
Career Development of Learning Technology Staff: Scoping Study Executive Summary, January 2001

JISC Committee for Awareness, Liaison and Training Programme

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Principal author Helen Beetham
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Notes

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Director of Personnel, University of Plymouth	Roland Buckley (Chair)
Director, Institute for Learning and Research Technologies, University of Bristol	Grainne Conole (Project Director)
University of Plymouth	Paul Bailey (Project Manager)
THETO/UCoSDA	Michael Frearson
SEDA	Stephen Bostock
Association for Learning Technology	Jay Dempster
Teaching and Learning Technology Officers Forum	Gwen van der Velden
JISC ASSIST	Jane Williams

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1. Executive summary and recommendations

1.1 Background

During the 1990s the Teaching and Learning Technology Programme, the Fund for the Development of Teaching and Learning and a range of JISC-funded projects led to the development of an impressive range of computer-based tools and resources at a national level (Schank 1994, Reinhardt 1995, Somekh 1998). In fact the Dearing report noted that the UK was already a world leader in this field (NCIHE 1997). In 1997 HEFCE estimated that around 70% of all UK HEIs were involved in an externally-funded learning technology programme of some kind (cited in Kewell *et al* 1999). Many HE institutions have also taken seriously the challenge of the Dearing Report (NCIHE 1997): *'to harness both the communications infrastructure and the growing and developing collections of high quality learning materials within a management strategy capable of being responsive to the needs of staff, students and other stakeholders in higher education.'* Responses have included investment in C&IT infrastructure, and learning and teaching strategies which explicitly promote more effective use of learning technologies (Gibbs 1999).

Nevertheless, the current JISC five-year plan (draft JISC 2000) reports that the provision of technology infrastructure and resources is in danger of outstripping the skills of the community to exploit it (see e.g. 2.1.5, 2.3.8 2.7.8, 8.2, 8.7). This concern is echoed in the latest Campus Computing Survey from the United States (Green 1999), which found that:

Two decades after the first desktop computers arrived on college campuses, we have come to recognise that the campus community's major technology challenges involve human factors – assisting students and faculty to make effective use of new technologies in ways that support teaching, learning, instruction and scholarship.

The overall picture is of a sector investing in C&IT as a response to immediate challenges, but only just beginning to address the long-term implications for human resource management and the work of HE staff.

This document reports on a scoping study to investigate the roles and functions of UK HE staff involved in the development of learning and teaching through the use communication and information technologies. The objectives of the scoping study were:

1. to describe the various staff functions and activities associated with the embedding, development and support of learning technologies in HE;
2. to describe the different categories of staff to whom these functions and activities are typically devolved;
3. to audit the number of staff in each of the categories across a representative range of UK HEIs;
4. to reveal patterns of staff recruitment and deployment across the audited institutions and, where possible, relate these to critical institutional factors;
5. to produce a number of case studies providing a rich picture of the roles and responsibilities of individual staff members within each of the categories identified, and across a range of different HEIs;
6. to make recommendations for further areas of study and strategic focus by the JISC CALT;
7. to provide guidelines for institutions on staff recruitment, deployment and development for effective support of C&IT for learning and teaching.

A significant proportion of staff involved in learning technologies across the sector were represented in the study either as institutional auditors or as stakeholders on the Steering Committee and in the various focus groups and workshops.

1.2 Outline methodology

The project involved several distinct studies, beginning with a role analysis of 35 diverse individuals involved with learning technologies in UK HE, with the aim of describing in greater detail the different roles and activities involved. An audit was then carried out at 23 institutions representing a quarter of all UK HEIs (not including HE colleges, from which insufficient data was received). Here the aim was to investigate the number of individuals employed in each role, their institutional locations and terms of employment, and to provide some background information about learning technology use at the institutions involved. Auditors were all 'native' members of the local learning technology team, and their contribution to the study is gratefully acknowledged. The audit looked at the number of staff employed in different roles, the coordination of learning technologies at the institution, and fourteen key factors to diagnose institutional progress in the embedding of learning technologies.

To add detail to the picture of learning technology career development, in-depth interviews were carried out with 17 learning technology staff from four representative HEIs. Key institutional managers at these institutions - heads of personnel, staff development, educational development and learning and teaching - were also interviewed to provide an overview of the institutional context of learning technology work, following indications that new staff roles had often been overlaid on existing structures (Liber 1998) without the *'strategic overview and... new personnel structure'* which would allow them to be effective (Gibbs 1999).

A significant number of staff working with learning technologies were involved in the study either as institutional auditors (23) or as members of the focus groups, workshops and briefings which were held at crucial points (33

participants in all). Stakeholder organisations were represented on the steering group or were consulted on the recommendations during the final period of the study.

1.3 Key findings relating to learning technology staff

Staff numbers

- 1.3.1 Extrapolating from the audited institutions, the study found that around 7500 learning technology specialist staff (not including academic staff) were working in UK universities. Around 4500 of these were found in central units and around 3000 in non-central locations, though the latter figure is likely to be an under-estimate due to the difficulty of identifying these staff.
- 1.3.2 In addition, around 8000 academic staff in departments (or about 10% of academic staff in audited institutions) were actively working to embed learning technologies into their learning and teaching activities. This figure showed reasonable consistency across institutions, though it is possible that the terms 'active' and 'innovative' were being applied in a context-dependent fashion.

