



## **A Workshop Pack for Higher and Further Education**

*The ELTI Audit Notes*

**Funded by the JISC**

Developed by:  
**Institute for Learning and Research Technology  
University of Bristol**

February 2003

# **ELTI**

## **Embedding Learning Technologies Institutionally**

**A Workshop Pack for Higher and Further  
Education**

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**January 2003**

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## 1. Institutional Factors

|                              |   |
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| <b>About this audit tool</b> | <p>This audit tool allows you to describe your institution in respect of 12 factors which have been found to impact on effective embedding of learning technologies. The aim of the tool is to help you identify your institutional strengths and weaknesses, and formulate an action plan for balanced development.</p> <p><i>The following general resources – or their equivalent at your institution – are likely to be particularly useful in carrying out this section of the audit.</i></p> <ul style="list-style-type: none"><li>• (Draft) learning and teaching strategy</li><li>• Internal policy statements and reports relating to learning technologies</li><li>• List of institutional committees relating to learning and teaching, ICT and learning technologies</li><li>• Any recent policy initiatives, current drivers or agendas as identified by senior managers of the institution</li><li>• Minutes of recent committee meetings directly related to learning technologies</li><li>• Mission statement/remit of central services, units or teams which support learning and teaching, ICT or learning technologies</li><li>• Any internal learning and teaching publications (e.g. newsletter, web site)</li><li>• Any internal audits of learning technology use (staff, students)</li><li>• Latest annual report</li><li>• Senior management structure of your institution</li><li>• Staff telephone/email directory</li><li>• Contacts directory of the learning technologies/learning support unit (i.e. list of staff with a particular interest in LT/L&amp;T)</li></ul> |
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| <p><b>Using this audit tool</b></p> | <p>The factors you will be assessing are grouped into three sections: Culture, Infrastructure and Expertise. Each factor is assessed via a number of key indicators in the form of positive statements (which may be seen as indications of 'institutional good practice'). The factors and indicators were identified through the work of the TLTP3 EFFECTS and TLTP3 TALENT projects, extensive literature review and consultations with experts represented on the steering committee of the audit project.</p> <p>Please respond to each indicative statement as follows:</p> <p><b>Circle (1)</b> if the statement is not true.<br/> <b>Circle (2)</b> if the statement is not true but it is likely to become true (at least for parts of the institution) in the next 6 months to 1 year.<br/> <b>Circle (3)</b> if the statement is partly true (with significant qualification) or true in some parts of the institution.<br/> <b>Circle (4)</b> if the statement is largely true (with some qualification) or is true in most parts of the institution<br/> <b>Circle (5)</b> if the statement is true for the institution as a whole.</p> <p>You can add further details in the Details/Comment box at the end of each factor, for example if you feel your responses need explanation or qualification. These are complex issues and additional information will add value to the audit, particularly if you intend to carry it out again in future years. You can also identify additional indicators that would be significant, in relation to this factor, <i>at your institution</i>. For example, you may have identified in your planning phase that development of an integrated learning environment is taking place without appropriate planning for staff development. Within the 'staff ICT skills' factor, then, you might want to include as an indicator that 'all learning and teaching staff have undertaken staff development on writing materials for a VLE'.</p> <p>Every institution has its own learning and teaching issues to content with, and its own current agenda. You will have identified some of these in the planning process. There is space at the end of each section to record factors and indicators that are particularly important at your institution, which may not be covered (or not be covered specifically enough) in the audit as given. Remember that you do not need to record any factors or indicators that do not seem relevant to your institution. It is up to you to decide how to trade off comparability (i.e. filling in a common set of indicators that can be compared with other institutions) with specificity (i.e. tailoring the indicators to give a closer fit to your own institutional circumstances).</p> <p>The score for many of these indicators is likely to be '3' (true in parts) or '4' (mostly true). A focus group or survey methodology will allow you to unpick the detail behind this finding. For example, where is a particular statement true, and where is it not? Is a pattern discernible with some areas of the institution pushing ahead and others lagging behind? Do different service areas have different perceptions of the situation and are they working towards different outcomes as a result?</p> |
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| <p><b>Using the tool in a focus group</b></p> | <p>Begin with group introductions and perhaps some background on the current situation at your institution.</p> <p>Invite participants to form three groups to consider culture, infrastructure and expertise. Give each group the following tasks:</p> <ul style="list-style-type: none"> <li>• Aim for a consensus score for each key indicator. Where this is not possible, record the issues over which there is disagreement.</li> <li>• For scores of 3 or 4, try to give details of where this statement is true in the institution, and where it is not.</li> <li>• Write down any additional indicators you think are important at your institution and score them, as explained in the notes for each section.</li> <li>• Decide which indicators represent good practice at your institution (you may wish to use the previous scores given in the right-hand column for comparison, but remember that these were collected in 2000).</li> <li>• Decide which indicators represent areas that need to be changed/improved.</li> </ul> <p>Have each group report back on how well they think the institution is doing generally, which are the areas in which good progress has been made, and which are the priority areas for improvement.</p> <p>Arrive at a collective agreement about the priority areas for improvement. Finish by deciding exactly how these recommendations will be taken forward, e.g.</p> <ul style="list-style-type: none"> <li>▪ Celebrate areas of good practice with an event, series of lunchtime workshops, a web site or a publication</li> <li>▪ Make recommendations (to senior management or key institutional committees) for building on existing progress and improving other key areas</li> <li>▪ Outline how each unit/department represented at the focus group will take forward the recommendations</li> <li>▪ Discuss the value of carrying out the audit and how the focus group itself could further its objectives</li> </ul> <p>Ensure everyone feels responsible for contributing to these follow up activities. You will need to collate the audit scores and other findings of the day and circulate these to everyone who took part (as well as other stakeholders and decision makers who may not have attended) for comment. Plan any follow-up events quickly so that the momentum is not lost.</p> |
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|  |  |
|--|--|
| <p><b>Interpreting your scores</b></p> | <p>You can interpret scores <i>comparatively</i> or <i>developmentally</i> depending on your objectives in carrying out the audit. Different approaches may be of interest to different stakeholders.</p> <p><i>Comparative</i> analysis allows you to compare your own responses to the mean for UK HEIs as a whole (audit carried out June/July 2000). In these notes, the first column of figures shows the average score for each indicator, while the second shows the <i>percentage</i> of institutions agreeing or largely agreeing with the statement (i.e. scoring 4 or 5). For example, if you have reached a consensus score of 4 ('largely true') for indicator 1(a) ('There is a strong mission focus on L&amp;T excellence), you will find that this is about average (3.9), and indeed that over three quarters of institutions rated themselves a 4 or a 5 on this measure. Identify those indicators/factors on which your institution is performing particularly well and those on which it is performing badly. Note that because the process of scoring is not an exact science your comparisons are indicative only, and remember that the original institutions may have moved on since the data was collected.</p> <p>It may be more helpful to analyse your findings <i>developmentally</i> for your own institution. This is probably best done by factor. Because there was a strong positive correlation among all of the factors in the original audit, we concluded that success in embedding learning technologies requires attention to <i>all</i> of the factors. Therefore your aim should be to identify strengths and redress weaknesses across the board, paying particular attention to areas of underdevelopment and any indicators you have identified as being particularly important to your institution at this time.</p> <p>Taking each factor in turn, list those indicators which were found to be 'partly true': they may also be the factors which caused the most disagreement among your focus group, survey participants or auditors. These represent areas in which the focus should be on scaling up good practice that already exists across the whole institution. List also those indicators which were found to be not true, or only emergent. These represent areas in which the focus should be on initiating change: for example by funding development projects, identifying drivers and barriers to change, looking at examples from other institutions (e.g. via the institutional auditors list), analysing needs and undertaking new initiatives.</p> <p>You should now have a list of possible developmental actions under each factor. Prioritise actions within each factor, taking into account both the significance of your low score (i.e. the likely impact of not taking action) and the amount of effort which will need to be invested to improve it.</p> <p>In choosing your final priorities for action you may want to weigh up the relative importance of the different factors themselves, bearing in mind that you should aim to redress any institutional imbalance across the three areas of Culture, Infrastructure and Expertise. For example, if your institution scores reasonably well on infrastructure but has a poor level of staff and student skills, then these should take precedence in your action planning. You will also want to give particular attention to any institutionally-specific factors, as these are likely to be areas in which success is critical to the overall institutional mission. They may well also be areas in which additional resources can be found for action points arising from the audit process.</p> |
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## Culture

