

X4L Key Role Scenario Workflows Evaluation Report

Version 3

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1 Introduction

1.1 Overview

The purpose of this report is to document and analyse the use of the Key Role Scenario Workflows implemented by the Learning Bank team as part of the X4L Phase 2 project.

The use of Key Role Scenario Workflows and the analysis which this report represents is an output of the Learning Bank X4L Phase 2 project plan.

This report will:

- Evaluate the use of Key Role Scenario Workflows
- Evaluate the Key Role Scenario Workflows in terms of user feedback
- Evaluate the performance of the Key Role Scenario Workflows in general terms

1.2 Key Role Scenario Workflows Evaluation: Key Role Scenario Workflows Structure

1.2.1 Key Role Scenario Workflows

The Key Role Scenario Workflows were developed as a result of discussion and consultation within the Learning Bank project team in relation to working methods within the project team.

The workflows were designed to act as a clear guide for working processes in order to facilitate effective working within the project and also as a tool to utilise in order to produce effective learning objects.

The Key Role Scenario Workflows were designed by the Learning Bank as outputs for the X4L Project Phase 2.

1.2.2 Key Role Scenario Workflows: Purpose

The purpose of the Key Role Scenario Workflows are:

- To outline the tasks which each of the Key Role participants within the project would undertake
- To provide a diagrammatical representation of the tasks in the form of a workflow in order to make the process transparent
- To facilitate effective working within the Learning Bank project

The Learning Bank project team also instituted this way of working to address issues related to working with Project Partners who may not be located at the same physical site as the Learning Bank project.

1.2.3 Key Role Scenario Workflows: Content

The Key Role Scenario Workflows were defined to address four main specific areas in the form of four Key Roles.

The Key Roles are:

- Educational Technologist
- Tutor
- Information Intermediary
- Senior Manager

Each Key Role was assigned a separate and specific workflow which delineated all of the tasks associated with the particular Key Role in the form of a flow diagram which outlined the process from inception to completion.

Examples of each Key Role Scenario Workflows are contained in the Appendix section of this report (see Appendices 1).

1.2.4 Key Role Scenario Workflows: Implementation

The Key Role Scenario Workflows were implemented by all participants in the Learning Bank project (including the project team and Project Partners) from May 2005 as part of the development process undertaken within the Learning Bank project. The Key Role Scenario Workflows were implemented at the earliest stage of the project in order to provide an effective working mechanism throughout the span of the project.

1.3 Key Role Scenario Workflows Evaluation: Evaluation Process

1.3.1 Evaluation: Purpose

The use of Key Role Scenario Workflows as a means of working within the Learning Bank project necessitated an evaluative response. Evaluation was undertaken in order to:

- evaluate the effectiveness of the workflows
- evaluate the use of the workflows in relation to the aims of the Learning Bank project
- evaluate the content of the workflows in relation to the aims of the Learning Bank project
- evaluate the workflows in terms of any conclusions and recommendations which could be passed on to the wider community as a whole

1.3.2 Evaluation: Methodology

The evaluation methodology was developed (as an element of the initial Project Plan) within the Learning Bank project team with project manager Jane Sisk as lead. It was designed to analyse the design of the Key Role Scenario Workflows, to analyse the use of the workflows in practice and to evaluate user perceptions in relation to the design, and implementation of the workflows.

The methodology required the acquisition of both Qualitative and Quantitative data in order to facilitate a full analysis of the use of the Key Role Scenario Workflows. The Learning Bank Key Role Scenario Workflows Implementation Evaluation Questionnaire document employed a variety of means of recording data relating to the Key Role Scenario Workflows in order to effectively collate relevant data. The questions recorded both Quantitative and Qualitative data relating to the Key Role Scenario Workflows. Data was collected by the following methods:

- **Quantitative**
 1. Likert Scale (with a scale of 1 - very bad to 5 - excellent)
 2. 'Yes' / 'No' answers
- **Qualitative**
 1. Comment boxes (for the user to enter further information where necessary)

1.3.3 Evaluation: Tools

The evaluation data was collated by means of The Learning Bank Key Role Scenario Workflows Implementation Evaluation Questionnaire. The questionnaire was designed to elicit information from the participants on their responses to and evaluation of the implementation of the Key Role Scenario Workflows with a focus on their perception of how effective the Key Role Scenario Workflows was in meeting their objectives. The questionnaire was also tailored to the specific requirements of each of the four Key Role

Scenarios as the Learning Bank required specific data related to each scenario in order to reflect the different focus and responsibilities of each Key Role.

The Learning Bank Key Role Scenario Workflows Implementation Evaluation Questionnaire document was structured in the form of a series of questions grouped under the following headings:

- Context of the Key Role Scenario Workflow
- Application of the Key Role Scenario Workflow
- Application of the Key Role Scenario Workflow: Tools
- Application of the Key Role Scenario Workflow: Metadata
- Effectiveness of the Key Role Scenario Workflow Model
- Training in the Application of Key Role Scenario Workflows

Context of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- understanding of the purpose of the Key Role Scenario Workflows (including the constituent stages).
- the clarity of the Key Role Scenario Workflows process
- the usefulness of elements of the Key Role Scenario Workflows
- suggestions of materials for inclusion in the Key Role Scenario Workflows
- the effectiveness of the initial training on the stages of the Key Role Scenario Workflows

Application of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- the ease of use of the Key Role Scenario Workflows
- how the Key Role Scenario Workflows facilitates the reuse/repurposing process
- the effectiveness of the Key Role Scenario Workflows in guiding users through the process
- if the Key Role Scenario Workflows had led tutors to repurpose an existing learning object for use with different learners.
- If the Key Role Scenario Workflows had led tutors to repurpose an existing learning object for use in different contexts

Application of the Key Role Scenario Workflows: Tools

The participants were asked to answer questions relating to:

- the effectiveness of the tools in relation to the facilitation of the Key Role Scenario Workflows process
- the tools which were of most use
- suggestions related to the adoption of any other tools which were not utilised by the project for the tasks within the Key Role Scenario Workflows

Application of the Key Role Scenario Workflows: Metadata

The participants were asked to answer questions relating to:

- the assignment of metadata
- the use of tools to assign metadata

Effectiveness of the Key Role Scenario Workflows Model

The participants were asked to answer questions relating to:

- their confidence in engaging with the Key Role Scenario Workflows

- if they were inspired to repurpose and reuse resources as a result of the Key Role Scenario Workflows
- if the Key Role Scenario Workflows tasks were relevant to their practice

Training in the Application of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- the training they received in the use of the Key Role Scenario Workflows
- they felt that the training could be improved
- the training they received in the use of tools
- the training could be improved
- the effectiveness of the training they delivered to other Key Role Scenario Workflows scenario participants

Examples of the Key Role Scenario Workflows Implementation Evaluation Questionnaires are contained in the Appendix of this report (see Appendices 2 to 5).

1.3.4 Evaluation Process

The evaluation of the Key Role Scenario Workflows was developed as an ongoing process. Evaluation occurred:

- as an ongoing and iterative process throughout the duration of the project
- at defined points within the project (after participants had utilised the workflows and had time to reflect upon their usage)

Educational Technologists completed the Key Role Scenarios Implementation Evaluation Questionnaire by November 2005.

Tutors completed the Key Role Scenarios Implementation Evaluation Questionnaire by October 2005.

Information Intermediaries completed the Key Role Scenarios Implementation Evaluation Questionnaire by October 2005.

Senior Managers completed the Key Role Scenarios Implementation Evaluation Questionnaire by January 2006.

Participants in the Key Role Scenario Workflows Evaluation process were drawn from the four Key Role Scenario Workflow areas (Educational Technologists, Tutors, Information Intermediaries, Senior Managers). A total of 33 questionnaires were completed: these numbers were within the agreed parameters of the evaluation methodology.

The Questionnaires were delivered and returned in electronic format (Microsoft Word) in order to facilitate efficient and effective analysis.

The Learning Bank team collated the data from user questionnaires, project development logs and minutes of meetings. The data was then subjected to a period of review and analysis. The conclusions and recommendations which were developed as a result of the analysis period are presented in this report.

2 Overview of Key Role Scenario Workflows Evaluation

The data collated from the Key Role Scenario Workflows Implementation Evaluation Questionnaires is presented in this report under four distinct sections:

- 2.1 Educational Technologist
- 2.2 Tutor
- 2.3 Information Intermediary
- 2.4 Manager

2.1 Key Role Scenario Workflows Evaluation: Educational Technologist

2.1.1 Context of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- understanding of the purpose of the Key Role Scenario Workflows (including the constituent stages).
- the clarity of the Key Role Scenario Workflows process
- the usefulness of elements of the Key Role Scenario Workflows
- suggestions of materials for inclusion in the Key Role Scenario Workflows
- the effectiveness of the initial training on the stages of the Key Role Scenario Workflows

100% of the participants stated that they understood the purpose of the Key Role Scenario Workflows.

