

JOINT INFORMATION SYSTEMS COMMITTEE

INVITATION TO TENDER

E-learning Models Desk Study

Summary

1. The Joint Information Systems Committee (JISC) is seeking to commission a study into e-learning models, under the terms of the new [Pedagogies for e-learning Programme](#). The aim of the programme is to ensure that e-learning, as practised in UK further education (FE) and higher education (HE), should be '*pedagogically sound, learner-focused and accessible*.' The general background for this programme is the ongoing need to support practitioners in realising this aim.
2. The purpose of the proposed study is describe what may be understood by 'effective practice' in relation to e-learning; to develop and adapt an evaluation framework that may be applied to new instances of e-learning; to identify and describe the range of models that inform the design and implementation of e-learning activities; and to develop a modelling tool (or tools) that may be applied to new instances of e-learning activity design and implementation.
3. This initial study will form the basis of an iterative development cycle extending over the programme's lifetime. Validation of the study outcomes through consultation with user groups is a key requirement. It is intended that this work will help scope future JISC activity in this area.
4. Up to £70,000 (including VAT and expenses) is available for this study over a 5 month period (March – July 2004). Tenders should be submitted no later than noon on Friday 30 January 2004.

Background

5. The JISC is a committee of the UK FE and HE funding bodies which supports colleges and universities in their use of the Internet and other Information and Communications Technology (ICT) applications. The JISC supports FE and HE institutions in exploiting the opportunities of ICT by exercising vision and encouraging collaboration and co-operation. It does this by funding and managing national development programmes and services.
6. Widespread implementation and increasing use of Virtual Learning Environments in UK HE and FE has led to demand from practitioners for more effective guidance on good pedagogical practice¹. A specific call has been for help in designing e-learning activities in these environments².
7. Developments in international standards and specifications for learning content offer increasingly powerful ways of describing educational materials³. These open standards also allow different e-learning tools to be drawn together in a common environment⁴. An invitation to tender for work under a new JISC 'e-learning Frameworks' programme will see the emergence of a technical framework to support the development of flexible learning systems for UK HE and FE.

¹'Pedagogical issues... appear to have been of secondary concern until now.' *Managed Learning Environment Activity in Further and Higher Education in the UK*. JISC / UCISA report (2003). A revised 'Framework for pedagogical Evaluation of VLEs' has been commissioned by the JISC, taking account of new developments in VLE systems and usage. This will be delivered in December 2003 and will provide an important context for the work of this programme.

²Symptomatic of this demand among practitioners has been the success of Gilly Salmon's book, *e-tivities* (2002, Kogan Page: see also www.e-tivities.com).

³ See IMS Learning Design v1.0 www.imsglobal.org/learningdesign/index.cfm; SCORM's Content Aggregation Model and Run-Time Environment for learning objects: www.adlnet.org/index.cfm?fuseaction=scormabt

⁴ e.g. Zope

8. The focus has now moved from specification of learning objects to specification of learning activities. Developments in learning design offer new ways of integrating materials and activities in a pedagogically informed way. They also offer richer frameworks for modelling learning interactions in virtual environments. So far they have not been widely available to practitioners⁵.
9. The Government's e-learning Strategy consultation document, 'Towards a Unified e-learning Strategy', points to the need for effective learning design tools to help practitioners to develop and deliver their own learning activities⁶.
10. There is evidence that neither learning object metadata, nor learning environments, nor existing practitioner-based vocabularies for describing learning and teaching, are in themselves effective in supporting the development and transfer of effective e-pedagogical practice⁷.
11. There is a growing and related awareness of a need for effective dialogue among practitioner communities, educational research communities and developer communities (both systems and standards), who share a common focus on learning interactions and activities⁸.