|   |   |     |     |      |
|---|---|-----|-----|------|
| <b>1. Profile of Learning and Teaching</b>  | <p><b>Resources:</b><br/>Your institution's L&amp;T strategy<br/>Related policy documents and communications with staff (e.g. awaydays, newsletters, inter/intranet sites)</p> <p><b>Contacts:</b><br/>Individual L&amp;T champions/change agents among academic staff<br/>Learning/academic/educational development unit (or equiv.)<br/>Individuals/groups responsible for developing and implementing L&amp;T strategy</p>   | (a) | 3.9 | 66.7 |
|   |   | (b) | 3.4 | 47.6 |
|   |   | (c) | 4.1 | 76.2 |
|   |   | (d) | 2.6 | 28.6 |
|   |   | (e) | 3.8 | 52.4 |
|   |   | (f) | 4.8 | 90.5 |
|   |   | (g) | n/a | n/a  |
|   |   | (h) | n/a | n/a  |
|   |   | (i) | 2.6 | 23.8 |
|   |   | (j) | n/a | n/a  |
| <b>2. Profile of Learning Technologies</b>  | <p><b>Resources:</b><br/>Any institutional (departmental/faculty) audits of ICT use, learning technology use or attitudes to learning technologies. An example questionnaire is included with this suite of tools which you are free to adapt or use at your own institution if you choose.<br/>Recent subject reviews or internal quality reviews</p> <p><b>Contacts:</b><br/>Individual LT users/champions among academic staff<br/>LT support/development unit (or equiv.)</p> | (a) | 3.9 | 61.9 |
|   |   | (b) | 2.6 | 9.5  |
|   |   | (c) | 3.0 | 38.1 |
|   |   | (d) | 2.7 | 23.8 |
|   |   | (e) | 2.2 | 23.8 |
|   |   | (f) | 4.4 | 81.0 |
|   |   | (g) | 4.4 | 85.7 |
|   |   | (h) | 3.6 | 61.9 |
|   |   | (i) | 3.2 | 33.3 |
| <b>3. Reward and recognition</b>  | <p><b>Resources:</b><br/>Documentation of any schemes to reward teaching innovation and excellence<br/>Any documentation on academic promotions and staff appraisal<br/>Your institution's learning and teaching strategy</p> <p><b>Contacts:</b><br/>Individual teaching fellows, L&amp;T champions among academic staff<br/>Personnel, L&amp;T/educational development unit</p>   | (a) | 2.6 | 14.3 |
|   |   | (b) | 3.1 | 33.3 |
|   |   | (c) | 3.1 | 38.1 |
|   |   | (d) | 4.1 | 71.4 |
|   |   | (e) | 4.0 | 66.7 |
|   |   | (f) | 2.9 | 14.3 |
|   |   | (g) | n/a | n/a  |
| <b>4. Research and development</b>  | <p><b>Resources:</b><br/>Details of any LT R&amp;D projects (externally/internally funded)<br/>Mission statement of any departments/units involved in LT R&amp;D<br/>Recent subject reviews involving LT department or unit (e.g. education)</p> <p><b>Contacts:</b><br/>Department/school of Education<br/>Educational development, relevant research centres, researchers</p>   | (a) | 3.2 | 47.6 |
|   |   | (b) | 3.5 | 52.4 |
|   |   | (c) | 2.7 | 23.8 |
|   |   | (d) | 3.3 | 38.1 |
|   |   | (e) | 3.9 | 57.1 |
|   |   | (f) | 2.3 | 9.5  |
| <p><b>When you have completed 1-4 please use the remaining boxes in this section to record any cultural indicators of particular relevance at your institution. Score the situation at your institution with respect to these indicators. Remember that notes and comments in this section will be particularly important to help you keep track of progress in future years.</b></p> |   |     |     |      |

## Infrastructure

|   |   |     |     |      |
|---|---|-----|-----|------|
| <b>5. ICT infrastructure</b>  | <p><b>Resources:</b><br/>List of software currently supported by Computer Services (or equiv.)<br/>List of facilities available in teaching rooms<br/>List of open access facilities available to students<br/>Recent and planned infrastructure developments (especially virtual and managed learning environments, student management systems, computer mediated communications, computer assisted assessment)<br/>Status of JANET connection and other networks (e.g. LAN, MAN, WAN)</p> <p><b>Contacts:</b><br/>Computing/Information Services (or equiv.)<br/>Member of ICT Policy Committee (or equiv.)<br/>Member of ICT User Group (or equiv.) especially any individual involved with L&amp;T innovation</p> <p>Note: This is one factor where you will almost certainly want to include your own indicators, as infrastructure developments vary widely from institution to institution, and from year to year.</p> | (a) | n/a | n/a  |
|   |   | (b) | 4.4 | 85.7 |
|   |   | (c) | 4.0 | 71.4 |
|   |   | (d) | 3.6 | 57.1 |
|   |   | (e) | 2.3 | 19.0 |
|   |   | (f) | n/a | n/a  |
|   |   | (g) | n/a | n/a  |
|   |   | (h) | 2.6 | 23.8 |
|   |   | (i) | 3.4 | 57.1 |
|   |   | (j) | n/a | n/a  |
|   |   | (k) | n/a | n/a  |
|   |   | (l) | n/a | n/a  |
| <b>6. LT support</b>  | <p><b>Resources:</b><br/>Mission and remit of any LT support units/teams<br/>Web site/intranet site concerning use of LTs<br/>Job description of any recently appointed LT staff<br/>Your institution's L&amp;T strategy</p> <p><b>Contacts:</b><br/>LT support units/teams<br/>Individual (academic) users of LT support services</p>  | (a) | 3.9 | 66.7 |
|   |   | (b) | 3.6 | 61.9 |
|   |   | (c) | 3.2 | 38.1 |
|   |   | (d) | 3.1 | 42.9 |
|   |   | (e) | 3.1 | 47.6 |
|   |   | (f) | 3.4 | 57.1 |
| <b>7. LT funding</b>  | <p><b>Resources:</b><br/>Calls to bid for funding/ secondment, and criteria for selection<br/>List of funded projects (1998-2001)<br/>List of staff seconded (1998-2001)</p> <p><b>Contact:</b><br/>LT support units/teams</p>  | (a) | 4.3 | 76.2 |
|   |   | (b) | 3.3 | 52.4 |
|   |   | (c) | 3.2 | 52.4 |
|   |   | (d) | 3.6 | 52.4 |
|   |   | (e) | 3.2 | 47.6 |
| <b>8. Administrative infrastructure</b>   | <p><b>Resources:</b><br/>Internal quality review documents<br/>Procedures for course validation and review<br/>Current management information systems</p> <p><b>Contacts:</b><br/>Members of academic staff who have been involved in L&amp;T innovation,</p>   | (a) | 2.8 | 33.3 |
|   |   | (b) | 2.9 | 28.6 |
|   |   | (c) | n/a | n/a  |
|   |   | (d) | n/a | n/a  |
|   |   | (e) | 2.2 | 14.3 |
| <p><b>When you have completed 5-8 please use the remaining boxes in this section to record any infrastructure indicators of particular relevance at your institution. Score the situation at your institution with respect to these indicators. Remember that notes and comments in this section will be particularly important to help you keep track of progress in future years.</b></p> |   |     |     |      |

## Expertise

|  |   |     |     |      |
|--|---|-----|-----|------|
| <b>9. Staff ICT skills</b>             | <p>(Note that this factor is principally concerned with the skills of academic teaching staff)</p> <p><b>Resources:</b><br/>Staff development programme (including courses from computing services or equivalent)<br/>Handbook or course schedule from SEDA/ILT accredited programme</p> <p><b>Contacts:</b><br/>Individual (academic) members of staff e.g. ICT users group<br/>Staff development (or equiv.)<br/>Educational development (or equiv.)<br/>Member of Staff Development Policy Committee (or equiv.)</p> | (a) | 3.6 | 61.9 |
|  |   | (b) | n/a | n/a  |
|  |   | (c) | 2.0 | 14.3 |
|  |   | (d) | 3.6 | 57.1 |
|  |   | (e) | 3.7 | 57.1 |
|  |   | (f) | 3.7 | 57.1 |
|  |   | (g) | 4.0 | 61.9 |
|  |   | (h) | 3.0 | 33.3 |
|  |   | (i) | 2.2 | 19.0 |
| <b>10. Student ICT skills</b>          | <p><b>Resources:</b><br/>Statement on student IT skills (may be part of general statement on Key Graduate Attributes and Skills)<br/>Content of generic hand-outs, handbooks, web sites, workshops aimed at supporting student skills</p> <p><b>Contacts:</b><br/>Students involved with using LTs as part of their programme of study<br/>Learning support (or equiv.), IT training/support</p>  | (a) | 2.5 | 14.3 |
|  |   | (b) | 2.8 | 33.3 |
|  |   | (c) | 2.0 | 0.0  |
|  |   | (d) | 3.1 | 42.9 |
|  |   | (e) | 2.2 | 19.0 |
|  |   | (f) | 1.3 | 0.0  |
| <b>11. Digital learning resources</b>  | <p><b>Resources:</b><br/>Remit of units/teams supporting the development of learning resources<br/>List of current resource development projects<br/>Institution/library policy on digital/AV resources<br/>Hand-outs to students on access to digital/AV learning resources</p> <p><b>Contacts:</b><br/>Learning development (or equiv.), Library, Media services (or equiv.)</p>  | (a) | 3.9 | 71.4 |
|  |   | (b) | 3.1 | 38.1 |
|  |   | (c) | 3.3 | 47.6 |
|  |   | (d) | 3.4 | 47.6 |
|  |   | (e) | 2.9 | 38.1 |
|  |   | (f) | 1.7 | 4.8  |
| <b>12. Networks and collaborations</b> | <p><b>Resources:</b><br/>Institutional LT dissemination activities (e.g. web site, newsletter, email lists, seminars)<br/>Mission statement of any department/unit involved in LT<br/>Details of any L&amp;T networks (e.g. departmental L&amp;T coordinators, faculty reps, teaching fellows, QAA teams)<br/>Marketing output (web site, brochures etc)</p> <p><b>Contacts:</b><br/>External development/business development unit (or equiv.), project workers, as for 4 above</p>                                    | (a) | 2.6 | 42.9 |
|  |   | (b) | 2.2 | 57.1 |
|  |   | (c) | 3.1 | 38.1 |
|  |   | (d) | 2.7 | 42.9 |
|  |   | (e) | 2.5 | 42.9 |
|  |   | (f) | 3.4 | 38.1 |
|  |   | (g) | 1.6 | 85.7 |
|  |   | (h) | 3.3 | 23.8 |
|  |   | (i) | 3.0 | 28.6 |
|  | <p><b>When you have completed 9-12 please use the remaining boxes in this section to record any additional indicators of particular relevance to LT training/skills/expertise at your institution. Score the situation at your institution with respect to these indicators. Remember that notes and comments in this section will be particularly important to help you keep track of progress in future years.</b></p>  |     |     |      |