100% of the participants stated that they understood the different stages of the Key Role Scenario Workflows.

100% of the participants stated that none of the sections of the Key Role Scenario Workflows were unclear (in their opinion).

Participants stated that the most interesting and/or useful elements of the Key Role Scenario Workflows process were:

- Curriculum mapping
- Validation process (with particular emphasis on tutor validation of developed content)
- The overall structure which was clear and effective

None of the participants made suggestions for further inclusions to the Key Role Scenario Workflows.

100% of the participants stated that they understood the training that was given (which explained the stages of the Key Role Scenario Workflows).

2.1.2 Application of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- the ease of use of the Key Role Scenario Workflows
- how the Key Role Scenario Workflows facilitates the reuse/repurposing process

- the effectiveness of the Key Role Scenario Workflows in guiding users through the process
- if the Key Role Scenario Workflows had led tutors to repurpose an existing learning object for use with different learners.
- If the Key Role Scenario Workflows had led tutors to repurpose an existing learning object for use in different contexts

The large majority of participants gave the Key Role Scenario Workflows a high rating in terms of ease of use (with 75% of the participants giving a score of 4 or 5 on the rating scale).

25% of the participants gave the materials a low rating (a score of 3 on the rating scale) in terms of ease of use.

The large majority of participants gave the Key Role Scenario Workflows a high rating in terms of facilitating the reuse/repurposing process (with 75% of the participants giving a score of 4 or 5 on the rating scale).

25% of the participants gave the materials a low rating (a score of 3 on the rating scale) in terms of ease of use.

100% of the participants stated that the Key Role Scenario Workflows effectively provided a guide through the process of repurposing and/or reuse (in their opinion).

50% of the participants stated that the Key Role Scenario Workflows had led tutors to repurpose an existing learning object for use with different learners.

50% of the participants stated that the Key Role Scenario Workflows had led tutors to repurpose an existing learning object for use in different contexts.

2.1.3 Application of the Key Role Scenario Workflows: Tools

The participants were asked to answer questions relating to:

- the effectiveness of the tools in relation to the facilitation of the Key Role Scenario Workflows process
- the tools which were of most use
- suggestions related to the adoption of any other tools which were not utilised by the project for the tasks within the Key Role Scenario Workflows

The large majority of participants gave the tools a high rating in terms of usefulness in relation to following the Key Role Scenario Workflows (with 100% of the users giving a score of 4 or 5 on the rating scale).

100% of the participants stated a preference for a particular tool (in terms of usefulness).

Participants expressed a preference for the following tools:

- Macromedia Dreamweaver
- Macromedia Flash
- The 'Videobuilder' (X4L Phase 2 Project outcome)
- Reload

None of the participants expressed a preference for a tool which was not utilised by the project.

2.1.4 Application of the Key Role Scenario Workflows: Metadata

The participants were asked to answer questions relating to:

- the assignment of metadata
- the use of tools to assign metadata

50% of the participants stated that they assigned metadata to learning materials.

The large majority of participants gave a high rating in relation to the ease of assigning metadata to learning materials (with 75% of the users giving a score of 4 or 5 on the rating scale).

25% of the users gave a low rating (a score of 3 on the rating scale) in relation to the ease of assigning metadata to learning materials.

Participants used the following tools in the assignment of metadata to learning materials:

- Reload (100%)
- Jorum (75%)

The large majority of participants gave a high rating in relation to the ease of use of tool(s) in the assignment of metadata to learning materials (with 100% of the users giving a score of 4 or 5 on the rating scale).

100% of the participants stated that they would use the tools again.

2.1.5 Effectiveness of the Key Role Scenario Workflows Model

The participants were asked to answer questions relating to:

- their confidence in engaging with the Key Role Scenario Workflows
- if they were inspired to repurpose and reuse resources as a result of the Key Role Scenario Workflows
- if the Key Role Scenario Workflows tasks were relevant to their practice

The large majority of participants gave a high rating in relation to their confidence in engaging with the Key Role Scenario Workflows as a whole (with 75% of the users giving a score of 4 or 5 on the rating scale).

25% of the users gave a low rating (a score of 2 on the rating scale) in relation to their confidence in engaging with the Key Role Scenario Workflows as a whole.

Participants stated that they felt confident in engaging with the following elements of the Key Role Scenario Workflows:

- Resource Discovery (100%)
- Curriculum Map (100%)
- Validation (75%)
- Providing metadata (25%)
- Testing (100%)
- Usage in a Learning Episode (25%)

Participants stated that they required assistance in order to understand the following elements of the Key Role Scenario Workflows process:

- Resource Discovery (75%)
- Curriculum Map (50%)
- Validation (50%)
- Providing metadata (50%)

- Testing (100%)
- Usage in a Learning Episode (50%)

75% of the participants stated that they felt inspired to repurpose and reuse resources as a result of the Key Role Scenario Workflows.

100% of the participants stated that the Key Role Scenario Workflows encouraged reuse and repurposing (in their opinion).

100% of the participants stated that the tasks addressed by the Key Role Scenario Workflows were relevant to their practice (in their opinion).

Participants stated that the following tasks were relevant to their practice:

- Resource Discovery (100%)
- Curriculum Map (100%)
- Validation (100%)
- Providing metadata (50%)
- Testing (100%)
- Usage in a Learning Episode (100%)

2.1.6 Training in the Application of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- the training they received in the use of the Key Role Scenario Workflows
- they felt that the training could be improved
- the training they received in the use of tools
- the training could be improved
- the effectiveness of the training they delivered to other Key Role Scenario Workflows scenario participants

The large majority of participants gave a high rating in relation to the training they received in the use of the Key Role Scenario Workflows (with 50% of the users giving a score of 4 or 5 on the rating scale).

50% of the users gave a low rating (a score of 2 or 3 on the rating scale) in relation to the training they received in the use of the Key Role Scenario Workflows.

50% of the participants stated that they stated that the training which they received in the use of the Key Role Scenario Workflows could be improved (in their opinion).

The participants made suggestions for improvements to the delivery of the training which they received in the use of the Key Role Scenario Workflows which included:

- A dedicated training day to cover all areas of the Key Role Scenario Workflows with the Project team

The large majority of participants gave a high rating in relation to the training they received in the use of tools (with 75% of the users giving a score of 4 or 5 on the rating scale).

25% of the users gave a low rating (a score of 2 on the rating scale) in relation to the training they received in the use of tools.

75% of the participants stated that the training which they received in the use of tools could be improved (in their opinion).

The participants made suggestions for improvements to the content and delivery of the training which they received in the use of tools which included:

- Sharing specialist skills within the project team
- An emphasis on 'hands-on' use of tools (such as Reload and JORUM) as part of the training programme
- Formal training (in the use of software such as Macromedia Flash) rather than an emphasis on self-training

The large majority of participants gave a high rating in relation to the effectiveness of the training which they delivered to other Key Role Scenario Workflows scenario participants (with 75% of the users giving a score of 4 or 5 on the rating scale).

25% of the users gave a low rating (a score of 3 on the rating scale) in relation to the effectiveness of the training which they delivered to other Key Role Scenario Workflows scenario participants.

2.2 Key Role Scenario Workflows Evaluation: Tutor

2.2.1 Context of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- understanding of the purpose of the Key Role Scenario Workflows (including the constituent stages)
- the clarity of the Key Role Scenario Workflows process in relation to their own role / practice
- the usefulness of elements of the Key Role Scenario Workflows
- suggestions of materials for inclusion in the Key Role Scenario Workflows
- the effectiveness of the initial training on the stages of the Key Role Scenario Workflows

100% of the participants stated that they understood the purpose of the Key Role Scenario Workflows.

100% of the participants stated that they understood the different stages of the Key Role Scenario Workflows in relation to their own role / work practice.

100% of the participants stated that none of the sections of the Key Role Scenario Workflows were unclear (in their opinion).

Participants stated that the most interesting and/or useful elements of the Key Role Scenario Workflows process were:

- Curriculum mapping
- Validation process (with particular emphasis on tutor validation of developed content)

Participants made a suggestion regarding material which may be suitable for inclusion in the Key Role Scenario Workflows:

- A worked example of the workflow

100% of the participants stated that they understood the training that was given (which explained the stages of the Key Role Scenario Workflows).

