The academy and JISC to pursue collaborative programmes that contribute to the research agenda, working with the Research Councils and other organisations involved in e-learning research, including stakeholders outside HE (such as systems developers, employers and other sectors). • The academy to map existing national and international research into e-learning issues and developments such as eChina.

		<ul style="list-style-type: none"> • HEFCE/the academy to promote the significance of educational research including e-learning, in partnership with Research Councils.
6.2	Evaluate and disseminate national and international good practice in e-learning.	<ul style="list-style-type: none"> • The academy and JISC to assemble international evidence and resources, evaluating national and international good practice, and disseminating programme outputs to the sector.
6.3	Evaluate ongoing relevance of the e-learning strategy to the work of the sector by means of benchmarking.	<ul style="list-style-type: none"> • HEFCE, the academy and JISC to review and communicate the outcomes and recommendations of research and evaluation in reviewing the e-learning strategy and defining its future strategic direction.

Strand 7 Infrastructure and technical standards		
	Objectives	Actions
7.1	Increase capacity and usage of the network to support high quality e-learning programmes and applications.	<ul style="list-style-type: none"> • JISC technical developments in SuperJANET 4 to provide network support for applications in learning, teaching and research. • JISC to review SuperJANET 5 requirements, analysis and procurement with a focus on flexible use of the network. • JISC and organisations such as UCISA to work together to ensure that IT staff are aware of the infrastructure requirements for the support of e-learning. • JISC to review the needs of the sector in light of plans for future growth. • JISC to secure commitment to working with government and infrastructure providers with a view to improving bandwidth, access and purchasing schemes for learners.
7.2	Provide capital to sustain and develop virtual learning environments (VLEs) and managed learning environments (MLEs).	<ul style="list-style-type: none"> • HEFCE, with JISC, to consider bids for project capital from 2004 for teaching infrastructure, which includes supporting development and implementation of MLEs. • JISC to develop a flexible technical framework to support the development of MLEs. • JISC infoNet to advise HEIs on the design and implementation of systems. • JISC to review the needs of the sector in light of plans for future growth. • JISC to explore development of personal learning environments that allow learners registered at multiple institutions to have a common interface to their courses.
7.3	Increase opportunities for interoperability of materials through common standards in	<ul style="list-style-type: none"> • JISC to support programmes that develop specifications for interoperable systems; JISC and the Centre for Educational Technology Interoperability

	order to promote sharing and progression.	<p>Standards to ensure that UK views and experiences inform international standards development.</p> <ul style="list-style-type: none">• JISC to encourage and support the development of open source software that can be integrated to create custom-built solutions for institutions, and 'peer-to-peer technology' that enables individual computers to share data and system resources with minimal involvement of centrally managed servers.
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List of abbreviations

CETL	Centre for Excellence in Teaching and Learning
DfES	Department for Education and Skills
HE	Higher education
FDTL	Fund for the Development of Teaching and Learning
FE	Further education
HE	Higher education
HEFCE	Higher Education Funding Council for England
HEI	Higher education institution
HR	Human resources
ICT	Information and communications technologies
IPR	Intellectual property rights
JISC	Joint Information Systems Committee
MLE	Managed learning environment
PDP	Personal development plan
QAA	Quality Assurance Agency for Higher Education
SCOP	Standing Conference of Principals
UCISA	Universities and Colleges Information Systems Association
UKeU	UK eUniversities Worldwide Ltd
UUK	Universities UK
VLE	Virtual learning environment