## 2. Roles

|                              |  |
|------------------------------|--|
| <b>About this audit tool</b> | <p>This audit tool is designed to help you describe the people at your institution involved in the development, use and support of learning technologies. It will also help you to identify key roles and activities, which may be missing from your institutional profile. It will be particularly useful to:</p> <ul style="list-style-type: none"><li>▪ LT units considering who are the key actors around the institution</li><li>▪ department and faculty LT representatives looking to map local activities</li><li>▪ project or team managers interested in analysing the roles of individual members of staff.</li></ul> <p><i>The following general resources will be useful</i></p> <p>Internal phone and email directories<br/>Diagram of central service teams/units<br/>Remit and mission statement of central service teams/units<br/>L&amp;T strategy<br/>Job descriptions of staff involved in LT development, support and use</p> |
|------------------------------|--|

## Using this audit tool

The first of the figures below (Figure 2.1) shows how *aspects of learning technology use* (learning and teaching activities, learning environment or tools, and learning resources or content) can be mapped against *role types* (coordination/management, development, implementation and support). This gives a number of distinct roles (Figure 2.2) which need to be carried out if learning technologies are to be effectively coordinated, developed, implemented and supported. Our study found that distinct roles did indeed exist, and these are named in the figure.

The third figure (Figure 2.3) lists those *activities* found to be most commonly associated with each role, along with some typical job titles. This is included to give you an idea of what we mean by each of the roles in Figure 2.2.

Note that each role can therefore be thought of as a particular *cluster of activity*. The different clusters of activity may or may not reflect actual job titles or divisions of labour at your institution. For example, there may be nobody at your institution called a 'learning technologist' or 'learning technology officer' but the relevant activities may be carried out very successfully by a range of people with other titles. Alternatively one person or group of people may carry out a number of these different roles. The tool does not indicate how activities ought to be divided up, but is designed to make sure that there is coverage of all these activities.

The tool may be used in at least two different ways

### 1. At your desk

This is appropriate for mapping 'who does what' in learning technologies across a department, faculty or project. The exercise needs to be carried out by someone familiar with the context and everyone who works in it.

Identify everyone with a responsibility for learning technologies. Some of them will be named individuals, or individual job titles, while others may be grouped (e.g. 'all learning and teaching staff'; 'the technical support team'). Fit these into the matrix where they seem to go. You can draw more lines on the matrix to give smaller areas of responsibility, or you can make large boxes of the smaller boxes to indicate where one person or group of people has multiple responsibilities. You can use the activity list (Figure 2.2) as a guide to how the given roles map on to actual job titles and responsibilities, remembering that they may be called something different at your institution. Alternatively, you can simply use the matrix to map the activities which are important in your own department, faculty or project.

### 2. With input from the staff involved

This approach is more appropriate for a faculty or whole institution, where you will want to be more systematic and to involve stakeholders in the process. It is also indicated in a project or unit team where you want to consult with staff about their respective roles.

Again, identify the individuals and groups who are responsible for learning technology coordination, development, implementation and support. Where you have groups of people, e.g. library staff, identify a single individual to 'represent' this group in your consultation. Identify a named individual or representative individual in each category. Ask these staff to indicate which areas they feel their own role covers (e.g. pedagogy-support, technology-coordination). You could also ask them to write down what activities they undertake within the areas they have identified, or (in the case of a team or unit role analysis) how much time they apportion to each area.

Use the returned matrices to build up your overall map. Remember to share this with your participants.

Hint: the 'implementation' role is likely to cause particular problems whichever approach you take. Use this column to list specific roles which are open to academic innovators at your institution e.g. secondees, teaching fellows, LT representatives in departments. Also list specific individuals who are known to be implementing LTs effectively – this will be useful when it comes to thinking about skills and development requirements. If possible, try to ensure your representative list covers all the faculties/schools/main subject areas in your institution.

|   |  |
|---|--|
| <p><b>Using this audit tool (cont.)</b></p> | <p>Again, identify the individuals and groups who are responsible for learning technology coordination, development, implementation and support. Where you have groups of people, e.g. library staff, identify a single individual to 'represent' this group in your consultation. Identify a named individual or representative individual in each category. Ask these staff to indicate which areas they feel their own role covers (e.g. pedagogy-support, technology-coordination). You could also ask them to write down what activities they undertake within the areas they have identified, or (in the case of a team or unit role analysis) how much time they apportion to each area.</p> <p>Use the returned matrices to build up your overall map. Remember to share this with your participants.</p> <p>Hint: the 'implementation' role is likely to cause particular problems whichever approach you take. Use this column to list specific roles which are open to academic innovators at your institution e.g. secondees, teaching fellows, LT representatives in departments. Also list specific individuals who are known to be implementing LTs effectively – this will be useful when it comes to thinking about skills and development requirements. If possible, try to ensure your representative list covers all the faculties/schools/main subject areas in your institution.</p> |
|---|--|

**Figure 2.1 Aspects of learning technology use**

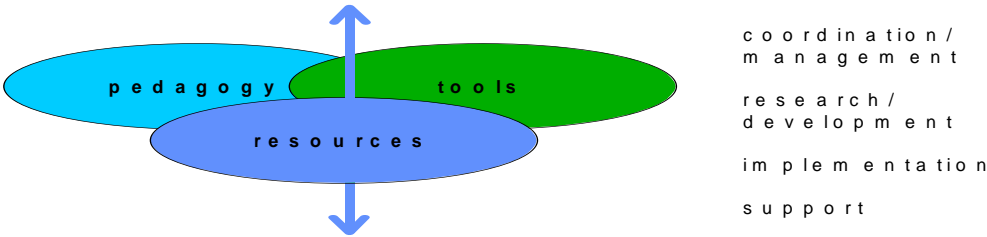


Figure 2.2 Role types

|   | Co-ordination/ Management  | Research/ Development | Implementation                     | Support   |   |
|---|--|-----------------------|------------------------------------|---|---|
| <b>Pedagogy</b><br>(= learning activities, L&T practice, learning skills) | Manager (teams)<br>(e.g. academic HoDs, heads of L&T teams, senior management L&T) | Manager (projects)    | Educational researcher             | Academic<br>(= planning, delivering, supporting and assessing student learning in modules/courses/ programmes, mediated by the use of learning tools & resources) | Learning skills professional<br>ICT skills professional |
| <b>Learning tools</b><br>(= technical infrastructure)                     | Manager (teams)<br>(e.g. heads of computing, IS, MIS, learning facilities)         |                       | Technical developer/<br>researcher |   | Technical support professional                          |
| <b>Learning resources</b><br>(= digital and other content)                | Manager (teams)<br>(e.g. heads of library, AV and media, learning resources)       |                       | Resource developer                 |   | Librarian/resources professional                        |
| Educational developer   |  |                       |                                    |   |   |
| Learning technologist (general)   |  |                       |                                    |   |   |

**Figure 2.3 Roles and activities**

| Role   | Typical job titles  | Typical activities   |
|--|---|--|
| <b>ALL (activities common across LT roles)</b> |   | <ul style="list-style-type: none"> <li>▪ Actively seek to keep abreast of developments in LTs</li> <li>▪ Work effectively in multi-role project teams to achieve specific objectives</li> <li>▪ Work with other units/departments in the institution having related interests &amp; objectives</li> <li>▪ Work with other institutions &amp; organisations having related interests &amp; objectives</li> <li>▪ Act as consultant, mentor, advisor or change agent for other staff</li> <li>▪ Advise &amp; assist with introduction of new technology into L&amp;T programmes</li> <li>▪ Increase colleagues' awareness of best practice in LTs</li> <li>▪ Facilitate exchange of ideas &amp; experience in technology-based L&amp;T</li> <li>▪ Identify needs &amp; opportunities for development/ deployment of LTs</li> <li>▪ Contribute to the development of LT policies &amp; procedures as appropriate</li> <li>▪ Use ICT/LT competently &amp; appropriately to support own professional practice</li> <li>▪ Undertake continuing personal &amp; professional development in LTs</li> </ul> |
| <b>Manager (teams)</b>                         | Head of...<br>Director of...<br>Manager<br><br>Head of Department | Specific activities depend on nature of team e.g. library, computing, educational development, academic department, whole institution etc. <ul style="list-style-type: none"> <li>▪ Form local strategy/policy related to L&amp;T, ICT development, LTs</li> <li>▪ Secure funding for LT related developments</li> <li>▪ Co-ordinate LT related meetings/ working groups in department/ team/institution</li> <li>▪ Liaise &amp; collaborate with other units in the institution having related interests &amp; objectives</li> <li>▪ Identify &amp; overcome barriers to development/use of LTs</li> <li>▪ Identify opportunities for development/ deployment of LTs</li> <li>▪ Establish procedures/protocols for evaluating the impact of strategies/policies</li> </ul>  |
| <b>Manager (projects)</b>                      | Project manager<br>Project director                               | Specific activities depend on nature of project e.g. technical development, curriculum development, staff development, institutional change. <ul style="list-style-type: none"> <li>▪ Manage resources for LT projects</li> <li>▪ Manage teams of LT researchers &amp; developers</li> <li>▪ Manage project work plans, schedules and costings</li> <li>▪ Secure funding</li> </ul>  |