2.2.2 Application of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- the ease of use of the Key Role Scenario Workflows
- how the Key Role Scenario Workflows facilitates the reuse/repurposing process
- the effectiveness of the Key Role Scenario Workflows in guiding users through the process
- if the Key Role Scenario Workflows had led tutors to repurpose an existing learning object for use with different learners.
- If the Key Role Scenario Workflows had led tutors to repurpose an existing learning object for use in different contexts

The large majority of participants gave the Key Role Scenario Workflows a high rating in terms of ease of use (with 75% of the participants giving a score of 4 or 5 on the rating scale).

25% of the participants gave the materials a low rating (a score of 3 on the rating scale) in terms of ease of use.

None of the participants made any suggestions on any improvements which they would make to the Key Role Scenario Workflows.

The large majority of participants gave the Key Role Scenario Workflows a high rating in terms of the effectiveness of the curriculum mapping process in facilitating the reuse/repurposing process (with 75% of the participants giving a score of 4 or 5 on the rating scale).

25% of the participants gave the materials a low rating (a score of 3 on the rating scale) in terms of ease of use.

100% of the participants stated that the Key Role Scenario Workflows effectively provided a guide through the process of repurposing and/or reuse (in their opinion).

30% of the participants stated that the Key Role Scenario Workflows had led them to repurpose an existing learning object for use with different learners.

17% of the participants stated that they repurposed an existing learning object for use in different contexts as a result of engaging in workflow activity.

Participants noted factors which assisted them in the implementation of the workflow processes including:

- Key Role Scenario Workflows Workshop (given by the Learning Bank)
- Ongoing support from the Learning Bank team

Participants noted factors which hindered them in the implementation of the workflow processes including:

- Time
- Lack of expertise with tools (for some)

2.2.3 Application of the Key Role Scenario Workflows: Tools

The participants were asked to answer questions relating to:

- the effectiveness of the tools in relation to the facilitation of the Key Role Scenario Workflows process
- the tools which were of most use
- suggestions related to the adoption of any other tools which were not utilised by the project for the tasks within the Key Role Scenario Workflows

100% of participants used tools to assist in the application of the Key Role Scenario Workflow process.

Participants used the following tools:

- Reload (0%)
- JORUM (0%)
- Moodle (or any other virtual learning environment) (100%)
- Web Authoring tools (such as Macromedia products) (40%)
- Videobuilder (0%)
- Microsoft Software (100%)
- TOIA (0%)

100% of the participants gave the tools a high rating in terms of usefulness in relation to supporting the Key Role Scenario Workflows process.

80% of the participants stated a preference for a particular tool (in terms of usefulness).

Participants expressed a preference for the following tools:

- Moodle
- Macromedia Flash
- Microsoft Software

A proportion of participants expressed a preference for a tool which was not utilised by the project which was:

- Moodle (used as a delivery platform)

2.2.4 Application of the Key Role Scenario Workflows: Metadata

The participants were asked to answer questions relating to:

- the assignment of metadata
- the use of tools to assign metadata

None of the Tutors stated that they assigned metadata to learning materials.

2.2.5 Effectiveness of the Key Role Scenario Workflows Model

The participants were asked to answer questions relating to:

- if the Key Role Scenario Workflows tasks were relevant to their practice
- their confidence in engaging with the Key Role Scenario Workflows
- if they were inspired to repurpose and reuse resources as a result of the Key Role Scenario Workflows

85% of the Tutors stated that the tasks addressed by the Key Role Scenario Workflows were relevant to their practice (in their opinion). Participants stated that the following tasks were relevant to their practice:

- Resource Discovery (100%)
- Curriculum Map (100%)
- Validation (100%)
- Testing (100%)
- Usage in a Learning Episode (100%)

75% of the Tutors stated that they felt inspired to repurpose and reuse resources as a result of the Key Role Scenario Workflows.

100% of the Tutors stated that the Key Role Scenario Workflows encouraged reuse and repurposing (in their opinion).

The large majority of participants gave a high rating in relation to their confidence in undertaking the tasks identified within the Key Role Scenario Workflow for their role (with 75% of the users giving a score of 4 or 5 on the rating scale).

25% of the users gave a low rating (a score of 2 on the rating scale) in relation to their confidence in undertaking the tasks identified within the Key Role Scenario Workflow for their role.

Participants stated that they felt confident in engaging with the following elements of the Key Role Scenario Workflows:

- Resource Discovery (100%)
- Curriculum Map (100%)
- Providing metadata (100%)
- Testing (100%)
- Usage in a Learning Episode (100%)

2.2.6 Usage of Materials in Learning Episodes

The participants were asked to answer questions relating to:

- the integration of the workflow with other workflows, work tasks, duties and practices
- the tasks which were relevant to their practice

100% of the participants stated that they were able to integrate the workflow with other workflows, work tasks, duties and practices.

Participants stated that the following tasks were relevant to their practice:

- Lesson planning (100%)
- Assessment (100%)
- Evaluation (100%)

2.2.7 Training in the Application of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- the training they received in the use of the Key Role Scenario Workflows

- they felt that the training could be improved
- the training they received in the use of tools
- the training could be improved
- the effectiveness of the training they delivered to other Key Role Scenario Workflows scenario participants

The large majority of participants gave a high rating in relation to the training they received in the use of the Key Role Scenario Workflows (with 80% of the users giving a score of 4 or 5 on the rating scale).

20% of the users gave a low rating (a score of 3 on the rating scale) in relation to the training they received in the use of the Key Role Scenario Workflows.

50% of the participants stated that they stated that the training which they received in the use of the Key Role Scenario Workflows could be improved (in their opinion).

The participants made suggestions for improvements to the delivery of the training which they received in the use of the Key Role Scenario Workflows which included:

- More opportunities to understand and use the workflow

The large majority of participants gave a high rating in relation to the training they received in the use of tools (with 75% of the users giving a score of 4 or 5 on the rating scale).

25% of the users gave a low rating (a score of 2 on the rating scale) in relation to the training they received in the use of tools.

50% of the participants stated that the training which they received in the use of tools could be improved (in their opinion).

The participants made suggestions for improvements to the content and delivery of the training which they received in the use of tools which included:

- More opportunities to understand and use the tools

2.3 Key Role Scenario Workflows Evaluation: Information Intermediary

2.3.1 Context of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- understanding of the purpose of the Key Role Scenario Workflows (including the constituent stages).
- the clarity of the Key Role Scenario Workflows process
- the usefulness of elements of the Key Role Scenario Workflows
- suggestions of materials for inclusion in the Key Role Scenario Workflows
- the effectiveness of the initial training on the stages of the Key Role Scenario Workflows

100% of the participants stated that they understood the purpose of the Key Role Scenario Workflows.

100% of the participants stated that they understood the different stages of the Key Role Scenario Workflows in relation to their own role and work practice.

75% of the participants stated that sections of the Key Role Scenario Workflows were unclear (in their opinion).

Participants noted that the following sections of the Key Role Scenario Workflows were unclear:

- Metadata

Participants stated that the most interesting and/or useful elements of the Key Role Scenario Workflows process were:

- Resource Discovery

100% of the participants stated that they understood the training that was given (which explained the stages of the Key Role Scenario Workflows).

100% of the participants gave a high rating (a score of 4 or 5 on the rating scale) in terms of the training they received in the use of the workflows.

2.3.2 Application of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- the ease of use of the Key Role Scenario Workflows
- how the Key Role Scenario Workflows facilitates the reuse/repurposing process
- the effectiveness of the Key Role Scenario Workflows in guiding users through the process

75% of the participants gave the Key Role Scenario Workflows a high rating (a score of 4 or 5 on the rating scale) in terms of ease of use.

25% of the participants gave the materials a low rating (a score of 3 on the rating scale) in terms of ease of use.

Participants made suggestions in relation to ways of improving the use of the Key Role Scenario Workflows including:

- Attachment of a Syllabus

100% of the participants gave the curriculum maps a high rating in terms of facilitation of the reuse and repurposing process.

100% of the participants stated that the Key Role Scenario Workflows effectively provided a guide through the process of repurposing and/or reuse (in their opinion).

2.3.3 Application of the Key Role Scenario Workflows: Tools

The participants were asked to answer questions relating to:

- their use of tools
- the effectiveness of the tools in relation to the facilitation of the Key Role Scenario Workflows process
- suggestions related to the adoption of any other tools which were not utilised by the project for the tasks within the Key Role Scenario Workflows

100% of the participants used tools in the application of the workflow process.

The tools used by participants included:

- JORUM
- RDN

- Google
- World Wide Web
- Amazing G

25% of the participants gave the tools a high rating (a score of 4 or 5 on the rating scale) in terms of usefulness in relation to following the Key Role Scenario Workflows. 75% of the participants gave the tools a satisfactory rating (a score of 3 on the rating scale) in terms of usefulness in relation to following the Key Role Scenario Workflows.