Aims

12. The funding programme has two related aims namely to provide the FE and HE community with accurate, up-to-date, evidence- and research-based information about effective practice in the use of e-learning tools, and to provide the application and development of e-learning tools and standards to better support effective practice.
13. The programme will scope the range of available information on pedagogy for e-learning, drawing on practitioner, educational research and developer communities. It will evaluate the approaches that seem effective for learners, and the forms of information and support that are relevant to practitioners. Further research and development may be promoted to fill significant gaps in the knowledge base.
14. The programme will explore applications and approaches that support the design and delivery of learning activities, including learning design tools and commercial learning environments. The focus will be on evaluating specific applications of these tools, in order to build up a repertoire of effective models and to identify those approaches that are both useable by practitioners and effective for learners.

Objectives

15. Within the overall funding programme described above, the JISC is now seeking bids from research teams with relevant expertise to carry out a desk study into models of e-learning. This desk study constitutes Activity 1b in the matrix of activities, provided in Appendix C. The programme objectives that are relevant to this desk study are:
 - to review and, where possible, to enhance current knowledge about effective pedagogies for e-learning;
 - to promote the development of terminology and frameworks that will improve understanding and sharing of practice in e-learning;

⁵ IMS Learning Design specification envisages systems that allow more pedagogic flexibility in coordinating learning materials and activities. Early exemplars include the Educational Modelling Language (<http://eml.ou.nl/eml-ou-nl.htm>) and the Learning Activity Management System (see <http://www.cetis.ac.uk/content2/20031105152011> for more details).

⁶ DfES, *Towards a Unified E-learning Strategy*, June 2003: 56

⁷ McAndrew, P (2003) *Can Generic Models be Re-used and Shared?* Available online at http://www.ltsn.ac.uk/application.asp?section=generic&app=resources.asp&process=full_record&id=277

⁸ DfES, *Towards a Unified E-learning Strategy*, June 2003: 64-7. Examples of this trend include the establishment of the CETIS Learning Design and Pedagogy SIGs, and the number of e-learning departments being established in partnership with Education Departments and Learning and Teaching (CPD) Units.

16. The specific objectives of the desk study are:

- To describe what may be understood by 'effective practice' in relation to e-learning
- To develop or adapt an evaluation framework that may be applied to new instances of e-learning
- To identify and describe the range of models that inform the design and implementation of e-learning activities
- To develop a modelling tool (or tools) that may be applied to new instances of e-learning activity design and implementation
- Identify any gaps and produce recommendations on further development of the framework and reference sets.

Suggested Approach

17. The successful bidder will be expected to develop an appropriate research methodology to meet the given objectives and outcomes. In pursuing these objectives and outcomes, however, the research team will be asked to:

- Review existing resources and work-in-progress to avoid unnecessary overlap of effort;
- Where feasible and effective, work with partner agencies and concurrent projects identified as relevant to the objectives and outcomes of the study;
- Take account of outcomes from other elements of the funding programme, in particular outcomes of the Review of e-learning models (Activity 1a) and ongoing outcomes from work on terminologies and frameworks (Activity 3), as well as feedback from practitioner consultations;
- Play a full part in working party meetings;
- Support an ongoing process of collation, synthesis, review and planning in relation to programme outcomes;
- Create coherent tools and resources to support ongoing programme activities and to communicate programme outcomes effectively to practitioners.

Deliverables

18. The outputs from this study are expected to be as follows:

- A revised and detailed work plan four week from contract start date.
- A reference set of core users and user groupings within the JISC remit.
- A practitioner-orientated resource describing what is understood by 'effective practice' in relation to e-learning, and suggesting a range of effective approaches to e-learning taking into account the diversity of both learning objectives and learning outcomes.
- An evaluation tool that can be applied to new instances of e-learning to determine whether, in the light of best current information and practice, they can be deemed 'effective'. (This tool will be used for Activity 4 of the funding programme, see Appendix C.)