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|   |   | <ul style="list-style-type: none"> <li>▪ Co-ordinate meetings and activities</li> <li>▪ Identify &amp; overcome barriers to project objectives</li> <li>▪ Identify opportunities for the project</li> <li>▪ Establish procedures/protocols for evaluating the impact of the project</li> <li>▪ Work with other organisations &amp; institutions to further project objectives</li> <li>▪ Work with LT organisations external to the project/institution (e.g. ALT, SEDA, TLTP, FDTL, UCISA)</li> </ul>  |
| <b>Educational researcher</b>               | <p>Researcher (RF, RA etc)<br/>Lecturer (etc) in<br/>Education/ Educational<br/>Technology/Open and<br/>Distance Learning (etc)</p> | <p>This role is not intended to include all educational researchers e.g. schools-based, but those whose area of research is related to LT or L&amp;T in HE</p> <ul style="list-style-type: none"> <li>▪ Undertake original research related to LT development &amp; use</li> <li>▪ Contribute to learning-technology related journals, books &amp; web sites</li> <li>▪ Contribute to exchange of ideas &amp; experience in technology-based L&amp;T (institutionally, nationally &amp; internationally)</li> <li>▪ Collate &amp; disseminate LT-related knowledge &amp; expertise (institutionally, nationally &amp; internationally)</li> <li>▪ Evaluate the outcomes of integrating LTs into the curriculum</li> <li>▪ Work as member of LT research/development project team</li> </ul> |
| <b>Technical developer/<br/>researcher</b>  | <p>Web developer<br/>Database developer<br/>LT developer<br/>Learning technologist<br/>Researcher (RF, RA etc)</p>                  | <ul style="list-style-type: none"> <li>▪ Design/develop technology-based learning environments</li> <li>▪ Design/develop technology-based applications for use in L&amp;T</li> <li>▪ Evaluate technology-based learning environments &amp; applications for use in L&amp;T</li> <li>▪ Contribute to learning-technology related journals, books &amp; web sites</li> <li>▪ Contribute to exchange of ideas &amp; experience in technology-based L&amp;T (institutionally, nationally &amp; internationally)</li> <li>▪ Work as member of LT research/development project team</li> </ul>  |
| <b>Resource/materials<br/>developer</b>     | <p>Web developer<br/>Web/MM designer<br/>LT developer<br/>AV producer<br/>Production assistant</p>                                  | <ul style="list-style-type: none"> <li>▪ Design/develop technology-based learning materials</li> <li>▪ Adapt &amp; customise technology-based learning materials to meet particular course needs</li> <li>▪ Adapt/develop content for technology-based learning materials or environments</li> <li>▪ Adapt existing programmes &amp; modules to incorporate use of LTs</li> <li>▪ Work as member of LT development/support team</li> </ul>  |
| <b>Academic (learning and<br/>teaching)</b> | <p>Lecturer, senior lecturer<br/>(etc)<br/>Teaching fellow<br/>(Other specific roles e.g.<br/>LT coordinator for</p>                | <ul style="list-style-type: none"> <li>▪ Review good practice in LT use and adapt to own L&amp;T context</li> <li>▪ Analyse existing programmes &amp; modules wrt LT use</li> <li>▪ Adapt &amp; update learning programmes to incorporate effective use of LTs</li> <li>▪ Develop new modules, courses, activities and materials based around effective use of LTs</li> </ul>   |

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|  | department/faculty)  | <ul style="list-style-type: none"> <li>▪ Provide content for technology-based learning materials or learning environments</li> <li>▪ Deliver, support &amp; assess student learning by means of LTs</li> <li>▪ Evaluate learning outcomes for students</li> <li>▪ Work as member of research/development team</li> </ul>   |
| <b>Learning technologist (general)</b> | LT officer<br>LT/web development officer<br>LT/web support officer<br>LT adviser | <ul style="list-style-type: none"> <li>▪ Support staff in adapting their practice to incorporate LTs (e.g. through consultation, mentoring)</li> <li>▪ Advise &amp; assist with introduction of new technology into L&amp;T programmes</li> <li>▪ Facilitate access to LT expertise &amp; services</li> <li>▪ Increase awareness of best practice (e.g. through workshops, publications, web pages, discussion lists)</li> <li>▪ Facilitate exchange of ideas &amp; experience in technology-based L&amp;T</li> <li>▪ Evaluate the outcomes of integrating LTs into the curriculum</li> <li>▪ Identify needs &amp; opportunities for development/ deployment of LTs</li> <li>▪ Actively promote collaboration (within &amp; beyond institution)</li> <li>▪ Contribute to integrated support strategy for LTs</li> <li>▪ Work as member of LT development/support team</li> </ul> |
| <b>Educational developer</b>           | Development officer<br>Educational/academic developer<br>L&T development adviser | <ul style="list-style-type: none"> <li>▪ Support staff in adapting their practice to incorporate LTs (e.g. through consultation, mentoring)</li> <li>▪ Increase awareness of best practice (e.g. through workshops, publications, web pages, discussion lists)</li> <li>▪ Facilitate exchange of ideas &amp; experience in technology-based L&amp;T</li> <li>▪ Evaluate the outcomes of integrating LTs into the curriculum</li> <li>▪ Identify needs &amp; opportunities for development/ deployment of LTs</li> <li>▪ Actively promote collaboration (within &amp; beyond institution)</li> <li>▪ Work as member of LT development/support team</li> </ul>   |
| <b>ICT skills professional</b>         | IT training officer<br>IT support officer<br>Student adviser<br>Helpdesk adviser | <ul style="list-style-type: none"> <li>▪ Assist &amp; support students in developing general ICT skills</li> <li>▪ Assist &amp; support students in developing ICT skills for a specific subject area or learning activity</li> <li>▪ Assist &amp; support staff in developing general ICT skills</li> <li>▪ Assist &amp; support staff in developing skills in the use of a specific LT</li> <li>▪ Develop students' 'new literacy' skills (e.g. online information retrieval &amp; evaluation)</li> <li>▪ Develop staff 'new literacy' skills (e.g. online information retrieval and evaluation)</li> </ul>  |

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| <b>Learning skills professional</b>      | Learning skills adviser<br>Learning development officer<br>Student adviser | <ul style="list-style-type: none"> <li>▪ Develop students' 'new literacy' skills (e.g. online information retrieval &amp; evaluation)</li> <li>▪ Facilitate &amp; support student access to LT expertise, services &amp; resources</li> <li>▪ Facilitate &amp; support student access to electronic resources</li> <li>▪ Work as member of learning support team</li> </ul>   |
| <b>Librarian/ resources professional</b> | Librarian<br>Electronic librarian<br>Learning resources adviser            | <ul style="list-style-type: none"> <li>▪ Facilitate &amp; support student access to electronic resources</li> <li>▪ Support, update &amp; maintain electronic learning materials</li> <li>▪ Facilitate student access to LT expertise &amp; services</li> <li>▪ Develop students' 'new literacy skills' e.g. online information retrieval &amp; evaluation)</li> <li>▪ Work as member of learning support team</li> </ul> |
| <b>Technical support professional</b>    | IT professional<br>Network professional<br>Helpdesk adviser                | <ul style="list-style-type: none"> <li>▪ Provide technical support for hardware &amp; networks used in L&amp;T</li> <li>▪ Provide technical support for software &amp; systems used in L&amp;T</li> </ul>   |

## Interpreting the matrix

In your finished matrix map there will probably be some roles which are only partially fulfilled, i.e. where *some* of the activities listed are carried out by a named individual or team, but others are not. This is particularly likely to be the case where roles are in development or transition. Highlight these individuals or teams, as they indicate activities which are not being fully or effectively carried out, or where there are no clear areas of responsibility (roles are in transition). You may want to work with these staff and their line managers to assess how their roles can to develop, particularly in relation to any key institutional agendas (see Audit Tool One). Audit Tool Three, mapping skills, will also be helpful here.

There may also be some areas of the grid which you have to leave blank. These areas indicate essential tasks in the learning technology cycle which are probably not being carried out at your institution. In these cases you should look at roles adjacent to the problem area and consider whether there are opportunities for those individuals and teams to develop, perhaps by taking on new responsibilities or changing the focus of their current job. If this is not practicable you may have to make a case for a new post or posts to be created.

Look also for joined boxes where a wide range of responsibilities seem to fall on a single individual, and for 'overcrowded' boxes where responsibility seems to be spread among a very large number of individuals, particularly if they are not well co-ordinated with one another. What can be done to coordinate *activities* more effectively with *roles*?