None of the participants stated a preference for a particular tool (in terms of usefulness).

None of the participants expressed a preference for a tool which was not utilised by the project.

2.3.4 Application of the Key Role Scenario Workflows: Metadata

The participants were asked to answer questions relating to:

- the assignment of metadata
- the use of tools to assign metadata

None of the Information Intermediaries stated that they assigned metadata to learning materials.

2.3.5 Effectiveness of the Key Role Scenario Workflows Model

The participants were asked to answer questions relating to:

- their confidence in engaging with the Key Role Scenario Workflows
- if they were inspired to repurpose and reuse resources as a result of the Key Role Scenario Workflows
- if the Key Role Scenario Workflows tasks were relevant to their practice

100% of the participants gave a high rating (a score of 4 or 5 on the rating scale) in relation to their confidence in engaging with the Key Role Scenario Workflows as a whole.

Participants stated that they felt confident in engaging with the following elements of the Key Role Scenario Workflows:

- Resource Discovery (100%)
- Curriculum Map (0%)
- Validation (0%)
- Testing (0%)
- Usage in a Learning Episode (0%)

However, none of the participants stated that they required assistance in order to understand the following elements of the Key Role Scenario Workflows process.

100% of the participants stated that the tasks addressed by the Key Role Scenario Workflows were relevant to their practice (in their opinion).

Participants stated that the following tasks were relevant to their practice:

- Resource Discovery (100%)
- Use of the Curriculum Map in resource discovery (100%)

100% of the participants stated that they felt that the workflow process encouraged reuse and repurposing.

2.3.6 Training in the Application of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- the training they received in the use of the Key Role Scenario Workflows
- they felt that the training could be improved
- the training they received in the use of tools
- the training could be improved
- the effectiveness of the training they delivered to other Key Role Scenario Workflows scenario participants

75% of the participants gave a high rating (a score of 4 or 5 on the rating scale) in relation to the training they received in the use of the Key Role Scenario Workflows. 25% of the users gave a low rating (a score of 3 on the rating scale) in relation to the training they received in the use of the Key Role Scenario Workflows.

50% of the participants stated that they stated that the training which they received in the use of the Key Role Scenario Workflows could be improved (in their opinion). The participants made suggestions for improvements to the delivery of the training which they received in the use of the Key Role Scenario Workflows which included:

- More opportunities to discuss the workflow

75% of the participants gave a high rating (a score of 4 or 5 on the rating scale).in relation to the training they received in the use of tools
25% of the users gave a low rating (a score of 2 on the rating scale) in relation to the training they received in the use of tools.

75% of the participants stated that the training which they received in the use of tools could be improved (in their opinion).

The participants made suggestions for improvements to the content and delivery of the training which they received in the use of tools which included:

- Demonstrating the whole process in operation (in order to gain a clear understanding of the relationship between the tools and the process as a whole)

2.4 Key Role Scenario Workflows Evaluation: Senior Manager

2.4.1 Context of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- policies on reuse and repurposing methodologies within the host institution
- understanding of the purpose of the Key Role Scenario Workflows (including the constituent stages).
- the clarity of the Key Role Scenario Workflows process
- the usefulness of elements of the Key Role Scenario Workflows
- suggestions of materials for inclusion in the Key Role Scenario Workflows

100% of the participants stated that the host institution had not implemented specific policies relating to reuse and repurposing methodologies at present.

100% of the participants stated that they understood the purpose of the Key Role Scenario Workflows.

100% of the participants stated that they understood the different stages of the Key Role Scenario Workflows.

100% of the participants stated that none of the sections of the Key Role Scenario Workflows were unclear (in their opinion).

Participants stated that the most interesting and/or useful elements of the Key Role Scenario Workflows process were:

- Communicate strategic priorities
- Disseminate best practice
- Curriculum mapping
- Validation process (with particular emphasis on tutor validation of developed content)
- The overall structure which was clear and effective

None of the participants made suggestions for further inclusions to the Key Role Scenario Workflows.

2.4.2 Application of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- Reuse and repurposing within the host institution
- Policies related to the strategic area of reuse and repurposing
- the ease of use of the Key Role Scenario Workflows
- how the Key Role Scenario Workflows facilitates the reuse/repurposing process
- the effectiveness of the Key Role Scenario Workflows in guiding users through the process
- the effectiveness of the workflow in terms of understanding the location of reuse and repurposing within the host institution
- the effectiveness of the workflow in terms of implementing reuse and repurposing within the host institution

- the effectiveness of the workflow in terms of embedding reuse and repurposing within the host institution
- the relevance of the workflows to their own practice

100% of the participants stated that the host institution does not currently engage in widespread reuse and repurposing of materials.

However, 100% of the participants stated that the host institution is about to start to reuse and repurpose.

100% of the participants stated that there are currently no policies related to the strategic area of reuse and repurposing within the host institution.

However, 33% of participants stated that they have developed their own repository and are beginning to populate it with materials.

75% of the participants gave the Key Role Scenario Workflows a high rating in terms of ease of use (a score of 4 or 5 on the rating scale).

25% of the participants gave the Key Role Scenario Workflows a low rating (a score of 3 on the rating scale) in terms of ease of use.

None of the participants gave suggestions related to improving the ease of use of the workflow.

100% of the participants stated that the Key Role Scenario Workflows effectively provided a guide through the process of repurposing and/or reuse (in their opinion).

75% of the participants gave the Key Role Scenario Workflows a high rating in terms of facilitating the reuse/repurposing process (a score of 4 or 5 on the rating scale).

25% of the participants gave the Key Role Scenario Workflows a low rating (a score of 3 on the rating scale) in terms of facilitating the reuse/repurposing process.

100% of the participants stated that the Key Role Scenario Workflows had assisted them in understanding the location of reuse and repurposing within their host institution (in their opinion).

100% of the participants stated that the Key Role Scenario Workflows had assisted them in implementing reuse and repurposing activity within their host institution (in their opinion).

100% of the participants stated that the Key Role Scenario Workflows had assisted them in the process of embedding reuse and repurposing activity within their host institution (in their opinion).

100% of the participants stated that the tasks within the Key Role Scenario Workflows were relevant to their practice.

Participants stated that the majority of tasks within the workflows were relevant to their practice. The least relevant tasks were:

- Identifying business and funding opportunities

2.4.3 Effectiveness of the Key Role Scenario Workflows Model

The participants were asked to answer questions relating to:

- the capacity of the host institution to engage with the Key Role Scenario Workflows

- the effectiveness of elements of the Key Role Scenario Workflows in terms of supporting reuse and repurposing methodologies
- if they were inspired to further promote reuse and repurposing within the host institution as a result of the Key Role Scenario Workflows

100% of the participants gave a low rating (a score of 2 or below on the rating scale) in relation to the capacity of the host institution to engage with the Key Role Scenario Workflows.

Participants stated that the following elements of the Key Role Scenario Workflows were most effective in supporting reuse and repurposing methodologies:

- Communication of strategic priorities (100%)
- Feed into institutional development policy (100%)

Participants stated that the following elements of the Key Role Scenario Workflows were least effective in supporting reuse and repurposing methodologies:

- Secure resources for development (100%)
- Disseminate best practice (100%)
- Identify funding opportunities (100%)

100% of the participants stated that they were inspired to further promote reuse and repurposing within their host institution as a result of using the Key Role Scenario Workflows.

2.4.4 Training in the Application of the Key Role Scenario Workflows

The participants were asked to answer questions relating to:

- the training they received in the use of the Key Role Scenario Workflows
- they felt that the training could be improved

100% of the participants gave a high rating in relation to the training they received in the use of the Key Role Scenario Workflows (a score of 4 or 5 on the rating scale).

50% of the participants stated that the training which they received in the use of the Key Role Scenario Workflows could be improved (in their opinion).

The participants made suggestions for improvements to the delivery of the training which they received in the use of the Key Role Scenario Workflows which included:

- A dedicated training day to cover all areas of the Key Role Scenario Workflows with the Project team

2.4.5 Application of the Key Role Scenario Workflows: Resources

The participants were asked to answer questions relating to:

- resource implications related to engagement with reuse and repurposing activities

100% of the participants stated that there are resource implications related to the engagement with the Mapping reuse and repurposing activity.

Participants stated that the resource implication is related to:

- Staff time

100% of the participants stated that there are resource implications related to the engagement with the Resource Discovery reuse and repurposing activity.

Participants stated that the resource implication is related to:

- Staff time

100% of the participants stated that there are resource implications related to the engagement with the use of Tools reuse and repurposing activity.