Staff roles

- 1.3.3 The role analysis identified 11 distinct *roles*, though these by no means corresponded with actual divisions of labour among *individuals*, many of whom were carrying out multiple roles. These can be summarised under three categories of individuals with a characteristic range of roles for each type.
- 1.3.4 '**New specialists**' included the roles of *educational developer*, *educational researcher*, *technical researcher/developer*, *materials developer*, *project manager* and *general learning technologist*: In practice these roles were rarely carried out in isolation, with most individuals having responsibilities across at least two different areas. From the study it appeared that UK HEIs employed just under 2000 such staff with a specific remit for learning technologies.
- 1.3.5 'New specialists' were likely to be young (in their late twenties or thirties) and on fixed-term contracts, often supported by external funding. They had typically been in their current post less than two years and at their current institution less than four. They tended not to have staff reporting to them, though many had project managerial responsibilities.
- 1.3.6 'New specialists' were perceived by all the groups involved in the study as the 'true' learning technologists: multi-skilled and peripatetic but with learning technology work at the core of their professional identity. They were often involved in the entire process of learning technology development, support and use (hence the multiple roles) and had a pivotal institutional role in terms of coordination, liaison and the facilitation of change. Many were involved in institutional working parties or committees. Almost all delivered some form of staff development via workshops, accredited programmes and training courses and/or less formal modes of skill transfer.
- 1.3.7 *Educational developers* formed the core of this core group, both numerically and in terms of the perceived centrality of their role. Focus groups described the archetypal learning technologist as 'an educational developer with a learning technology specialism' and there were difficulties distinguishing this role from *learning technologist*. Senior managers confirmed that development skills were crucial in recruiting new specialists. Along with focus groups they also confirmed that educational development or '*embedding learning technologies into the curriculum*' was seen as the primary task for most institutions.
- 1.3.8 **Academics and established professionals** included *academic innovators* as reported above and a smaller number of *academic managers* (around 1000) with secure positions in the institutional infrastructure. These individuals had incorporated an interest in or formal responsibility for learning technologies into their existing professional identity without necessarily becoming learning technology specialists. They constituted both an expert resource in their own right and a client group for the services of staff in the other two categories.
- 1.3.9 *Academic managers* were generally older than the new specialists and had worked at their current institution for a longer period of time, for example in the library, computing services or educational development. They were likely to be working at a strategic level or in a facilitative role across different parts of the institution, and while they had managerial responsibility this was usually for small numbers of staff.
- 1.3.10 '**Learning support professionals**' were staff in non-academic roles, specifically *technical support professionals*, *library/resource professionals* and *C&IT skills professionals*, supporting access to and effective use of learning technologies. Some *learning skills professionals* were also included in this category. The figures suggested that around 4,500 such individuals with a learning technologies remit were employed in UK HE. Their numbers were more difficult to audit accurately but were believed by focus group participants to be rising as learning technologies became an increasingly significant aspect of the learning environment.
- 1.3.11 Unlike new specialists the 'learning support professionals' did not regard learning technologies as the defining focus of their professional identity but as the context in which they were now applying their professional skills. Unlike the established professionals they tended to be in the early part of their careers, without managerial or strategic responsibilities. They were likely to have a client services orientation, though some also saw their role as developing or 'cascading skills to' others (staff and students).

Staff locations

- 1.3.12 Learning technology staff were found in an average of eight different *central* units (i.e. excluding departments, faculties and colleges) at each institution. This was seen by auditors and focus group participants as an obstacle to effective coordination of effort, but not necessarily as an obstacle to promoting change overall where it was necessary to work across a range of institutional cultures, structures and practices.
- 1.3.13 The location most commonly associated with learning technology staff was the library/learning resources unit, followed by the learning and teaching development unit and computing/information services. Half of audited institutions appeared to have a dedicated learning technology unit, but the presence of such a unit did not lessen the number of other units/services in which learning technology specialists were located: if anything it was associated with a proliferation of learning technology roles in other areas of the institution. Central units appeared to have a coordinating function with respect to other staff in multiple locations. Generally, they were staffed by a small number of new specialists and managed by an 'established professional', who had often moved sideways within the institution to lead up the unit.
- 1.3.14 Many academics and learning support professionals were supporting learning technologies alongside their existing roles in academic departments, though their numbers were difficult to assess accurately. There was evidence that learning technology support may be becoming *less* centralised as budgets were devolved. While departmental staff were well placed to support the integration of learning technologies into curricula and pedagogical cultures they were also vulnerable to isolation from colleagues working with learning technologies in other departments or central areas.