It may be helpful to consider how the different activities, roles and people represented in your map are actually integrated in practice. How do the 'coordinators' relate to the rest of the individuals and groups identified? Audit Tool 4 will help you explore this issue in more detail.

You might also use this tool to map areas of central and local responsibility for learning technology work.

Transpose your list of individuals and teams onto the matrix in the following activity to map activities, skills and development opportunities at your institution.

### 3. Skills

|                              |  |
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| <b>About this audit tool</b> | <p>This audit tool is designed to help you map the learning technology skills required by people in different roles. It can be used to develop job descriptions for new or existing posts, or as a training needs analysis for individuals and roles. It can also act as a general needs analysis for learning technology skills at the institution.</p> <p><i>The following general resources will be useful</i></p> <p>Outcomes of the Mapping Learning Technology Roles exercise</p> <p>List of courses available from staff development<br/>Handbook/description of professional development courses available from educational/L&amp;T development<br/>List of courses available from computing services<br/>Institutional policy on mentoring<br/>Details of any secondments/funding available to support LT development</p> |
|------------------------------|--|

## Using this audit tool

Like all the other audit tools this one will give a more accurate picture if relevant stakeholders are involved. In this case, however, because you are auditing individuals, their roles and the skills they need to carry out their jobs, it is *essential* that you give them the opportunity to speak for themselves. Otherwise they will understandably feel that they are being judged and monitored rather than being helped to identify their needs.

We suggest that you invite each individual/team identified in the last exercise to take part. Send a letter or email outlining the reason for the survey (i.e. you are aware that roles are changing and want to find out what kinds of support is available to staff). Tell participants what will happen with the findings of the survey, e.g. that you will be reporting to a certain committee of the institution. Offer to send them a copy of your data analysis or final report, and reassure them that their contributions will remain completely confidential – and make sure you keep both promises! You can deliver this survey by paper, email or face to face in a focus group situation.

Ask each individual to describe their own:

1. Activities relating to learning technologies (a) that they undertake now on a regular basis and (b) that they expect to undertake in the future (e.g. one to three years)
2. Skills required to carry out those activities
3. Any personal/professional development undertaken to acquire or develop those skills

You may want to leave the answers completely open-ended or use the following headings as prompts:

1. Managing people, managing projects, technical development, educational development, resource development, using technologies for learning and teaching, supporting staff, supporting students, supporting hardware and software, managing resources, other
2. Interpersonal/communication skills, management/project management skills, technical skills, information management skills, learning and teaching skills, research skills, other
3. Professional short courses & workshops, secondment & mentoring, professional qualification, academic qualification, sharing expertise with colleagues, self-study/resource based learning, other

Using prompts will help you formalise the data and can broaden the range of issues which participants consider when making their responses, but it does tend to eliminate 'surprise' responses that might help you think about the issues in a different way.

Again, you will probably find that academic staff present a sampling problem. You should try to select from as wide a range of subject areas as possible, as well as including staff who have been in the profession for different lengths of time. Survey tools specifically for auditing staff use of and skills in learning technologies are available from the ELT web site.

Write the names of the individuals and teams identified in the previous exercise into the left-hand column of the blank matrix. Use the last few boxes to add any individuals and teams whose role could not conveniently be accommodated within one of the given categories. Fill in the returns for each role. For the sake of completeness you may want to add in skills which are implied by the 'activities' box but are not explicitly mentioned in the 'skills' box for each participant, but make sure your additions are clearly differentiated from your participant data.

When you have finished filling in the activities and skills for the particular roles, return to the 'ALL roles' section and fill in those activities and skills which are most urgently needed at your institution if it is to make most effective use of learning technologies. You can use your outcomes from the Institutional Factors audit to help you here, or if you are conducting the survey by focus group you could ask all the participants to contribute to this section. Use your resources to identify any available development opportunities at your institution.

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|--|---|
| <p><b>Interpreting your matrix</b></p> | <p>The completed matrix (below) provides a list of activities, skills and development opportunities for each role. The lists were developed from a pilot survey and in-depth interviews with individuals carrying out these roles at a number of HE institutions. It is suggested that you compare these lists with the returns from your survey of stakeholders in order to identify any glaring omissions, particularly in the 'activities' and 'skills' columns. You should note, however, that the given lists do not offer a definitive account of the requirements of any particular job at any particular institution and are for general guidance only.</p> <p>A more useful comparison can be made between the skills participants need to carry out their jobs and the development opportunities which are open to them. In this case interpretation is relatively straightforward: gaps between skills and development opportunities need to be filled if staff are to be happy in their roles and if learners are to be effectively supported. Note that in the fast-changing field of learning technologies not all the necessary development opportunities can be offered at a single institution. A further JCALT funded study (JISC 99/0) will develop a roadmap of national training and accreditation provision for staff working with new technologies in HE and FE. For now the following contacts may be helpful:</p> <p>Netskills (<a href="http://www.netskills.ac.uk">www.netskills.ac.uk</a>) for online workshops on all aspects of using digital networks to support learning and teaching</p> <p>EFFECTS (<a href="http://sh.plym.ac.uk/eds/effects">sh.plym.ac.uk/eds/effects</a>) for programmes supporting academic staff to embed learning technologies into the curriculum</p> <p>TALISMAN (<a href="http://www.talisman.hw.ac.uk/">http://www.talisman.hw.ac.uk/</a>) for details of staff training needs analysis and current provision in the Scottish HE sector</p> <p>SCAITS (<a href="http://www.uea.ac.uk/csed/scaits/">http://www.uea.ac.uk/csed/scaits/</a>) for latest information on staff ICT skills across HE, not limited to academic and academic related staff</p> <p>JCALT (<a href="http://www.jisc.ac.uk/jcalt/">www.jisc.ac.uk/jcalt/</a>) for the latest details on funded projects</p> <p>ALT resources (<a href="http://www.warwick.ac.uk/ETS/resource/">http://www.warwick.ac.uk/ETS/resource/</a>) from the University of Warwick include links to a range of online materials to support staff embedding LTs</p> |
|--|---|

| Role   | Typical activities   | Skills needed   | Modes of development   |
|--|--|---|--|
| <b>ALL (activities and skills common across roles)</b> | <ul style="list-style-type: none"> <li>▪ Actively seek to keep abreast of developments in LTs<sup>1</sup></li> <li>▪ Work effectively in multi-role project teams to achieve specific objectives</li> <li>▪ Work with other units/departments in the institution having related interests &amp; objectives</li> <li>▪ Work with other institutions &amp; organisations having related interests &amp; objectives</li> <li>▪ Act as consultant, mentor, advisor or change agent for other staff</li> <li>▪ Advise &amp; assist with introduction of new technology into L&amp;T programmes</li> <li>▪ Increase colleagues' awareness of best practice in LTs</li> <li>▪ Facilitate exchange of ideas &amp; experience in technology-based L&amp;T</li> <li>▪ Identify needs &amp; opportunities for development/ deployment of LTs</li> <li>▪ Contribute to the development of LT policies &amp; procedures as appropriate</li> <li>▪ Use ICT/LT competently &amp; appropriately to support own professional practice</li> <li>▪ Undertake continuing personal &amp; professional development in LTs</li> </ul> | <ul style="list-style-type: none"> <li>▪ Interpersonal/communication skills: <i>including: communicating effectively with wide range of audiences &amp; through wide range of media; 'new age' communication skills (email, conferencing); identifying needs, networking, teamworking, promoting change</i></li> <li>▪ Management/project management skills: <i>including strategic awareness and ability to identify &amp; exploit opportunities, bidding for resources, co-ordination effort, working to deadlines,, fostering collaboration</i></li> <li>▪ Technical skills: <i>constant updating of skills, vision of pedagogical uses for new technologies</i></li> <li>▪ Information management skills: <i>brokerage, 'finding, evaluating, organising' information (esp. electronically), making and managing contacts</i></li> <li>▪ Pedagogical (L&amp;T) skills: <i>self-directed/lifelong learning skills, metacognitive awareness, ability to develop others' skills</i></li> <li>▪ Research skills: <i>often includes evaluation skills and ability to contribute to R&amp;D projects</i></li> </ul> | <ul style="list-style-type: none"> <li>▪ Academic study<sup>2</sup></li> <li>▪ Professional qualifications<sup>3</sup></li> <li>▪ Workshops/ short courses<sup>4</sup></li> <li>▪ Sharing expertise<sup>5</sup></li> <li>▪ Resource based learning<sup>6</sup></li> <li>▪ Secondment/ mentoring<sup>7</sup></li> </ul> |
| <b>Management/co-ordination</b>                        |  |   |  |
| <b>Manager (teams)</b>                                 | <p>Specific activities depends on nature of team e.g. library, computing, educational development, academic department, whole institution etc.</p> <ul style="list-style-type: none"> <li>▪ Form local strategy/policy related to L&amp;T, ICT development, LTs</li> <li>▪ Secure funding for LT related developments</li> <li>▪ Co-ordinate LT related meetings/ working groups in</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Interpersonal/communication skills: <i>negotiation, persuasion, mentoring, supporting, leading, enabling, inspiring, reporting, recommending</i></li> <li>▪ Management/project management skills: <i>devising &amp; maintaining work plans, setting priorities, establishing procedures, developing strategies, securing resources, co-ordination, working within given structures/constraints</i></li> <li>▪ Technical skills:</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Professional courses, workshops &amp; updates</li> <li>▪ Sharing expertise</li> <li>▪ Secondment/ mentoring</li> <li>▪ Professional/</li> </ul>   |