Participants stated that the resource implication is related to:

- Staff time

100% of the participants stated that there are resource implications related to the engagement with the Validation reuse and repurposing activity.

Participants stated that the resource implication is related to:

- Staff time

100% of the participants stated that there are resource implications related to the engagement with the Testing reuse and repurposing activity.

Participants stated that the resource implication is related to:

- Staff time

100% of the participants stated that there are resource implications related to the engagement with the use of learning objects in teaching and learning delivery reuse and repurposing activity.

Participants stated that the resource implication is related to:

- Staff time

3 Conclusions

3.1 Overview

The following section details conclusions drawn from the X4L Key Role Scenario Workflows Evaluation process.

The information is presented in the following manner:

- Individual Key Role Scenario Workflows evaluation conclusions
 1. Educational Technologist
 2. Tutor
 3. Information Intermediary
 4. Senior Manager
- General Key Role Scenario Workflows evaluation conclusions

3.2 Educational Technologist - Conclusions

3.2.1 Context of the Key Role Scenario Workflows

Educational Technologists stated that they understood the theory and purpose of the Key Role Scenario Workflows, and also understood the individual constituent elements of the workflows. This understanding was facilitated by the delivery of training on the theory and application of the Key Role Scenario Workflows as a precursor to actual engagement with the workflows: all participants stated that they benefited from this training. As a result of this training strategy, none of the Educational Technologists felt that the purpose of any of the elements of the Key Role Scenario Workflows was unclear.

The Learning Technologists noted that certain elements of the workflows were particularly relevant to and useful for their practice including:

- Curriculum Mapping
- Validation
- The overall structure of the Key Role Scenario Workflows

The Curriculum Mapping process was seen as an excellent means of gaining a solid foundation for subsequent development work and this process was supported by the Validation process (particularly in relation to the validation of produced content by Tutors).

The effectiveness of the workflows can be highlighted by the fact that none of the participants expressed a desire to include any other element in the Key Role Scenario Workflows.

3.2.2 Application of the Key Role Scenario Workflows

The Learning Technologists found the Key Role Scenario Workflows easy to use in terms of practical application. The defined structure allowed a measured progression through the tasks which facilitated the development of learning materials.

The majority of Learning Technologists also felt that the Key Role Scenario Workflows acted effectively in order to facilitate the repurposing process.

This effectiveness was supported by the structure of the Key Role Scenario Workflows: all of the Learning Technologists felt that the workflows themselves provided a transparent and effective guide to the implementation of the Key Role Scenario Workflows.

However, a large percentage (50%) of the participants felt that the Key Role Scenario Workflows had been ineffective in leading to Tutors repurposing an existing learning object for use with different learners or repurposing an existing learning object for use in different contexts.

The workflows were designed to provide a further level of assistance in the repurposing process, and they seem to have achieved this aim in relation to the perceptions of Educational Technologists. It would seem that there are barriers to the repurposing process which may be a result of the culture of an institution and its staff. It may be necessary for further research into cultural barriers to adoption of repurposing.

3.2.3 Application of the Key Role Scenario Workflows: Tools

The Learning Technologists agreed that the tools chosen for use by the project were beneficial in relation to engaging with the Key Role Scenario Workflows. The Learning Bank had made an informed choice on the tools available for selection by conducting a Tools Review at the beginning of the project which informed the choice of tools, and it is a vindication of this process that none of the Learning Technologists expressed a preference for a tool which was not utilised by the project.

The Learning Technologists expressed a particular appreciation of the following tools:

- Macromedia Dreamweaver
- Macromedia Flash
- The 'Videobuilder' (X4L Phase 2 Project outcome)
- Reload

The tools provided flexible solutions to the production of learning materials.

3.2.4 Application of the Key Role Scenario Workflows: Metadata

The role of metadata within the Key Role Scenario Workflows was subject to a redefinition during the duration of the project. The initial conception of the Key Role Scenario Workflows placed a focus on the gathering and assignment of metadata by members of the Learning Bank team (in consultation with project partners). However, this approach shifted as the project progressed as a result of the JISC lead which indicated that JORUM would provide a metadata entry service.

The allocation of roles within the project team also had an impact on metadata assignment: the assignment of metadata was allocated to certain team members. As a result of this shift in emphasis, only 50% of the Educational Technologists assigned metadata to learning materials.

The Educational Technologists found the process of assigning metadata to be satisfactory in terms of ease of assignment: this process was facilitated by the strategy towards metadata adopted by the project which focused on the recommendations of UK LOM and the JISC). It is vital that further exploration of the issues surrounding metadata is undertaken in order to reach a consensus within the online learning community.

The Reload tool was found to be the most useful tool in the assignment of metadata which mirrored the findings of the Tools Review undertaken by the Learning Bank. The project had already recommended the adoption and use of the Reload tool. It should be noted that a significant majority of the Educational (75%) also found JORUM to be a useful tool in the assignment of metadata. The overall response to the tools was that they are easy to use in practice. The participants agreed that they would use tools such as Reload and the JORUM metadata editor in future development work.

3.2.5 Effectiveness of the Key Role Scenario Workflows Model

The Educational Technologists perceptions of the effectiveness of the Key Role Scenario Workflows model were variant to some degree.

The Educational Technologists stated that they were confident in engaging with certain aspects of the Key Role Scenario Workflows model, particularly in relation to the following elements:

- Resource discovery
- Curriculum mapping
- Testing

However, the Educational Technologists also stated that they lacked confidence in relation to engaging with the following elements of the Key Role Scenario Workflows model:

- Validation (25%)
- Providing metadata (75%)
- Usage in a learning episode (75%)

They also felt that they required assistance in order to understand the following elements of the Key Role Scenario Workflows process:

- Resource Discovery (25%)
- Curriculum mapping (50%)
- Validation (50%)
- Metadata (50%)
- Usage in a learning episode (50%)

Educational Technologists also felt that they possessed the confidence to repurpose materials because of the structure provided by the Key Role Scenario Workflows which focused on supporting repurposing within a larger framework. They also felt that implementation of the Key Role Scenario Workflows encouraged the process of reuse and repurposing of learning materials. All of the participants stated that they felt that the Key Role Scenario Workflows process was relevant to their practice.

3.2.6 Training in Key Role Scenario Workflows

The training in the use of Key Role Scenario Workflows received mixed responses from the Educational Technologists.

A large percentage (50%) of participants noted that the training which they received in the use and application of the Key Role Scenario Workflows was – at best – satisfactory and – at worst – insufficient. The project adopted a ‘hands off’ approach to the delivery of training in the use and application of the Key Role Scenario Workflows in order to reflect the perceived skill-sets and professional approach of the team members. The workflows had been the subject of team discussion during development and also as part of team meetings but the overall focus of the training strategy for Learning Technologists was on self-learning.

However, this approach resulted in a varied response: 50% of the team felt that this approach suited their learning approach whereas the remaining 50% of the team stated that they would have preferred dedicated training sessions in order to familiarise themselves with the use and application of the Key Role Scenario Workflows. It is important that projects such as the Learning bank address the issue of internal training in order to ensure that the project is effective: this is particularly important in relation to areas such as the Key Role Scenario Workflows which underpin the development process. Learning Technologists suggested that they favoured a dedicated training day, in order to explore all facets of the Key Role Scenario Workflows process within a group setting which allows for group discussion and skill-sharing.

In contrast to the perceptions of the training delivered in the use and application of the Key Role Scenario Workflows, the large majority of Learning Technologists felt that they had received good training in the use of tools which would be utilised in the implementation of the Key Role Scenario Workflows.

This contrast may be attributed to the practical nature of training in relation to tools: the training participants could apply hands-on practice and gain a good working understanding of the tools (in contrast to the more theoretical nature of the application of the workflows).

Learning Technologists did make a number of suggestions regarding elements which may improve the delivery of training in the use of tools including:

- The sharing of specialist skills within the project team
- A focus on ‘hands-on’ usage of tools during training sessions
- A focus on formal training in the use of software (such as Macromedia Flash) rather than an emphasis on self-training

The large majority of Educational Technologists felt that they had been effective in facilitating and delivering training on the use of the Key Role Scenario Workflows and the use of tools to other users of the Key Role Scenario Workflows (such as Tutors and Information Intermediaries)

The perceived success of the training given to other project partners may be attributed to the designation of roles within the team which enabled training to be delivered by team members who felt confident about sharing their skills across the range of project partners.

It is vital that effective training is given to all staff involved in a project and that staff within an e-Learning project can deliver effective training to others (such as project partners). The delivery of training is an important element of an e-Learning project and it is imperative that staff have both the ability and confidence to deliver training to others.