Skills and activities

- 1.3.15 The initial role analysis identified 58 separate activities involved in the coordination, development, use and support of learning technologies. On average participants carried out at least 20 activities as 'core' or 'central' to their role, and a further 20 'regularly' or 'occasionally', indicating that these staff required competence in an extraordinarily wide range of areas.
- 1.3.16 Ten activities were central for a majority of respondents, regardless of their specific role, and of these '*keeping abreast of current developments in learning technologies*' scored most highly.
- 1.3.17 All of the remaining nine were educational, developmental, interpersonal/communicative or strategic rather than technical activities. Case study participants (who did not include academic staff) confirmed these findings: all gave technical skills a lower priority than interpersonal and pedagogical skills in carrying out their current role, though this may in part be due to the ease with which they acquired new technical skills 'on the job'. Institutional managers also reported that technical skills were less important – or easier to recruit and develop – than an awareness of pedagogical issues and an ability to operate effectively within academic culture.
- 1.3.18 Other skills which were important for new specialists and established professionals included: management, project management, information management (especially online information skills), strategic organisational and networking skills and an ability to develop others. New specialists to a lesser extent also required 'traditional' academic skills in research, publication, course design and teaching.

Values and commitments

- 1.3.19 Learning technology specialists typically placed a high value on working in the academic community and were well qualified in academic terms. They were, however, aware that their skills could command higher salaries in other sectors. They were particularly concerned with the status of their roles and the academic legitimacy (or otherwise) of their work.
- 1.3.20 The values of learning technology staff emerged when they were asked about the benefits and risks of using C&IT in learning and teaching. These could be summarised as:
- A strong focus on quality student learning, often expressed as a personal commitment arising from their own experiences as learners
 - A positive orientation to change (excitement, challenge, adaptability)
 - Belief in collegiality and teamwork, though a sense that academic colleagues sometimes undervalued their contribution
 - Commitment to building networks and working across boundaries
 - Disapproval of cost-cutting and time-saving measures in higher education
- 1.3.21 The main advantages of working with learning technologies were seen as: the excitement of working in a new and changing field; intellectual challenge; helping students to learn more effectively; the rewards of working with academic staff; personal enjoyment.
- 1.3.22 The main disadvantages were seen as: lack of time and overwork; lack of personal security; lack of status and financial reward; a perceived lack of awareness and recognition from academic staff; lack of obvious career progression; the difficulty of keeping up with rapid development in several fields.

Professional development

- 1.3.23 Learning technology staff needed to undertake continuous professional development to remain competent in a rapidly changing area of expertise.

- 1.3.24 Formal development opportunities were often available for academic staff and established professionals: typically in-house workshops on learning technology use (for academics) and external conferences or briefings related to their 'established' profession (for managers, librarians, heads of computing services etc). Staff development events which integrated pedagogical with technical skills were available to academic staff at just under 60% of institutions audited, and a similar percentage incorporated learning technologies into their new lecturers' programme. Academic staff development for learning technology use was generally on the increase and in some places becoming formalised through accreditation.
- 1.3.25 'New specialists' on the other hand had few or no formal opportunities for professional development – most of them were delivering the opportunities described in 10.4.24 above. The most significant need expressed by these staff was for time set aside to undertake self-directed learning, particularly for the exploration of new technologies (both to find out '*how it works*' and to '*gain a vision of what it can achieve [in learning and teaching]*'). Existing expertise meant that these staff picked up technical skills extremely fast, through a process of just-in-time learning facilitated by consultation with colleagues.
- 1.3.26 'New specialists' placed a very high value on collaborative learning and the exchange of ideas and expertise with peers. In many respects they already constituted a research or professional community with inter-institutional networks and a strong sense of common values. Useful modes of peer learning included conferences, seminars, a '*think tank (well actually we meet down the pub and chuck some ideas around, but that has resulted in... putting in bids)*', peer discussion, skills-sharing sessions, email discussion lists, co-mentoring and collaborative problem solving in multi-role development teams.
- 1.3.27 New specialists were keen for time to undertake further academic study (e.g. a PhD or Masters in a learning technology related subject) and/or to pursue their own research. A lack of academic legitimacy was widely seen as a problem for individuals and for the learning technology profession as a whole.
- 1.3.28 Learning technology staff would also value further development in project management skills including financial planning, building collaborations across institutions, and writing bids for funding.
- 1.3.29 Professionalisation was generally regarded as a positive strategy, for example through the ILT, ALT, EFFECTS and other mutual recognition groups, but because of the tendency for individuals to move across 'leaky' professional boundaries such accreditation would need to be flexible and capable of being tailored to the individual.
- 1.3.30 Focus groups identified a need for development opportunities for teams as well as individuals.

Career development and progression

- 1.3.31 Two-thirds of learning technology specialist staff were found to be employed on permanent contracts; however, this figure may have been biased by the greater ease with which permanent staff were recognised and audited.
- 1.3.32 Established professionals (academics and academic managers) and 'learning support professionals' (especially technical support staff) were significantly more likely to be permanent than the 'new specialists'. However, the role of *educational developer* was significantly more likely to be permanent than other 'new specialist' roles.
- 1.3.33 Learning technology staff generally did not feel that there were career progression opportunities within their current institutions and professional contexts. They expected to progress either by changing institutions or moving sideways into a more managerial (or alternatively more mainstream academic) role.
- 1.3.34 Many managers recognised that the skills of learning technology staff were crucial to the achievement of institutional goals, but few felt that these skills were being deployed or developed in a strategic fashion.
- 1.3.35 Institutional managers saw recruitment and retention of learning technology staff as an area of current and growing concern. There was recognition by both managers and learning technologists that skills were being lost to other sectors faster than they were being replaced. However, there was no evidence that institutions had defined a management responsibility for the continuing professional or career development of their learning technology staff: it was widely felt that 'the nature of work in this area' was the cause of the problem.
- 1.3.36 Strategies for recognising teaching and learning excellence were largely in place but it was still rare for academic staff to receive promotion on teaching and learning criteria alone. The existing reward systems did not extend to non-teaching staff working in the area of learning technologies or learning and teaching development, and no alternatives were being considered by the institutions in this study.
- 1.3.37 Contracts and grading systems for learning technology posts were extremely varied, with little evidence of a systematic approach across or within institution and little apparent room for progression or mobility.
- 1.3.38 Teaching and learning managers in particular, but all institutional managers to some extent had concerns about keeping their own C&IT skills up to date.