|                               |   |   |   |
|-------------------------------|---|---|---|
|                               | <p>department/ team/institution</p> <ul style="list-style-type: none"> <li>Liase &amp; collaborate with other units in the institution having related interests &amp; objectives</li> <li>Identify &amp; overcome barriers to development/use of LTs</li> <li>Identify opportunities for development/ deployment of LTs</li> <li>Establish procedures/protocols for evaluating the impact of strategies/policies</li> </ul>   | <p><i>overview of opportunities, risks &amp; implications of new technologies</i></p> <ul style="list-style-type: none"> <li>Information management skills: <i>brokerage, 'finding, evaluating, organising' information (esp. electronically), making &amp; managing contacts</i></li> <li>Pedagogical (L&amp;T) skills: <i>mentoring, developing staff, awareness of current best practice</i></li> <li>Research skills<br/><i>Institutional research, evaluation, needs analysis</i></li> </ul>   | <p>academic qualification</p> <ul style="list-style-type: none"> <li>RBL e.g. journals, newsletters</li> <li>Academic qualification e.g. Masters, PGCert</li> </ul>   |
| <b>Manager (projects)</b>     | <p>Specific activities depends on nature of project e.g. technical development, curriculum development, staff development, institutional change...</p> <ul style="list-style-type: none"> <li>Manage resources for LT projects</li> <li>Manage teams of LT researchers &amp; developers</li> <li>Manage project work plans, schedules and costings</li> <li>Secure funding</li> <li>Co-ordinate meetings and activities</li> <li>Identify &amp; overcome barriers to project objectives</li> <li>Identify opportunities for the project</li> <li>Establish procedures/protocols for evaluating the impact of the project</li> <li>Work with other organisations &amp; institutions to further project objectives</li> <li>Work with LT organisations external to the project/institution (e.g. ALT, SEDA, TLTP, FDTL, UCISA)</li> </ul> | <ul style="list-style-type: none"> <li>Interpersonal/communication skills: <i>negotiation, persuasion, mentoring, supporting, leading, enabling, inspiring, reporting, recommending, building bridges</i></li> <li>Management/project management skills: <i>devising &amp; maintaining work plans, establishing procedures, overcoming barriers, identifying opportunities, managing resources, bidding, co-ordination, networking, commercial awareness, working across given structures/constraints</i></li> <li>Technical skills: <i>overview of opportunities, risks &amp; implications of new technologies</i></li> <li>Information management skills: <i>brokerage, 'finding, evaluating, organising' information (esp. electronically), making &amp; managing contacts</i></li> <li>Pedagogical (L&amp;T) skills: <i>mentoring, developing staff, awareness of current best practice in L&amp;T</i></li> <li>Research skills: <i>awareness of research methodologies (if managing research projects); cost-benefit analysis; evaluation</i></li> </ul> | <ul style="list-style-type: none"> <li>Sharing expertise e.g. Jiscmail lists</li> <li>Professional courses, workshops &amp; updates</li> <li>Professional qualification e.g. EFFECTS, SEDA</li> <li>RBL e.g. journals, web sites, newsletters</li> <li>Academic qualification e.g. Masters, PGCert</li> </ul> |
| <b>Research/development</b>   |   |   |   |
| <b>Educational researcher</b> | <ul style="list-style-type: none"> <li>Undertake original research related to LT development &amp; use</li> <li>Contribute to learning-technology related journals, books &amp; web sites</li> <li>Contribute to exchange of ideas &amp; experience in technology-based L&amp;T (institutionally, nationally &amp; internationally)</li> </ul>  | <ul style="list-style-type: none"> <li>Interpersonal/communication skills: <i>general communication skills, listening, questioning/interviewing, identifying needs, presenting, teamworking</i></li> <li>Management/project management skills: <i>dissemination, evaluation, bidding for resources</i></li> <li>Technical skills: <i>online research skills, computer-based data analysis, general awareness of current technologies for L&amp;T, specific expertise in</i></li> </ul>  | <ul style="list-style-type: none"> <li>Academic study e.g. Masters, PhD</li> <li>Support for research skills</li> <li>Sharing expertise with other researchers</li> </ul>   |

|                                       |  |   |  |
|---------------------------------------|--|---|--|
|                                       | <ul style="list-style-type: none"> <li>▪ Collate &amp; disseminate LT-related knowledge &amp; expertise (institutionally, nationally &amp; internationally)</li> <li>▪ Evaluate the outcomes of integrating LTs into the curriculum</li> <li>▪ Work as member of LT research/development project team</li> </ul>   | <p><i>technologies under investigation</i></p> <ul style="list-style-type: none"> <li>▪ Information management skills:<br/><i>'researching, collating, evaluating, synthesising, analysing and presenting' information</i></li> <li>▪ Pedagogical (L&amp;T) skills:<br/><i>?awareness of current best practice</i></li> <li>▪ Research skills:<br/><i>research design, development &amp; implementation, data collection, data analysis, review, evaluation, reporting</i></li> </ul>   | <p>(conferences etc)</p> <ul style="list-style-type: none"> <li>▪ Sharing expertise with practitioners</li> <li>▪ RBL, especially 'research' focused</li> <li>▪ Short courses e.g.</li> </ul>  |
| <b>Technical developer/researcher</b> | <ul style="list-style-type: none"> <li>▪ Design/develop technology-based learning environments</li> <li>▪ Design/develop technology-based applications for use in L&amp;T</li> <li>▪ Evaluate technology-based learning environments &amp; applications for use in L&amp;T</li> <li>▪ Contribute to learning-technology related journals, books &amp; web sites</li> <li>▪ Contribute to exchange of ideas &amp; experience in technology-based L&amp;T (institutionally, nationally &amp; internationally)</li> <li>▪ Work as member of LT research/development project team</li> </ul> | <ul style="list-style-type: none"> <li>▪ Interpersonal/communication skills:<br/><i>general communication skills, communicating to non-technical audience, user-led design, teamworking</i></li> <li>▪ Management/project management skills:<br/><i>evaluation, bidding for resources, exploiting opportunities</i></li> <li>▪ Technical skills:<br/><i>constant updating of skills; technical development process: prototyping, piloting, technical testing, usability testing etc specific skills may include: electronic publishing, multimedia authoring, database development, programming, modelling...</i></li> <li>▪ Information management skills:<br/><i>collating, evaluating, synthesising, analysing</i></li> <li>▪ Pedagogical (L&amp;T) skills:<br/><i>?educational/instructional design</i></li> <li>▪ Research skills:<br/><i>data collection, data analysis, review, evaluation, reporting</i></li> </ul> | <ul style="list-style-type: none"> <li>▪ Professional courses and updates</li> <li>▪ Academic study e.g. Masters, PhD</li> <li>▪ Sharing expertise with other researchers/developers &amp; with practitioners</li> <li>▪ RBL especially 'time to play'.</li> <li>▪ Commercial short courses/demos</li> </ul> |
| <b>Resource/materials developer</b>   | <ul style="list-style-type: none"> <li>▪ Design/develop technology-based learning materials</li> <li>▪ Adapt &amp; customise technology-based learning materials to meet particular course needs</li> <li>▪ Adapt/develop content for technology-based learning materials or environments</li> <li>▪ Adapt existing programmes &amp; modules to incorporate use of LTs</li> <li>▪ Work as member of LT development/support team</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Interpersonal/communication skills:<br/><i>general communication skills, liaising, identifying needs, user-led design</i></li> <li>▪ Management/project management skills:<br/><i>team-working, working to deadlines, commercial awareness</i></li> <li>▪ Technical skills:<br/><i>specific skills may include: multimedia authoring, graphic/mm design, web authoring, editing, AV production...</i></li> <li>▪ Information management skills:<br/><i>information design</i></li> <li>▪ Pedagogical (L&amp;T) skills:<br/><i>educational/instructional design, subject-specific expertise</i></li> </ul>  | <ul style="list-style-type: none"> <li>▪ Professional courses and updates</li> <li>▪ Academic study e.g. Masters</li> <li>▪ Sharing expertise with peers, technical developers, academics</li> <li>▪ RBL, especially 'time to play'</li> <li>▪ Commercial short</li> </ul>                                   |