19. This study will also produce a short report on the range of models that have been used, or could be used, to inform design and implementation of e-learning activities. The range studies will be derived from the outcomes of an initial Review (Activity 1a of the funding programme, see Appendix C) and should aim to include:

- Academic models of learning from the fields of education and of learning technologies.
- 'Proven good practice' models from e-learning research, case studies and funded projects.
- 'Guidelines for practitioners' from educational and e-learning staff development materials.

- Models developed within Educational Modelling Language, Learning Activity Management System, and other standards-based systems for modelling learning interactions.
 - Implicit 'models' of learning found in specific e-learning environments, applications and systems.
20. This study will also produce a descriptive or modelling framework that can be understood by practitioners, mapped to or made interoperable with, formal standards-based modelling languages and tools, and can be applied to new instances of e-learning. This tool will be used for Activity 4 of the funded programme, see Appendix C.
21. This study will also seek to provide initial descriptions of models of six to twelve e-learning activities using the framework described in 18.
22. Other expectations are:
- The contractor will be expected to liaise with the JISC Executive on a fortnightly basis to ensure there is a shared understanding of the work and its progress.
 - In order to meet the aggressive timetable there is an expectation that there will be a multi-skilled team working on this study, which is reflected in the level of funding allocated to this study.
 - The Pedagogies and e-learning Programme will be commissioning another related study in to the effectiveness of different resources, tools and support services, used by practitioners in designing and delivering e-learning activities, with which this study will be expected to co-operate.
 - The study's prime function is to act as a source of information for the JISC Executive and Pedagogies and e-learning Programme Steering Group. However the outputs should be produced so they can be shared more widely with the further and higher education community.
 - Prior to final acceptance of the outputs a draft should be submitted to the JISC Executive for comment.
 - The information provided in the reports of the study, and the rights to all other outputs, shall become the property of the Higher Education Funding Council for England (HEFCE) on behalf of the JISC and the other funding councils.
 - At the conclusion of the study the contractor may be invited to present the results at a meeting of the relevant JISC committee or committees.

Timescale

23. The timescale is as follows:
- Bids should be submitted by 12 noon on Friday 30 January 2004.
 - It is expected that bidders will be notified of the outcome of the evaluation process by Friday 20th February 2004.
 - The contractor will be expected to commence work at the beginning of March 2004 and to meet with JISC programme managers and to have agreed the project plan by 19 March 2004.
 - An interim report that contributes to the yearly programme review cycle will be expected by 10 May 2004.
 - A draft final report to include all outputs will be expected by 1 July 2004.
 - A complete final report should be submitted by 16 July 2004.

Evaluation

24. An evaluation panel comprising of experts from the educational community and the JISC Executive will be responsible for evaluating submitted proposals on the basis of the following criteria:
- Compliance with and understanding of the requirements, including addressing the scope of the study.
 - Quality and comprehensiveness of the proposals.

- Suitability of the proposed methodology.
- Relevance of previous experience of the tendering organisation(s) and of the particular consultants and/or researchers to the study.
- Analysis of risks to successful completion of the study.
- Value for money.

Funding

25. Up to £70,000 inclusive of VAT and related travel and subsistence is available for this study.

Proposals

26. Proposals should clearly and fully demonstrate the following:

- Knowledge and understanding of the current e-learning initiatives and practice in both further and higher education sectors.
- A clear understanding of the concepts described in the 'Suggested Approach' section above.
- Experience in undertaking similar types of work.
- Methodology to be adopted.
- A work plan with milestones and deliverables.
- Details of personnel to work on the scoping study.
- Overall budget and detailed breakdown of main areas of work, including the relevant daily rates/pro-rata salary against each member of the team to work on the study.

Management

27. The contract will be overseen by Sarah Knight, a member of the JISC Executive, and report to the *Pedagogies and e-learning Programme* Steering Group. The contractor will provide a plan of work that will facilitate this and will report at regular intervals as agreed at the time of commissioning. In agreeing the work plan with the successful contractor, the JISC will wish to discuss the list of bodies and people who should be consulted in the course of the study.