1.4 Key findings relating to institutions

Coordinating learning technologies

- 1.4.1 Activities relating to learning technology development, support, embedding, management and use took place in multiple locations across institutions. In many ways this was seen as an inevitable consequence of the growing

technology-dependence of the HE learning environment. However, learning technology specialists felt that a lack of coordination sometimes made their job more difficult and led to duplication of effort or failure to effectively exploit good practice across the institution.

- 1.4.2 A high proportion of audited institution (91%) had in place initiatives to promote learning and teaching development, but only 29% had secure budgets devoted to it in the longer term and only 14% made learning and teaching record central to academic appointments and appraisals. This implies that learning and teaching development has yet to be well embedded into the resource planning cycle or the trajectory of academic careers, findings confirmed by focus groups.
- 1.4.3 In a similar vein, most institutions reported a strong mission focus on learning and teaching excellence and/or a central learning technologies initiative, but less than 10% that staff in departments were expected actively to contribute to the scholarship of teaching or that departments were making a concerted effort to integrate learning technologies into their programmes. Again there seems to be a problem coordinating central policy with local priorities and practices.

Promoting change

- 1.4.4 At the institutional level, our audit showed two distinct *development trajectories* for the embedding of learning technologies.
- A focus on factors associated with institutional *expertise* in the use of learning technologies: staff C&IT skills, student C&IT skills, electronic/multimedia resources and networks and collaborations.
 - A focus on factors associated with institutional *infrastructure* (C&IT management, C&IT infrastructure, learning technology support, learning technology funding and administrative systems) and institutional *strategy* (learning and teaching strategy and research and development).

Institutions which scored most highly on our audited factors had followed both trajectories in parallel, while the lowest scoring had failed to invest significantly in either.

- 1.4.5 A number of distinct *strategies for development* were also apparent, and some institutions had focused strongly on one or another. These strategies included:
- academic staff secondment**, with a focus on developing academic staff skills (and hence the academic curriculum) through short-term secondments to central units where they receive targeted support to develop their own interests and expertise. The success of this approach depends on these staff returning to their original departments where they act as resources and change agents for others.
 - coordination/brokerage**, with a specialist learning technologies team acting as brokers, facilitators and coordinators of local activities. The central team may act as gatekeepers to specific kinds of expertise and support but ideally also as 'knowledge managers', building networks to share information and expertise.
 - updating professional expertise**, with a focus on developing the skills of central services staff (e.g. staff development, computer services, learning and teaching development, library, media services, learning skills support). The relationship between central services and departments remains one of client service, but staff are able to offer new forms of service for a more technology-based learning environment.
 - supporting materials production**, with central unit(s) providing specialist materials development services (e.g. web-based, multimedia, audio-visual) to academic staff and departments as clients. Here the focus is usually on high production values. Products may be marketed externally to the institution.
 - small-scale projects**, with specific priorities identified for funding. Resources are either distributed across departments or made available for bidding to undertake specific learning and teaching development projects. These resources may include buy-out for academic secondment and/or the support of specialist learning technology staff.
 - cultural initiatives**, with an institution-wide focus on a specific new agenda (such as student centred learning, open and distance learning, the virtual campus). Overall mission, planning, budgeting and coordination tend to be under the aegis of a specific senior member of staff who is closely identified with the initiative and helps to secure the support of middle management.
 - infrastructure initiatives**, with a major investment in networking, software, hardware, buildings and/or facilities. To ensure effective use of the new facilities, there may be a concerted programme of staff development, targeted development funding and/or the employment of new support staff.

Note that all of these strategies depended on the existence of expert learning technologies staff, though the specific skills mix required of these staff varied.

- 1.4.6 Teaching and learning innovation still appeared to be focused at the project level with multi-role teams brought together for short-term collaboration on relatively local developments. This was seen by some managers as a useful model for working towards organisational change in areas other than learning technology. Concern was also expressed, however, at the apparent failure to 'mainstream' and 'scale up' project-based developments.
- 1.4.7 Focus groups concluded that completely different kinds of strategic and organisational development were required for 'mainstreaming' as were required for innovations development. This would depend on:
- learning technology specialists working at a strategic level across institutional boundaries
 - senior managers becoming much more aware of the issues involved

- (c) closing the loop of policy, planning and resource allocation
- (d) integration of technical, administrative and human systems, but
- (e) flexibility within systems for continuous innovation and change
- (f) central brokerage, knowledge management and *coordination without territoriality*
- (g) effective recognition and reward systems for all categories of staff

Specific examples of good practice

1.4.8 Institutions which were nationally recognised as centres of LT good practice and innovation had in common: good collaborative networks; targeted support for teaching staff to integrate LTs into their courses; department/service teams with their own local planning to meet strategic aims; specialist learning technology development teams within computing services; a requirement on programmes of study to address student C&IT skills; and a requirement on departments to demonstrate pedagogical research/scholarship of teaching.