3.3 Tutor - Conclusions

3.3.1 Context of the Key Role Scenario Workflows

Tutors stated that they understood the theory and purpose of the Key Role Scenario Workflows, and also understood the individual constituent elements of the workflows. This understanding was facilitated by the delivery of training on the theory and application of the Key Role Scenario Workflows as a precursor to actual engagement with the workflows: all participants stated that they benefited from this training. As a result of this training strategy, none of the Tutors felt that the purpose of any of the elements of the Key Role Scenario Workflows was unclear.

The Tutors noted that certain elements of the workflows were particularly relevant to and useful for their practice including:

- Curriculum Mapping
- Validation

The Curriculum Mapping process was seen as an excellent means of gaining a solid foundation for subsequent development work and this process was supported by the Validation process (particularly in relation to the validation of produced content by Tutors).

Participants made a suggestion regarding material which may be suitable for inclusion in the Key Role Scenario Workflows:

- A worked example of the workflow

The inclusion of a worked example of a Key Role Scenario Workflow would allow participants in training to gain an understanding of how the process is implemented and would consequently improve the effectiveness of training.

3.3.2 Application of the Key Role Scenario Workflows

The large majority of the Tutors found the Key Role Scenario Workflows easy to use in terms of practical application. The defined structure allowed a measured progression through the tasks which facilitated the development of learning materials: all of the Tutors felt that the workflows themselves provided a transparent and effective guide to the implementation of the Key Role Scenario Workflows.

However, a significant minority (25%) of the Tutors stated that they did not find the Key Role Scenario Workflows easy to use. It would seem that this response is based on the understandable difficulties which may arise when adopting a new working practice and it may be suggested that this percentage will decrease as the practice is used more widely.

The majority of Tutors also felt that the Key Role Scenario Workflows acted effectively in order to facilitate the repurposing process. However, the Key Role Scenario Workflows seem to have failed in terms of an actual implementation of repurposing. The perceptions of Tutors are in marked contrast to the perceptions of Educational Technologists where 50% of participants stated that they believed that the implementation of the Key Role Scenario Workflows had led to repurposing. It would seem that there are barriers to the repurposing process which may be a result of the culture of an institution and its staff. It may be necessary for further research into cultural barriers to adoption of repurposing.

3.3.3 Application of the Key Role Scenario Workflows: Tools

All of the Tutors stated that they had utilised tools to assist in the application of the Key Role Scenario Workflow process. Participants stated that they had utilised the following tools:

- Moodle (or any other virtual learning environment) (100%)
- Microsoft Software (100%)
- Web Authoring tools (such as Macromedia products) (40%)

None of the Tutors utilised packaging tools such as Reload, TOIA or JORUM due to the adoption of the Metadata Strategy for the project.

The Tutors agreed that the tools chosen for use by the project were beneficial in relation to engaging with the Key Role Scenario Workflows. The Learning Bank had made an informed choice on the tools available for selection by conducting a Tools Review at the beginning of the project which informed the choice of tools.

A large majority (80%) of the participants expressed a preference for a particular tool (in terms of usefulness). The tools were:

- Moodle
- Microsoft Software
- Macromedia Flash

The general consensus among Tutors is that these tools provide flexible solutions to the production of learning materials. The Virtual Learning Environment (Moodle) is perceived as an effective tool for the delivery and dissemination of content. The choice of Microsoft and Macromedia software may reflect their status as 'market leaders' but also indicates the appropriateness of the tools for the task.

3.3.4 Application of the Key Role Scenario Workflows: Metadata

None of the participants stated that they assigned metadata to learning materials. This result is in accord with the strategy taken by the Learning Bank project in relation to the assignment of metadata which allocated the assignment of metadata to JORUM experts in line with JISC recommendations.

3.3.5 Effectiveness of the Key Role Scenario Workflows Model

The large majority (85%) of the Tutors stated that the tasks addressed by the Key Role Scenario Workflows were relevant to their practice (in their opinion).

Participants stated that the following tasks were particularly relevant to their practice:

- Resource Discovery (100%)
- Curriculum Map (100%)
- Validation (100%)
- Testing (100%)
- Usage in a Learning Episode (100%)

The large majority (75%) of Tutors felt confident in undertaking the tasks identified within the Key Role Scenario Workflow for their role. Tutors stated that they had strong confidence in relation to engaging with the following elements of the Key Role Scenario Workflows:

- Resource Discovery (100%)
- Curriculum Map (100%)
- Testing (100%)
- Usage in a Learning Episode (100%)

However, a significant minority (25%) expressed concern that they lacked confidence in undertaking the tasks identified within the Key Role Scenario Workflow for their role. Tutors noted that they required assistance in order to understand the following elements of the Key Role Scenario Workflows process:

- Providing metadata (100%)
- Validation (50%)

All of the Tutors stated that they felt that the Key Role Scenario Workflows process as a whole was relevant to their practice.

The large majority of participants (75%) stated that they were inspired to repurpose learning materials as a result of implementing and utilising the Key Role Scenario Workflows and all of the participants stated that the Key Role Scenario Workflows encouraged reuse and repurposing (in their opinion). This response seems to provide a contrast to the perceptions of Tutors in relation to the actual repurposing of materials (see Section 3.3.2): Tutors have been inspired to repurpose but do not seem (in their opinion) to have actually undertaken repurposing activity.

3.3.6 Usage of Materials in Learning Episodes

All of the participants stated that they were able to integrate the workflow with other workflows, work tasks, duties and practices and to use materials in Learning Episodes as a result. Participants stated that the following tasks from the workflows were relevant to their practice as a whole:

- Lesson planning (100%)
- Assessment (100%)
- Evaluation (100%)

The structured nature of the workflows fosters the development of effective materials which can be utilised in a practical manner.

3.3.7 Training in the Application of the Key Role Scenario Workflows

The large majority (80%) of Tutors stated that they received a high standard of training in the use of the Key Role Scenario Workflows. However, a significant percentage (50%) of the participants also stated that the training which they received in the use of the Key Role Scenario Workflows could be improved (in their opinion).

It would seem that the training strategy adopted by the Learning Bank project is broadly a success. However, it may need to be revised in order to fully deliver to the requirements of the users training needs. The 'hands off' approach to the delivery of training in the use and application of the Key Role Scenario Workflows may need to be combined with more practical sessions. This observation is echoed by the suggestions made by Tutors regarding improvements which could be made to the delivery of training

in the use of the Key Role Scenario Workflows where Tutors noted that they would prefer to have more opportunities to understand the workflows through practical use.

The large majority (75%) of Tutors felt that they had received good training in the use of tools which would be utilised in the implementation of the Key Role Scenario Workflows. This response may be attributed to the practical nature of training in relation to tools: the training participants could apply hands-on practice and gain a good working understanding of the tools.

However, a significant percentage (50%) of the participants again stated that the training which they received in the use of tools could be improved (in their opinion). Participants again suggested that they would prefer a focus on 'hands-on' usage of tools during training sessions.

It is vital that projects such as the Learning Bank address the issue of internal training in order to ensure that the project is effective: this is particularly important in relation to areas such as the Key Role Scenario Workflows which underpin the development process. It may be necessary to ensure that project members are thoroughly experienced in all aspects of training before training sessions are undertaken with project partners.

3.4 Information Intermediary - Conclusions

3.4.1 Context of the Key Role Scenario Workflows

Information Intermediaries stated that they understood the theory and purpose of the Key Role Scenario Workflows, and also understood the individual constituent elements of the workflows. This understanding was facilitated by the delivery of training on the theory and application of the Key Role Scenario Workflows as a precursor to actual engagement with the workflows: all participants stated that they benefited from this training. As a result of this training strategy, none of the Information Intermediaries felt that the purpose of any of the elements of the Key Role Scenario Workflows was unclear. All of the participants stated that they understood the training which they received in the different stages of the Key Role Scenario Workflows. They also understood the training they received in the implementation and use of the Key Role Scenario Workflows (giving a high rating to the training).

The Information Intermediaries noted that the Resource Discovery process is particularly relevant to and useful for their practice. This is in marked contrast to other participants in the project who recognised areas other than resource discovery as key to their practice.

However, a large majority of participants (75%) stated that they required further training in relation to the issues surrounding metadata. This response may be due to the recent emergence of metadata as an issue and the lack of available repositories which would facilitate self-learning in relation to metadata.

The participants did not make any suggestions for further inclusion to the Key Role Scenario Workflows.

3.4.2 Application of the Key Role Scenario Workflows

The Information Intermediaries found the Key Role Scenario Workflows easy to use in terms of practical application. The defined structure allowed a measured progression

through the tasks which facilitated the development of learning materials. All of the participants gave the Curriculum Maps a high rating in terms of facilitation of the reuse and repurposing process.