Submission of Proposals

28. Persons wishing to tender should request a tender envelope from Faye Gardiner (email f.gardiner@jisc.ac.uk, tel: 0117 931 7111) clearly stating the title of the ITT. Proposals of no more than ten pages of A4 should be submitted in hard copy (single sided; unbound) to the JISC Executive in the envelope provided. An electronic copy should also be emailed to Faye Gardiner. Both copies must arrive by the deadline. Proposals must also include the completed cover Sheet at Annex A and the Statement of Bona Fide Tender at Annex B. These pages are in addition to the ten page maximum bid.

29. Proposals must be received no later than noon on Friday 30 January 2004. Proposals not submitted in the tender envelope or late proposals will not be accepted. Proposals should be sent to:

30. Faye Gardiner, JISC Executive, Northavon House, Coldharbour Lane, BRISTOL, BS16 1QD, tel: 0117 931 7427; email: f.gardiner@jisc.ac.uk.

31. The JISC reserves the right not to accept the lowest (or any) tender received.

Further Information

32. Any queries regarding this tender, should be sent to Sarah Knight, Programme Manager, JISC Bristol Office, tel: 0117 954 5063 email: sarah.knight@bristol.ac.uk

Appendix A

Cover sheet for proposals

JISC Invitation to Tender: E-learning Models Desk Study

(NB: All sections must be completed)

Name of lead institution/organisation
List consultants/partners, if any
Full contact details for primary contact
Name:
Position:
Email:
Address:
Tel:
Fax:
Total cost to the JISC:
Outline proposal description
Names and contact details of any additional contacts

Appendix B

To: JOINT INFORMATION SYSTEMS COMMITTEE, Northavon House, Coldharbour Lane, Bristol, BS16 1QD

Statement of Bona Fide Tender

We certify this is a Bona Fide Tender in that we have not fixed or adjusted the amount of the Tender by or under or in accordance with any agreement or arrangement with any other person. We also certify that we have not at any time before the hour and date specified for the return of the Tender performed any of the following acts:

- i) communicated to any person other than the person calling for the Tender the amount or approximate amount of the proposed Tender, other than for obtaining a quotation for an insurance premium required for the purpose of the Tender.
- ii) entered into any agreement or arrangement with another person so that he or she shall refrain from tendering, or as to the amount of any tender to be submitted.
- iii) offered, paid, given or agreed to pay or give consideration directly or indirectly to any person for having done or for doing, or caused to have done or for doing, in relation to another tender or proposed tender for the said work any act or thing of the sort described above.

In this Certificate, the word 'person' includes any person, or body or association, corporate or otherwise; and 'any agreement or arrangement' includes any such transaction, formal or informal and whether legally binding or otherwise.

Signed..... Name.....

Occupation/Profession

For and on behalf of:

.....
.....
.....