1.4.9 Where departments were required to demonstrate pedagogical research/scholarship of teaching, this was most effectively supported by a specialist central research and development unit, as well as targeted support for individual staff looking to integrate learning technologies into their courses.

1.4.10 Routine use of LTs across all programmes of study was associated with LTs being incorporated into curriculum planning, e.g. module documentation, and with changes to QA processes to take into account programmes delivered wholly or partly through use of LTs.

Staff and student C&IT skills

1.4.11 Auditors at just 60% of institutions were confident that all or most academic staff had generic C&IT skills. Only three institutions had formal mechanisms for monitoring staff skills, and in two cases this was by survey (i.e. not on an individual basis). However, most institutions did provide opportunities for staff to acquire integrated technical and pedagogical skills for embedding learning technologies, and there was some evidence of moves towards formal recognition/accreditation of skills.

1.4.12 Less than 15% of the institutions in our study audited student C&IT skills on entry, and none offered continuing review and support on a central basis. Comments indicated that student skills were generally the responsibility of departments or programmes of study, but in only 20% of cases were departments or programmes required to actually record the skills that would be expected of students, or indicate how they would be supported.

1.4.13 There was a strong correlation between staff and student C&IT skills across all institutions.

General trends in learning technology development, support and use

1.4.14 Focus groups supported the hypothesis that there had been a shift of emphasis in the use of learning technology away from developing new computer-based materials towards supporting access to existing materials. A similar shift was observed away from developing specialist educational software towards supporting the use of generic software for learning and teaching, and the integration of managed learning environments.

1.4.15 There was a general preponderance of support over development roles and focus groups supported the hypothesis that this was a period of consolidation, embedding and institutional adaptation following an initial period of investment in technical development and cutting-edge applications.

1.4.16 The infrastructure priority at most institutions was the development of a managed learning environment, integrating learning and teaching applications with other systems such as libraries, student records, (HE)MIS, intranets etc. Only 24% already had some kind of managed learning environment in place.

1.4.17 In the current focus on individual access to networked resources, there was a consensus that too little account had been taken of actual learning spaces and the facilities available to support face-to-face group learning (e.g. data projectors, electronic whiteboards, videoconferencing facilities).

1.4.18 Only four institutions audited (19%) provided the full range of: technical support; support for teaching staff in embedding the use of learning technologies; support for students in accessing and using learning technologies; and support for the development of new materials or applications.

1.4.19 Human resource issues and cultural change were regarded as the crucial challenges currently facing UK HEIs, and not the adoption of appropriate technologies per se.

1.4.20 Learning technology staff saw the quality assurance of teaching as a genuine driver for change that had helped institutions to focus efforts on the improvement of student learning. Most auditors (86%) believed that money from their institution's TQE fund would be used to enhance learning technology development and support. Once again, however, in only a third of institutions were departments or service teams developing local plans to put the central strategy into practice.

1.5 Recommendations for further study (FS)

Recommendation FS1

Further study is needed to scope the specific needs of the different groups of staff identified in Section 4 of this study in relation to JISC services, and their specific roles in facilitating access to JISC services by other members of their institutions. This study should also consider the extent to which staff in departments are taking on learning technology support roles, to identify trends and to explore effective ways of offering JISC services to and via these staff.

Recommendation FS2

An in-depth study should be carried out at a small number of institutions which have pursued different strategies for embedding learning technologies. Ideally these should include at least one example of the seven strategies identified in (7.2.2):

1. academic staff secondment
2. coordination/brokerage
3. updating professional expertise
4. supporting materials production
5. small-scale projects
6. cultural initiatives
7. infrastructure initiatives

These could be used as the basis for case studies into effectiveness of different approaches in different institutional contexts.

Recommendation FS3

The institutional audit tools should be developed further for greater ease of use and to exclude any indicators which are not significant for predicting overall institutional performance. The beta version should be distributed to all UK HEIs with clear guidelines for use, allowing institutions to compare their own performance with that of other institutions, and to compare issues longitudinally from one year to the next. There would be value to the JISC in continuing to collate and analyse data, particularly from the 23 original audit institutions, and in extending the range of the study into the FE sector (with any necessary adjustment of the tools).

Recommendation FS4

A comprehensive survey should be undertaken of how staff C&IT skills are monitored, appraised, accredited and supported across UK HE, and probably across other categories of staff not included in this study (e.g. administrative, manual). This should include consideration of personnel arrangements, formal and informal development opportunities, funding for professional and academic study, national accreditation and standards frameworks, and national providers of relevant courses and materials. The research team notes that a similar call has already gone out (JISC 9/00).

Recommendation FS5

A similar survey should be undertaken of how student C&IT skills are audited on entry, monitored, accredited and supported throughout their course of study. The research team notes that a similar call has already gone out (JISC 9/00).