Participants did make suggestions in relation to ways of improving the use of the Key Role Scenario Workflows including the attachment of a syllabus to facilitate the Curriculum Mapping process.

The majority of Information Intermediaries also felt that the Key Role Scenario Workflows acted effectively in order to facilitate the repurposing process. This effectiveness was supported by the structure of the Key Role Scenario Workflows: all of the Information Intermediaries felt that the workflows themselves provided a transparent and effective guide to the implementation of the Key Role Scenario Workflows.

However, a large percentage (50%) of the participants felt that the Key Role Scenario Workflows had been ineffective in leading to Tutors repurposing an existing learning object for use with different learners or repurposing an existing learning object for use in different contexts. The workflows were designed to provide a further level of assistance to those undertaking the repurposing process, which seems to have occurred according to the perceptions of Information Intermediaries. It would seem that there are barriers to the repurposing process which may be a result of the culture of an institution and its staff. It may be necessary for further research into cultural barriers to adoption of repurposing.

3.4.3 Application of the Key Role Scenario Workflows: Tools

The Information Intermediaries agreed that the tools chosen for use by the project were beneficial in relation to engaging with the Key Role Scenario Workflows. The Learning Bank made an informed choice on the tools available for selection by conducting a Tools Review at the beginning of the project which informed the choice of tools, and it is a vindication of this process that none of the Information Intermediaries expressed a preference for a tool which was not utilised by the project.

All of the Information Intermediaries used tools in the application of the workflow process including:

- JORUM
- RDN
- Google
- The World Wide Web
- Amazing G

The Information Intermediaries stated that JORUM was a particularly relevant tool in relation to their practice.

3.4.4 Application of the Key Role Scenario Workflows: Metadata

None of the Information Intermediaries stated that they assigned metadata to learning materials. This result is in accord with the strategy taken by the Learning Bank project in relation to the assignment of metadata which allocated the assignment of metadata to JORUM experts in line with JISC recommendations.

3.4.5 Effectiveness of the Key Role Scenario Workflows Model

The Information Intermediaries stated that they were confident in engaging with certain aspects of the Key Role Scenario Workflows model, particularly in relation to Resource Discovery.

The Information Intermediaries also stated that they lacked confidence in relation to engaging with the certain elements of the Key Role Scenario Workflows model (such as Curriculum Mapping, Validation and Testing): however, the structure of the workflow for the Information Intermediaries did not require their engagement with these areas.

All of the participants stated that the tasks addressed by the Key Role Scenario Workflows were relevant to their practice (in their opinion) particularly resource discovery and the use of Curriculum Maps for resource discovery.

The participants stated that they felt that implementation of the Key Role Scenario Workflows encouraged the process of reuse and repurposing of learning materials due to the structure provided by the Key Role Scenario Workflows which focused on supporting repurposing within a larger framework.

3.4.6 Training in Key Role Scenario Workflows

A large percentage (75%) of the Information Intermediaries gave a high rating to the training which they received in the use and application of the Key Role Scenario Workflows.

The project adopted a 'hands off' approach to the delivery of training in the use and application of the Key Role Scenario Workflows in order to reflect the perceived skill-sets and professional approach of the team members.

However, a significant percentage (50%) of the participants stated that the training which they received in the use of the Key Role Scenario Workflows could be improved (in their opinion). The participants suggested that the delivery of training could be improved by the opportunity to engage in discussion regarding the workflow during the training sessions.

The large majority of Information Intermediaries felt that they had received good training in the use of tools which would be utilised in the implementation of the Key Role Scenario Workflows. This result may be attributed to the practical nature of training in relation to tools: the training participants could apply hands-on practice and gain a good working understanding of the tools (in contrast to the more theoretical nature of the application of the workflows).

However, a large majority (75%) of the Information Intermediaries stated that the training which they received in the use of tools could be improved (in their opinion). Participants suggested that it would be beneficial to have practical demonstrations of the workflow process in order to allow trainees to gain a clear understanding of the workflow process.

3.5 Senior Manager - Conclusions

3.5.1 Context of the Key Role Scenario Workflows

All of the participants stated that they understood the purpose of the Key Role Scenario Workflows and that they understood the different stages of the Key Role Scenario

Workflows. None of the participants stated that sections of the Key Role Scenario Workflows were unclear (in their opinion).

Participants stated that the most interesting and/or useful elements of the Key Role Scenario Workflows process were:

- Communication of strategic priorities
- Dissemination of best practice
- Curriculum mapping
- Validation process
- The overall structure of the workflows

The workflows were perceived as a useful tool for the dissemination of strategic priorities and good practice.

Senior Managers also recognised the iterative nature of the curriculum mapping and validation process as an essential element in the reuse and repurposing process.

The effectiveness of the workflows can be highlighted by the fact that none of the participants expressed a desire to include any other element in the Key Role Scenario Workflows.

3.5.2 Application of the Key Role Scenario Workflows

Senior managers stated that there are currently no policies related to the strategic area of reuse and repurposing within the host institution. However, all of the host institutions were signed up as JORUM contributors and users.

It is imperative that there is an exploration of issues related to the strategic area of reuse and repurposing in order to embed the practice within institutions. The Key Role Scenario Workflows may assist this process as they have assisted Senior Managers in understanding the location of reuse within the institution and provided a practical means of implementation which could be used to this end.

All of the participants stated that the host institution does not currently engage in widespread reuse and repurposing of materials.

However, all of the participants stated that the host institution intends to embed reuse and repurposing strategies: participants noted that the Key Role Scenario Workflows had assisted them in trialling the processes of embedding reuse and repurposing activity within their host institution.

An interesting development is that a significant percentage of the participants (33%) stated that they have developed their own repository and are beginning to populate it with materials. It may be necessary for any institution which has developed its own repository to liaise with JORUM in order to discuss how they will interact with the service.

The Senior Managers found the Key Role Scenario Workflows easy to use in terms of practical application. The defined structure allowed a measured progression through the tasks which facilitated the development of learning materials.

The majority of Senior Managers also felt that the Key Role Scenario Workflows acted effectively in order to facilitate the reuse and repurposing process. They noted that the least relevant task to their practice was identifying business and funding opportunities. This effectiveness was supported by the structure of the Key Role Scenario Workflows: all of the Senior Managers felt that the workflows themselves provided a transparent

and effective guide to the implementation of the Key Role Scenario Workflows. None of the participants gave suggestions related to improving the ease of use of the workflow.

3.5.3 Effectiveness of the Key Role Scenario Workflows Model

Senior Managers did not feel that the host institution had the capacity to engage with the Key Role Scenario Workflows. This was most frequently attributed to professional practice and cultural attitudes alongside ICT skills required to effectively engage in the workflows. These issues are reiterated in the government's national Elearning strategies.

Senior Managers noted that the communication of strategic policies and the feed into institutional development policy were the most effective elements of the Key Role Scenario Workflows in terms of supporting reuse and repurposing methodologies. However, they also stated that certain elements were less effective including the ability of the workflows to support the securing of resources for development and the identification of funding opportunities.

Senior Managers stated that were inspired to further promote reuse and repurposing within their host institution as a result of using the Key Role Scenario Workflows. However, it is recognised that the workflow is an insufficient driver for such a major change in planning and working practice.

3.5.4 Training in the Application of the Key Role Scenario Workflows

Senior Managers stated that they received effective training in the use of the Key Role Scenario Workflows.

However a significant percentage (50%) of the participants felt that the training could be improved, particularly by the inclusion of a dedicated training day in order to explore all facets of the Key Role Scenario Workflows process within a group setting which allows for group discussion and skill-sharing

This suggestion echoed similar requests by other participants in the project (including Educational Technologists, Tutors and Information Intermediaries).

The project adopted a 'hands off' approach to the delivery of training in the use and application of the Key Role Scenario Workflows in order to reflect the perceived skill-sets and professional approach of the team members. However, it would seem that participants favour a more directed approach to training rather than the intuitive model offered by the Learning Bank.

3.5.5 Application of the Key Role Scenario Workflows: Resources

The participants were asked to answer questions on resource implications related to engagement with reuse and repurposing activities. Senior Managers stated that there are resource implications which impact on all elements of the Key Role Scenario Workflows. The resource implications are related to the availability of time for staff to engage with the reuse and repurposing process: in order to fully engage, it is necessary to allocate dedicated periods of time which are not currently available.

It may be that the issue can only be resolved at Senior Management level and this will only occur with a wider commitment to online learning.

3.6 General Conclusions

3.6.1 Context of the Key Role Scenario Workflows

The overall perception of the Key Role Scenario Workflows was very positive. The participants stated that they understood the theory and purpose of the Key Role Scenario Workflows (and the individual constituent elements of the workflows) and could also gain benefit from implementation of the workflows model. The linear structure of the workflows allowed participants to gain a clear understanding of their purpose and application.