|   |   |   | courses/demos  |
|---|---|---|--|
| <b>Implementation</b>                   |   |   |  |
| <b>Academic (learning and teaching)</b> | <ul style="list-style-type: none"> <li>▪ Review good practice in LT use and adapt to own L&amp;T context</li> <li>▪ Analyse existing programmes &amp; modules wrt LT use</li> <li>▪ Adapt &amp; update learning programmes to incorporate effective use of LTs</li> <li>▪ Develop new modules, courses, activities and materials based around effective use of LTs</li> <li>▪ Provide content for technology-based learning materials or learning environments</li> <li>▪ Deliver, support &amp; assess student learning by means of LTs</li> <li>▪ Evaluate learning outcomes for students</li> <li>▪ Work as member of research/development team</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Interpersonal/communication skills: <i>teamworking, supporting colleagues, acting as advocate &amp; change agent</i></li> <li>▪ Management/project management skills: <i>identifying opportunities, overcoming barriers to change</i></li> <li>▪ Technical skills: <i>overview of available technologies and their potential for L&amp;T</i></li> <li>▪ Information management skills: <i>'finding, evaluating, organising' information (esp. subject-specific information), review &amp; analysis of LTs</i></li> <li>▪ Pedagogical (L&amp;T) skills: <i>curriculum development, 'delivering, supporting &amp; assessing' student learning, use of specific technologies, good practice/appropriate use of LTs, ?educational/instructional design</i></li> <li>▪ Research skills: <i>Action research, evaluation, reporting &amp; dissemination</i></li> </ul>  | <ul style="list-style-type: none"> <li>▪ Professional workshops &amp; updates</li> <li>▪ Secondment &amp; mentoring</li> <li>▪ Professional qualification e.g. EFFECTS, ILT</li> <li>▪ Academic qualification e.g. Masters, PGCert</li> <li>▪ Sharing expertise</li> <li>▪ Short courses e.g. NetSkills</li> <li>▪ RBL especially journals, newsletters</li> </ul> |
| <b>Learning technologist (general)</b>  | <ul style="list-style-type: none"> <li>▪ Support staff in adapting their practice to incorporate LTs (e.g. through consultation, mentoring)</li> <li>▪ Advise &amp; assist with introduction of new technology into L&amp;T programmes</li> <li>▪ Facilitate access to LT expertise &amp; services</li> <li>▪ Increase awareness of best practice (e.g. through workshops, publications, web pages, discussion lists)</li> <li>▪ Facilitate exchange of ideas &amp; experience in technology-based L&amp;T</li> <li>▪ Evaluate the outcomes of integrating LTs into the curriculum</li> <li>▪ Identify needs &amp; opportunities for development/deployment of LTs</li> <li>▪ Actively promote collaboration (within &amp; beyond institution)</li> </ul> | <ul style="list-style-type: none"> <li>▪ Interpersonal/communication skills: <i>facilitation, negotiation, listening, supporting, identifying needs, networking, building bridges, teamworking</i></li> <li>▪ Management/project management skills: <i>promoting change, strategic awareness, evaluation, coordination, fostering collaboration, bidding, exploiting external opportunities</i></li> <li>▪ Technical skills: <i>constant updating of skills, expertise in specific LTs, vision of pedagogical uses for new technologies</i></li> <li>▪ Information management skills: <i>brokerage, 'finding, evaluating, organising' information (esp. electronically), making &amp; managing contacts, review &amp; dissemination of LT-related information</i></li> <li>▪ Pedagogical (L&amp;T) skills: <i>staff/educational development skills, ?training skills</i></li> <li>▪ Research skills: <i>evaluation skills ,participation in R&amp;D projects</i></li> </ul> | <ul style="list-style-type: none"> <li>▪ Sharing expertise with peers, researchers and academics</li> <li>▪ Professional qualification e.g. FSEDA, ILT</li> <li>▪ Academic study e.g. Masters</li> <li>▪ RBL, especially web sites and journals, keeping up to date</li> <li>▪ Workshops e.g. ALT</li> </ul>   |

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|                                | <ul style="list-style-type: none"> <li>Contribute to integrated support strategy for LTs</li> <li>Work as member of LT development/support team</li> </ul>   |   |  |
| <b>Educational developer</b>   | <ul style="list-style-type: none"> <li>Support staff in adapting their practice to incorporate LTs (e.g. through consultation, mentoring)</li> <li>Increase awareness of best practice (e.g. through workshops, publications, web pages, discussion lists)</li> <li>Facilitate exchange of ideas &amp; experience in technology-based L&amp;T</li> <li>Evaluate the outcomes of integrating LTs into the curriculum</li> <li>Identify needs &amp; opportunities for development/ deployment of LTs</li> <li>Actively promote collaboration (within &amp; beyond institution)</li> <li>Work as member of LT development/support team</li> </ul> | <ul style="list-style-type: none"> <li>Interpersonal/communication skills: <i>facilitation, negotiation, supporting, identifying needs, networking, building bridges, teamworking</i></li> <li>Management/project management skills: <i>promoting change, strategic awareness, bidding, dissemination, evaluation, co-ordination, fostering collaboration, exploiting external opportunities</i></li> <li>Technical skills: <i>constant updating of skills, vision of pedagogical uses for new technologies</i></li> <li>Information management skills: <i>brokerage, 'finding, evaluating, organising' information (esp. electronically), making &amp; managing contacts</i></li> <li>Pedagogical (L&amp;T) skills: <i>staff development, curriculum development, awareness of current best practice, ?teaching CPD/ postgraduate learners</i></li> <li>Research skills: <i>evaluation skills participation in R&amp;D projects</i></li> </ul> | <ul style="list-style-type: none"> <li>Professional qualification e.g. FSEDA, ILT</li> <li>Academic study e.g. Masters</li> <li>Sharing expertise with ed developers, researchers and academics</li> <li>RBL, especially web sites and journals, keeping up to date</li> <li>Workshops e.g. NetSkills, ALT, SEDA, HESDA</li> </ul> |
| <b>Support</b>                 |  |   |  |
| <b>ICT skills professional</b> | <ul style="list-style-type: none"> <li>Assist &amp; support students in developing general ICT skills</li> <li>Assist &amp; support students in developing ICT skills for a specific subject area or learning activity</li> <li>Assist &amp; support staff in developing general ICT skills</li> <li>Assist &amp; support staff in developing skills in the use of a specific LT</li> <li>Develop students' 'new literacy' skills (e.g. online information retrieval &amp; evaluation)</li> <li>Develop staff 'new literacy' skills (e.g. online information retrieval and evaluation)</li> </ul>  | <ul style="list-style-type: none"> <li>Interpersonal/communication skills: <i>general communication skills, listening, identifying needs, empathy, 'customer care' approach, ability to communicate with non-technical audience</i></li> <li>Technical skills: <i>constant updating of skills; specific skills will include expertise in a wide range of generic &amp; specific software &amp; hardware applications</i></li> <li>Information management skills: <i>collating &amp; presenting information</i></li> <li>Pedagogical (L&amp;T) skills: <i>providing training &amp; writing training materials, staff development skills, awareness of specific pedagogical uses of ICT</i></li> </ul>  | <ul style="list-style-type: none"> <li>Professional courses &amp; updates</li> <li>Professional qualification e.g.</li> <li>Academic qualification e.g. Masters, PGCert</li> <li>Sharing expertise, especially online</li> <li>RBL, especially manuals, web sites</li> </ul>   |

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|--|---|---|---|
| <b>Learning skills professional</b>      | <ul style="list-style-type: none"> <li>▪ Develop students' 'new literacy' skills (e.g. online information retrieval &amp; evaluation)</li> <li>▪ Facilitate &amp; support student access to LT expertise, services &amp; resources</li> <li>▪ Facilitate &amp; support student access to electronic resources</li> <li>▪ Work as member of learning support team</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Interpersonal/communication skills: <i>general communication skills, listening, identifying needs, empathy, 'customer care' approach</i></li> <li>▪ Technical skills: <i>updating of skills, high degree of online information literacy</i></li> <li>▪ Information management skills: <i>'finding, evaluating, organising' information (esp. electronically), collating and presenting information</i></li> <li>▪ Pedagogical (L&amp;T) skills: <i>counselling, skills development, 'new literacy' development, curriculum development, working with special needs, awareness of specific pedagogical uses of ICT</i></li> </ul>     | <ul style="list-style-type: none"> <li>▪ Professional courses &amp; updates</li> <li>▪ Sharing expertise</li> <li>▪ RBL</li> <li>▪ Academic qualification e.g. Masters</li> </ul>   |
| <b>Librarian/ resources professional</b> | <ul style="list-style-type: none"> <li>▪ Facilitate &amp; support student access to electronic resources</li> <li>▪ Support, update &amp; maintain electronic learning materials</li> <li>▪ Facilitate student access to LT expertise &amp; services</li> <li>▪ Develop students' 'new literacy skills' e.g. online information retrieval &amp; evaluation)</li> <li>▪ Work as member of learning support team</li> </ul> | <ul style="list-style-type: none"> <li>▪ Interpersonal/communication skills: <i>general communication skills, listening, identifying needs, empathy, 'customer care' approach</i></li> <li>▪ Technical skills: <i>updating, maintaining &amp; managing electronic resources; maintaining &amp; using bibliographic databases; web searching</i></li> <li>▪ Information management skills: <i>expertise in information discovery &amp; evaluation, resource management, metadata</i></li> <li>▪ Pedagogical (L&amp;T) skills: <i>cascading skills to others, providing training &amp; writing training materials, awareness of specific pedagogical uses of ICT</i></li> </ul> | <ul style="list-style-type: none"> <li>▪ Professional courses , updates &amp; demonstrations</li> <li>▪ Professional qualification e.g.</li> <li>▪ Academic qualification e.g. Masters</li> <li>▪ Sharing expertise</li> <li>▪ RBL</li> </ul> |
| <b>Technical support professional</b>    | <ul style="list-style-type: none"> <li>▪ Provide technical support for hardware &amp; networks used in L&amp;T</li> <li>▪ Provide technical support for software &amp; systems used in L&amp;T</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Interpersonal/communication skills: <i>general communication skills, listening, identifying needs, empathy, 'customer care' approach</i></li> <li>▪ Technical skills: <i>constant updating of skills; specific skills will include expertise in a wide range of generic &amp; specific software &amp; hardware applications</i></li> <li>▪ Information management skills: <i>rapidly absorbing complex technical information, problem solving &amp; analysis</i></li> <li>▪ Pedagogical (L&amp;T) skills: <i>cascading skills to others</i></li> </ul>   | <ul style="list-style-type: none"> <li>▪ Professional courses &amp; updates</li> <li>▪ Professional qualification e.g.</li> <li>▪ Sharing expertise</li> <li>▪ RBL especially manuals, training packs, web sites</li> </ul>                   |