Appendix C – Programme of Activities for the Pedagogies and e-learning Programme

Objective	Activities	Details	Outputs
(1) to review and enhance current knowledge about effective pedagogies for e-learning;	1a. Review (e-learning models)	<ul style="list-style-type: none"> ▪ Describe the areas of research, development and practitioner guidance where e-learning models are found. 	<ul style="list-style-type: none"> ▪ Background study to inform Activities 1b and 2 (→ 5b) ▪ Detailed ITT for Activities 1b & 2
	1b. Desk study (e-learning models)	<ul style="list-style-type: none"> ▪ Describe what is understood by ‘effective practice’ in relation to e-learning ▪ Develop an evaluation framework that may be applied to new instances of e-learning ▪ Identify and describe the range of models that inform the design and implementation of e-learning activities ▪ Develop a modelling tool that may be applied to new instances of e-learning activity design and implementation 	<ul style="list-style-type: none"> ▪ Evaluation and modelling tools for Activity 4 ▪ Initial definition of between 6 and 12 e-Learning activities ▪ Resources for practitioners: e.g. guidelines on best practice; approaches to e-learning (→ 5b)
	<i>Community consultation (ongoing)</i>	<ul style="list-style-type: none"> ▪ Advise on what is understood by ‘effective practice’ in e-learning ▪ Advise on the range of models of e-learning currently available ▪ Feed back on emerging outcomes from activities 1a and 1b 	<ul style="list-style-type: none"> ▪ Recommendations to researchers and funding bodies: priorities for future R&D in e-learning (→ 5b)
(2) to explore how this knowledge can be effectively applied by practitioners in developing e-learning and teaching practice;	2. Research study (practitioners)	<ul style="list-style-type: none"> ▪ Identify the resources (e.g. case studies), tools (e.g. learning design tools) and community practices that are used to support practitioners in adopting e-learning ▪ Evaluate the most effective resources, tools and approaches for supporting practitioners 	<ul style="list-style-type: none"> ▪ Report: supporting the effective adoption of e-learning (→ 5b) ▪ Annotated list of links to appropriate resources, tools and services (→ 5b) ▪ Detailed recommendations for Activity 5
	<i>Community consultation (ongoing)</i>	<ul style="list-style-type: none"> ▪ Advise on the range of resources/tools/practices currently in use ▪ Comment on emerging outcomes from activity 2 	<ul style="list-style-type: none"> ▪ Recommendations to developers and funding bodies: supporting innovative e-learning practices
(3) to develop terminology and frameworks that will improve understanding and sharing of practice in e-learning;	3. Review (terminology)	<ul style="list-style-type: none"> ▪ Identify the range of taxonomies, frameworks and modelling languages used for describing educational (including e-learning) practice 	<ul style="list-style-type: none"> ▪ Background study for the modelling aspects of Activity 2. ▪ Proposals for further development work with partner(s)

(4) to investigate approaches to design of e-learning activities, and make recommendations for further development (of software, guidelines or standards)	4a. Review (design tools)	<ul style="list-style-type: none"> ▪ Review current ICT technologies that support effective learning design ▪ Review technologies in development that might be used to support effective learning design 	<ul style="list-style-type: none"> ▪ List of learning design technologies for further exploration (Activity 4b) ▪ Detailed ITT for Activity 4b
	4b. Evaluation projects	<ul style="list-style-type: none"> ▪ Identify a range of learning design applications, including: <ol style="list-style-type: none"> 1. Design and delivery of specific learning activities within generic learning environments and platforms 2. Development and use of integrated e-learning tools 3. Model the relevant learning activities <ul style="list-style-type: none"> ▪ Evaluate (or re-evaluate) learning outcomes 	<ul style="list-style-type: none"> ▪ Series of evaluation reports (→ 5b) ▪ Refined and extended range of e-learning activities (→ 5b) ▪ Refined modelling and evaluation tools for use by practitioners (→ 5b) ▪ Analysis, report and guidelines (→ 5b)
	<i>Community consultation (ongoing)</i>	<p>Advise on priority areas for evaluation and modelling Comment on emerging outcomes from activity 4b</p>	
(5) to develop recommendations and resources for the community, e.g. practical toolsets, methodologies etc.	5a. Review (communication tools)	<ul style="list-style-type: none"> ▪ Review current tools, databases and domain models ▪ Scope an appropriate tool to collate programme outputs 	<ul style="list-style-type: none"> ▪ Recommended tool(s), mode of use and management options for collation of programme outputs
	5b. Design, create and maintain practitioner-based resource(s)	<ul style="list-style-type: none"> ▪ Collate outcomes from programme Activities ▪ Make outcomes available internally to programme teams and consultants ▪ Make outcomes available to JISC user groups via Community consultations 	<ul style="list-style-type: none"> ▪ Practitioner resources with community ownership and input ▪ Continuation strategy
	<i>Community consultation (ongoing)</i>	<ul style="list-style-type: none"> ▪ Advise on priority areas for practitioner guidance and support ▪ Participate in community events and communication opportunities ▪ Comment on outcomes from Activity 5 	