Recommendation FS6

There is a need for study into institutional strategies for scaling up learning technology use and curriculum innovation from the project to the institutional/departmental level, looking in particular at:

- Closing the loop between central policy initiatives and local planning/resource allocation
- Translating generic development goals into departmental/programme goals
- How and to what effect money from the TQEF has been used.

Obvious collaborators would include the ILT, GLTC, LTSNs and the National Coordination Team/Tavistock Institute evaluation team for TLTP3.

Recommendation FS7

The JISC should continue to play a pro-active role in promoting the review and analysis of research into the student experience of learning in a technology-rich environment, for example by collating findings from its own JTAP and JCALT funded projects and working collaboratively with the Tavistock Institute on the evaluation of the TLTP and FDTL programmes. Key issues for the present time centre on the use of VLEs, specifically how they have been selected, implemented, integrated and evaluated and what impact they have had on student learning.

Recommendation FS8

Further study into academic innovators should focus on their motivations for becoming involved with learning technologies, the implications this has for their own career progression, their contribution to the development of their colleagues, departments and institutions, their relationship with learning technology specialist staff and their professional development needs.

Recommendation FS9

Further study of learning technology staff should focus on their motivation, professional identity, personal and professional aims, and preferred modes of professional development so as to address the growing problem of recruitment and retention. It is understood that a SEDA small grant has already been provided to carry out a study in this area: a modest amount of further funding could secure some firm recommendations for the JISC.

Recommendation FS10

A further study should investigate the extent to which learning technology roles have developed as a result of external

funding opportunities (e.g. TLTP), and the impact which they have had on institutions. Specific issues might include their contribution to:

- Institutional 'knowledge management' and brokerage
- professional development of colleagues
- strategic planning
- foresight management and response to change
- effective project team working
- internal and external networks
- the exploitation of external opportunities

The aim of this study would be to develop clearer guidelines for future funding programmes as to how human resources arising from external funding can best be deployed in the longer term, and as to how the benefits of such outcomes can be included in impact evaluation of funding programmes.

Recommendation FS11

Further analysis of the findings from Scotland should be carried out in consultation with the SHEFC-funded ScotCIT network to ascertain whether the experience of Scottish HEIs is significantly different and to assess the value of replicating this experience – particularly the ScotCIT network itself – in the rest of the UK.

Recommendation FS12

The findings of the present study should be passed to HERA with a recommendation to carry out a more detailed role analysis of learning technology staff at representative HEIs (5.2.5).

1.6 Recommendations to the JISC (J)

Recommendation J1

The JISC should explore mechanisms for supporting the learning technology community to develop its collective expertise and for helping individuals to *'keep abreast of current developments'*, for example through:

- specialist bulletin boards
- regional and national conferences and workshops
- an online newsletter allowing dissemination of JTAP and JCALT project findings and reports of institutional activities
- mentoring and co-mentoring across institutions
- regional and national skills sharing networks

Recommendation J2

The JISC should draft a strong response, based on this report, to the HEFCE Consultation Document 00/56 on Rewarding and Developing staff in Higher Education. This response should focus in particular on points 9a, 9b, 9d and 9e, and should argue for clear guidelines to institutions on how learning technology staff and skills should be addressed in the writing of their human resource strategies. The JISC are also asked to use appropriate consultation opportunities to argue for a single salary spine for all staff working in UK HE, based on the findings of this study; also to argue for improved data recording methods for HE which recognise changing staff categories and roles.

Recommendation J3

The JISC should endeavour to identify and contact learning technology specialists working in institutional libraries, resources units, learning and teaching units and computing services departments as well as in specialist learning technology units. The JISC should then target its activities and services in a way which discriminates among these groups of staff, recognising that they have different needs, different relationships to the student learning process and different roles in bringing about institutional change. The JISC should also work with the LTSNs to identify subject-specific learning technology staff and develop a common approach to supporting them, which takes account of their subject specialism but allows them to share expertise with others in similar roles. These activities will need to be carefully integrated with the user needs analysis recommended in FS1.

Recommendation J4

The JISC should work with appropriate other bodies (e.g. SEDA, the EFFECTS project, UCoSDA, ILT, ALT, ScotCIT) to explore models of professional development for learning technology specialist staff which:

- are process based, experiential and contextual (e.g. action learning)
- engender a capacity to understand new technologies and apply them to learning and teaching, rather than insisting on a range of specific technical skills
- recognise the importance of interpersonal, communicative, pedagogical, managerial, information management, pedagogical and strategic skills in learning technology work
- promote a developmental focus and a concern for student learning
- allow room for reflection on the impact of learning technologies
- allow room for team as well as individual development
- are at an appropriate level to enhance the status and legitimacy of learning technology work
- provide flexible opportunities for individuals to develop and evidence their achievements

While it is not the JISC's role to offer accredited programmes, it is in a position to offer advice on the content and context of a framework within which programmes could be accredited and via the Learning Technologies portal to provide a forum for the national collation of resources to support such programmes.

Recommendation J5

The JISC should also work with other professional bodies e.g. ILT, the Libraries Association and UCISA to explore how appropriate learning technology expertise can be integrated into existing professional development pathways. Learning technology staff should be encouraged to seek ILT membership, which should be open to all categories of staff involved with learning and teaching on the principle of equal recognition for work of equal value.