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<sup>1</sup> Additional abbreviations used: ALT = Association for Learning Technologies; ILT = Institute for Learning and Teaching (in HE); PGCert = Postgraduate Certificate in Learning and Teaching; SEDA = Staff and Educational Development Association

<sup>2</sup> Academic study in LT related subjects includes a wide range of Masters and postgraduate certificate courses: see for example

<sup>3</sup> Depending on the specific role: more details given below

<sup>4</sup> A majority of LT specialist staff are responsible for delivering workshops and short courses in learning-technology related issues to other staff at their internal or external development opportunities if they are to enhance their own expertise. Value is added to any development they undertake, as the skills will quickly be shared.

<sup>5</sup> Learning technology related staff identified both formal and informal opportunities for sharing expertise and learning from their peers. The formal included conferences, demonstrations, poster sessions, web-boards. Among these, conferences were found to be particularly valuable. The informal included 'asking a colleague for help', skills-sharing sessions, email discussion lists, co-mentoring, collaborative problem solving in multi-role development teams. As many LT roles involve working in isolation, often finding new solutions for each new context, time for peer discussion and collaborative problem-solving is at a premium.

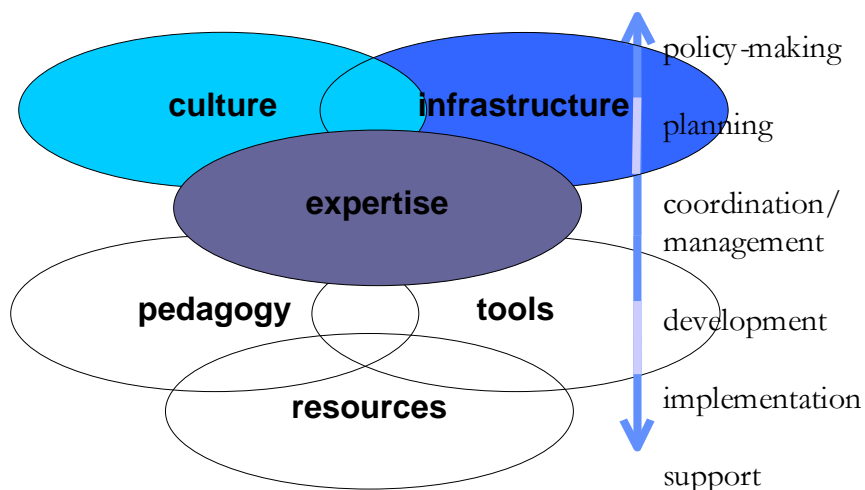
<sup>6</sup> Resources used by LT related staff for self-directed learning included: web sites (commercial and academic), web-boards, books, journal articles, guides, etc. The most significant resource, and the scarcest, was reported to be 'time to play with the technology' and to become familiar with its specific affordances for learning.

<sup>7</sup> Secondments are particularly suitable for established professionals such as academics, librarians and managers. There is evidence that a focused period of secondment, particularly on a project, is particularly effective in developing awareness and expertise among these categories of staff. Mentoring is likely to have benefits across all roles. In respect to LTs it can be beneficial to find a special mentor for this aspect of their work.



## 4. Policy and Planning

|                                     |   |
|-------------------------------------|---|
| <p><b>About this audit tool</b></p> | <p>This audit tool is designed to help you map the planning and decision making structures which impact on the use of learning technologies at your institution. It can be used to identify gaps in the decision making process, tackle bottlenecks and conflicts of interest, or (looking from the 'bottom up') to target key individuals and committees. Unlike other tools, this allows you to represent the 'top-down' view of learning technologies as represented in your institution's management and committee structures and written policy statements.</p> <p><i>The following general resources will be useful</i><br/> List of institutional committees<br/> List of institutional working groups and projects concerned with learning and teaching, ICT, and learning technology<br/> Responses to the 'co-ordination/management' section of the Mapping Roles tool (note that these can be reproduced at the right hand end of this audit tool).<br/> Responses to the 'Institutional Factors' audit tool<br/> <i>Contact:</i> anyone who knows the ins and outs of senior management at your institution</p>   |
| <p><b>Using this audit tool</b></p> | <p>This matrix maps aspects of the learning technology environment (culture, infrastructure and expertise) against different levels of management responsibility. The completed matrix (below) suggests some of the decisions which might be involved in each area. In the empty matrix, write the names of the individuals, committees or institutional processes responsible for those decisions. If you feel there are no clear lines of responsibility for any one area then leave it blank. The matrix represents a model structure for learning technology decision making, so it is likely that in real institutions some of these strategic activities will not take place or that the given structure will not correspond with the real divisions of responsibility among individuals or committees.</p> <p>The decision-making, planning and coordinating activities are related to the key institutional factors audited in the first tool, and we suggest you look at these first if you have not already done so. You can use the large cells corresponding to 'culture', 'infrastructure' and 'expertise' where these seem to describe the divisions of responsibility at your institution, or you can use the smaller cells provided by the individual factors (given by dotted lines), or both. Again, regroup where necessary.</p> <p>Because learning technologies often cut across given institutional structures, these 'high level' activities may not be carried out at a very 'high level' of institutional hierarchy. Filling in the audit can be a revealing activity for a senior management awayday, for a learning technology workshop, or (better still) for both. Compare and contrast!</p> |



|   | <b>Policy and vision</b>  | <b>Planning and resourcing</b>  | <b>Managing and coordinating</b>  |
|---|---|---|---|
| <b>a) Culture: learning and teaching practices</b>                            | <p><i>Developing mission statements, policies and strategies which support learning and teaching innovation</i></p> <p><i>Raising the profile and championing the cause of learning and teaching</i></p> <p><i>Setting broad priorities and objectives in relation to learning technology research, development, embedding and use.</i></p> | <p><i>Local (e.g. department, service team) planning and resource allocation to meet broad priorities and objectives</i></p> <p><i>Designing QA and appraisal procedures which support learning and teaching innovation</i></p> | <p><i>Managing human resources (coordinating departments and teams) to fulfil development plans</i></p> <p><i>Implementing QA, appraisal and monitoring procedures to support learning and teaching</i></p> <p><i>Acting as change agent, facilitator, bridge builder.</i></p>  |
| <b>(b) Infrastructure: physical, technical and organisational environment</b> | <p><i>Ensuring the institutional infrastructure supports the effective use of learning technologies and responds to new learning and teaching needs</i></p> <p><i>Ensuring appropriate funding structures are in place</i></p> <p><i>Establishing flexible administrative systems to encourage innovation</i></p>                           | <p><i>Allocating resources to support appropriate infrastructure development</i></p> <p><i>Designing feedback/ monitoring systems to ensure institutional infrastructure supports the needs of learners</i></p>                 | <p><i>Managing physical and technical resources of the institution (to support effective use of learning technologies)</i></p> <p><i>Applying QA/audit procedures (to ensure infrastructure supports student learning with technologies)</i></p> <p><i>Ensuring coordination among different administrative systems</i></p> |
| <b>(c) Expertise: information, knowledge and networks</b>                     | <p><i>Promoting educational, technical and strategic research and development</i></p> <p><i>Supporting a culture in which learning technology expertise is developed, shared and operationalised</i></p>  | <p><i>Seeking funding to support R&amp;D</i></p> <p><i>Building internal and external networks</i></p> <p><i>Designing feedback systems for staff development and organisational learning</i></p>                               | <p><i>Managing the information resources of the institution</i></p> <p><i>Auditing the needs of the institution with respect to learning technology skills</i></p> <p><i>Providing a gateway to relevant information and expertise</i></p> <p><i>Coordinating research and development projects</i></p>                     |

|                                |  |
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| <b>Interpreting the matrix</b> | <p>The main purpose of the matrix is to help you clarify existing decision making structures at your institution. There are no 'right' answers here, though you may want to pay attention to the following:</p> <p>Gaps in coverage – Particularly between the 'policy' and 'coordination' stages, which can mean that strategy objectives fail to be translated into action plans and resource allocation.</p> <p>Boxes full of different names – Do these people actually talk to one another? Are decisions taking too long, or does everybody think that someone else is taking responsibility?</p> <p>One name in lots of boxes – Does this represent good coordination and leadership or a lack of collective responsibility? Can this person/committee/group really make all the decisions?</p> <p>Stakeholder involvement – Refer back to your 'stakeholders' activity from the planning stage. How well represented are the learning and teaching staff and students who actually use the technologies? Are there any obvious places they could be fitted into the picture?</p> |
|--------------------------------|--|