Recommendation J6

The JISC is asked to continue its valuable work with the GLTC, ILT, SEDA and the LTSNs in developing networks and fora for the exchange of ideas and experiences among academic innovators, exploring in particular the possible role of the proposed Learning and Teaching portal and the Scottish NetCulture/ScotCIT projects.

Recommendation J7

The JISC is asked to work with the CVCP, UCISA, ALT and other relevant organisations to ensure that a range of development opportunities in strategic learning technology planning is available for institutional senior managers. This should draw on the recent training needs analysis by Management Connections Online, though recognising that the requirements of managers will not be limited to technical skills. Through its existing contacts and using the institutional auditors as model change agents, the JISC could offer:

- support for the It-auditors email discussion list to develop into a working group on institutional strategic change, including progressive institutional managers already known to the JISC;
- support for co-mentoring and co-consultancy across participating institutions;
- support for the further development and implementation of the institutional audit tool, and analysis of lessons learned across the sector;
- regular face to face seminars for sharing of best practice in organisational change;
- one-off conferences enabling senior managers and learning technology specialists to meet and develop consensual recommendations for organisational change

Recommendation J8

The JISC is encouraged to work with UCISA TLIG to identify examples of good practice in C&IT management, for example:

- where C&IT management is proactive in encouraging learning and teaching innovation
- where academic innovators are actively involved in decisions relating to infrastructure development
- where central and local decision making processes are mutually informed and accountable
- where multi-role project teams are managed in a flexible and effective way

The aims of this would be to develop good practice guidelines for UCISA members and for JISC ASSIST on effective management practices in this area.

Recommendation J9

The JISC should also investigate the impact of the SHEFC-funded ScotCIT network and if early indications are that this is a successful approach, they should make urgent representation to the other Funding Councils of the need for a nationwide network along similar lines. Meanwhile the JISC may have a role in providing overall coordination for a number of related networks including ScotCIT, the M1/M59 link, the South Coast Learning Technologies Network, the Welsh Universities staff development network, the EFFECTS professional development network and the Learning Technology Officers' forum of the ALT.

Recommendation J10

The JISC should continue its priority work of supporting institutional IT teams in the development and integration of managed learning environments, including wide dissemination of the outcomes of the CIS Focus projects and Managed Learning Environments workshop and ongoing JTAP projects.

Recommendation J11

The JISC and other funders of development projects are encouraged to require the development and progression of project staff to be explicitly addressed in future bids for funding.

Recommendation J12

The JISC should consider establishing a development fund, the terms of which encourage collaboration between learning technology researchers/developers and educational researcher/developers, given the evidence that these two forms of expertise are often located in different institutions and that a synergy between the two is necessary if learning technologies are to be used effectively for enhanced student learning.

Recommendation J13

The JISC are asked to consider funding or seeking funds for specific bursaries to allow individuals working with learning technologies to pursue further academic and professional studies. The JISC are also asked to add their voice to calls for recognition of subject-specific pedagogical research by RAE panels, specifically research involving the use of learning technologies.

1.7 Recommendations for Senior Managers (SM)

Relating to Learning Technology Staff (Personnel and Staff Development issues)

Recommendation SM1

The grading and job descriptions of learning technology staff should as far as possible recognise the wide range of skills required and the strategic significance of these roles for the future of the institution. Human Resource managers should work together to develop a consistent framework for job gradings, contracts, job descriptions and salary levels across the institution, and this should form a part of any human resource strategy (see HEFCE 00.56).

Recommendation SM2

Personnel managers and in particular middle managers responsible for recruitment of learning technology related staff are asked to use short-term contracts only where external funding makes this absolutely necessary. A long-term approach to human resource planning in this area accepts that projects, responsibilities and funding sources will change but that individuals require stability, security and development over time.

Recommendation SM3

Appropriate mechanisms should be explored for ensuring that learning technology staff have protected time for professional development, including self-directed and peer learning and opportunities to pursue academic study where appropriate. Other suitable arrangements might include

- mentoring by members of the educational/staff development team, academic innovators and/or change agents seasoned in the politics of the institution
- support for research and publications where appropriate
- support to join the ILT or other suitable professional body, and to build a portfolio of CPD evidence
- opportunities for collaborative work in multi-role 'learning teams'
- a role on institutional committees and working parties where appropriate
- support for external development opportunities, recognising that these will be effectively cascaded to other staff

Recommendation SM4

It would be wise to ensure that specific development opportunities were made available in:

- identifying and pursuing external funding
- project management and planning
- communication skills appropriate to an academic community
- current issues in learning and teaching

Some of these opportunities may be available locally, for example through learning and teaching certificate courses for academic staff. Other opportunities will need to be identified outside the institution.

Recommendation SM5

Managers are urged to consider credible incentives for staff moving into or remaining in learning technology roles, for example:

- access to similar reward and recognition processes as academic staff (e.g. based on learning and teaching innovation and outcomes)
- academic participation and the freedom to pursue research
- autonomy and ownership of development projects
- intellectual and creative fulfilment: a holistic approach to development rather than providing a 'service' at a particular point in the development cycle
- direct involvement with the learning and teaching process (intrinsic rewards of feedback from staff and students)
- scope for personal development and lifelong learning
- creative engagement with and exploration of new technologies

Recommendation SM6

Managers are urged also to minimise the disincentives for staff moving into or remaining in learning technology roles, for example

- overwork, lack of support and juggling of multiple tasks
- lack of job security and uncertainty of career progression
- constant organisational restructuring and change

Relating to institutional change

Recommendation SM7

Consider using the matrix developed in Section 5 to ensure that responsibility for learning technology-related activities is clearly defined and transparent to the staff involved, and that there are sufficient staff to carry out these tasks effectively. There should be recognition that the different roles require different skills and aptitudes, and different kinds of staff/professional development.

Recommendation SM7

Consider using the matrix developed in Section 7 of the institutional audit tool to ensure that human resource planning

for learning technologies is (a) *comprehensive*, covering all the stages of learning technology management, development, support and use (b) *embedded*, including staff with appropriate expertise and contacts in all departments and central services, and (c) *coordinated* (without necessarily being under a single management structure) to avoid confusion among potential users and unnecessary duplication of effort.

Recommendation SM8

Consider using the tool developed in Section 6 to analyse the institution's current performance on key factors relating to learning technologies, identify areas for priority attention, and map progress over time.

Recommendation SM9

Consider a range of strategies for recognising and rewarding staff involved in teaching innovation, including substantial changes to structures for appraisal, progression and promotion as well as smaller scale initiatives. These strategies should be available as widely as possible, including to staff not in traditional academic posts.

Recommendation SM10

Consider introducing into the appraisal system specific consideration of individual requirements for C&IT skills, and ensure that appropriate guidelines are available as to the skills which should be expected of different categories of staff. These should include both generic and role-specific skills in which use of C&IT is fully integrated into relevant professional activities. Also review the skills and support needed by students to gain functional access to learning technologies, and ensure that appropriate opportunities are available both from central services and in departments and programmes.

Recommendation SM11

The current priority for C&IT investment is integration of systems, especially of Managed or Virtual Learning Environments with student records, library systems, HEMIS and other networks. Most institutions are also moving towards campus-wide computer mediated communications and computer assisted assessment systems, and access to computer-based learning resources across subject areas.

Recommendation SM12

Institutions require dedicated staff to support learning technology development, embedding and use. Ideally support should be available in four areas:

- Technical support (hardware, software and networks)
- Support for staff embedding learning technologies into curricula
- Support for students accessing learning technologies (e.g. information literacy skills)
- Support for the development of applications, environments and resources
- (Institutions which scored highly on the audit of Key Factors also provided academic support for learning technology research and development)

Recommendation SM13

Multi-role, cross-disciplinary teams are effective at delivering change in learning and teaching practices. They should be judged according to their outcomes, rather than the ease with which they fit on the organisational chart. Institutional managers should review a range of opportunities for introducing this mode of working, including the possibility of shared, flexible and matrix management, and encourage the development of project management expertise among a wide range of staff.

Recommendation SM14

Managers should consider funding local (departmental) development projects on the principle of 'letting many flowers bloom', recognising that a relatively small level of funding can help to build a critical mass of innovators in departments. Learning technology specialists must be involved in decisions over how this funding is allocated, and there must be mechanisms for evaluation and dissemination of outcomes.

Recommendation SM15

A longer view should also be taken, however, when putting in place funding for learning technology development and associated human resources. Short-term initiatives will not attract committed staff with valuable skills. For academic staff, full-time secondments to learning technology teams for a period of at least a semester are extremely effective; for learning technology specialist staff it is important to look at long-term projects and sources of funding or posts which last beyond the lifetime of individual projects, with the possibility of progression built in.

Recommendation SM16

There is an urgent need for institutions to close the loop between central strategies on learning technologies and local action planning/resource allocation, with effective communication and accountability in both directions. Systems need to be integrated but in a way which allows maximum flexibility for individuals, departments and teams to translate strategies effectively into their own contexts. Loose accountability procedures focusing on outcomes rather than processes can support local good practice and innovation.

Recommendation SM17

Departments and faculties must be involved in and take ownership of the process of change. Encouraging a shared agenda without top-down intervention means promoting arrangements such as secondments, cross-department mentoring, information-sharing forums, internal publications and discussion lists, networks of departmental representatives, teaching fellowships, internal partnerships and collaborations.

Recommendation SM18

Institutions should put in place mechanisms for ensuring that the experience of learners, and of staff working directly to improve student learning, are taken into account in all decisions regarding technical infrastructure, central administrative systems, facilities and learning spaces.

Recommendation SM19

Staff and educational development are essential activities, particularly in times of external pressure and institutional change. Individuals and units responsible for these activities should be protected as far as possible to get on with their job at critical times such as restructuring.

Recommendation SM20

Senior managers themselves need regular updating on C&IT and on learning and teaching development, but this should focus on strategic issues and priorities rather than technical skills. In particular, teaching and learning managers need regular access to and communication with senior management teams if strategic and operational activities are to be knit together.

Recommendation SM21

Teaching and non-teaching staff must be integrated into all aspects of the learning and teaching mission of the institution, including access to reward systems, input to committees and working parties, and participation in key cultural events such as degree congregations.