It is vital that all users of workflows are given comprehensive training in their theory and use. The understanding of the workflows was facilitated by the delivery of training on the theory and application of the Key Role Scenario Workflows as a precursor to actual engagement with the workflows: all participants stated that they benefited from this training. Participants noted that training was most effective when delivered as a dedicated training day. The inclusion of a worked example of a Key Role Scenario Workflow would allow participants in training to gain an understanding of how the process is implemented and would consequently improve the effectiveness of training.

Each of the different Key Roles found certain elements of the Key Role Scenario Workflows to be more pertinent to their field.

Educational Technologists found the Curriculum Mapping and Validation processes to be particularly relevant to their practice. The Curriculum Mapping process was seen as an excellent means of gaining a solid foundation for subsequent development work and this process was supported by the Validation process (particularly in relation to the validation of produced content by Tutors).

Tutors found the Curriculum Mapping and Validation processes to be particularly relevant to their practice. The Curriculum Mapping process was seen as an excellent means of gaining a solid foundation for subsequent development work and this process was supported by the Validation process (particularly in relation to the validation of produced content by Tutors).

The Information Intermediaries found the Resource Discovery process to be particularly relevant to and useful for their practice.

Senior Managers perceived the workflows as a useful tool for the dissemination of strategic priorities and good practice. Senior Managers also recognised the iterative nature of the curriculum mapping and validation process as an essential element in the reuse and repurposing process.

3.6.2 Application of the Key Role Scenario Workflows

The participants found the Key Role Scenario Workflows easy to use in terms of practical application. The defined structure allowed a measured progression through the tasks which facilitated the development of learning materials. This effectiveness was supported by the structure of the Key Role Scenario Workflows: all of the participants felt that the workflows themselves provided a transparent and effective guide to the implementation of the Key Role Scenario Workflows.

A section of participants did note that they experienced some degree of difficulty in relation to the use of the Key Role Scenario Workflows. There are understandable difficulties which may arise when adopting a new working practice and it may be suggested that this percentage will decrease as the practice is used more widely.

The majority of participants also felt that the Key Role Scenario Workflows acted effectively in order to facilitate the repurposing process. However, a large percentage of the participants felt that the Key Role Scenario Workflows had been ineffective in leading to Tutors repurposing an existing learning object for use with different learners or repurposing an existing learning object for use in different contexts. The workflows were designed to provide a further level of assistance in the repurposing process, and they seem to have achieved this aim in relation to the perceptions of Educational Technologists. It would seem that there are barriers to the repurposing process which may be a result of the culture of an institution and its staff. It may be necessary for further research into cultural barriers to adoption of repurposing.

It should be noted that Senior Managers stated that there are currently no policies related to the strategic area of reuse and repurposing within the host institution. It is imperative that there is an exploration of issues related to the strategic area of reuse and repurposing in order to embed the practice within institutions. The Key Role Scenario Workflows may assist this process as they have assisted Senior Managers in understanding the location of reuse within the institution and provided a practical means of implementation which could be used to this end.

3.6.3 Application of the Key Role Scenario Workflows: Tools

The participants agreed that the tools chosen for use by the project were beneficial in relation to engaging with the Key Role Scenario Workflows. The Learning Bank had made an informed choice on the tools available for selection by conducting a Tools Review at the beginning of the project which informed the choice of tools, and it is a vindication of this process that none of the Learning Technologists expressed a preference for a tool which was not utilised by the project.

Individual Key Roles found that different tools were more relevant to their practice. The Learning Technologists noted that authoring tools (particularly Macromedia Dreamweaver, Macromedia Flash and the X4L 'Videobuilder) were relevant to their practice, along with content packaging tools (particularly Reload). The Tutors noted that authoring tools (particularly Microsoft and Macromedia software) were particularly relevant to their practice, along with the use of Virtual Learning Environments (particularly Moodle) for content delivery. The Tutors noted that the tools provide flexible solutions to the development of learning materials. The Virtual Learning Environment (Moodle) is perceived as an effective tool for the delivery and dissemination of content. The choice of Microsoft and Macromedia software may reflect their status as 'market leaders' but also indicates the appropriateness of the tools for the task. None of the Tutors utilised packaging tools such as Reload, TOIA or JORUM due to the adoption of the Metadata Strategy for the project. The Information Intermediaries noted that resource discovery tools (particularly JORUM, RDN, Google and the World Wide Web) were relevant to their practice.

3.6.4 Application of the Key Role Scenario Workflows: Metadata

The role of metadata within the Key Role Scenario Workflows was subject to a redefinition during the duration of the project. The initial conception of the Key Role Scenario Workflows placed a focus on the gathering and assignment of metadata by members of the Learning Bank team (in consultation with project partners). However, this approach shifted as the project progressed as a result of the JISC lead which indicated that JORUM would provide a metadata entry service.

The allocation of roles within the project team also had an impact on metadata assignment: the assignment of metadata was allocated to certain members of the Learning Bank team which meant that the large percentage of participants in the project did not assign metadata. As a result of this shift in emphasis, only 50% of the Educational Technologists assigned metadata to learning materials.

The Educational Technologists found the process of assigning metadata to be satisfactory in terms of ease of assignment: this process was facilitated by the strategy towards metadata adopted by the project which focused on the recommendations of UK LOM and the JISC). It is vital that further exploration of the issues surrounding metadata is undertaken in order to reach a consensus within the online learning community.

The Reload tool was found to be the most useful tool in the assignment of metadata which mirrored the findings of the Tools Review undertaken by the Learning Bank. The project had already recommended the adoption and use of the Reload tool. It should be noted that a significant majority of the Educational Technologists also found JORUM to be a useful tool in the assignment of metadata. The overall response to the tools was that they are easy to use in practice. The participants agreed that they would use tools such as Reload and the JORUM metadata editor in future development work.

A large majority of the Information Intermediaries stated that they required further training in relation to the issues surrounding metadata. This response may be due to the recent emergence of metadata as an issue and the lack of available repositories which would facilitate self-learning in relation to metadata

3.6.5 Effectiveness of the Key Role Scenario Workflows Model

The large majority of participants stated that the tasks addressed by the Key Role Scenario Workflows were relevant to their practice

Participants stated that they had strong confidence in relation to engaging with certain elements of the Key Role Scenario Workflows including Resource Discovery, Curriculum Mapping and Testing.

Participants stated that they lacked confidence in relation to engaging with certain elements of the Key Role Scenario Workflows including Validation and Metadata.

Participants noted that they possessed the confidence to repurpose materials because of the structure provided by the Key Role Scenario Workflows which focused on supporting repurposing within a larger framework.

The participants stated that they felt that implementation of the Key Role Scenario Workflows encouraged the process of reuse and repurposing of learning materials due to the structure provided by the Key Role Scenario Workflows which focused on supporting repurposing within a larger framework.

Senior Managers stated that there are resource implications which impact on all elements of the Key Role Scenario Workflows. The resource implications are related to the availability of time for staff to engage with the reuse and repurposing process: in order to fully engage, it is necessary to allocate dedicated periods of time which are not currently available. It may be that the issue can only be resolved at Senior Management level and this will only occur with a wider commitment to online learning.

3.6.6 Training in Key Role Scenario Workflows

The large majority of participants stated that they received a high standard of training in the use of the Key Role Scenario Workflows.

The project adopted a 'hands off' approach to the delivery of training in the use and application of the Key Role Scenario Workflows in order to reflect the perceived skill-sets and professional approach of the team members.

However, a significant percentage of the participants also stated that the training which they received in the use of the Key Role Scenario Workflows could be improved. Participants stated that they favour a dedicated training day, in order to explore all facets of the Key Role Scenario Workflows process within a group setting which allows for group discussion and skill-sharing, and in order to familiarise themselves with the use and application of the Key Role Scenario Workflows. It is important that projects such as the Learning Bank address the issue of internal training in order to ensure that the project is effective: this is particularly important in relation to areas such as the Key Role Scenario Workflows which underpin the development process. The training strategy adopted by the Learning Bank project may need to be revised in order to fully deliver to the requirements of the users training needs. The 'hands off' approach to the delivery of training in the use and application of the Key Role Scenario Workflows may need to be combined with more practical sessions. This observation is echoed by the suggestions made by Tutors regarding improvements which could be made to the delivery of training in the use of the Key Role Scenario Workflows where Tutors noted that they would prefer to have more opportunities to understand the workflows through practical use.

The large majority of participants felt that they had received good training in the use of tools to be utilised in the implementation of the Key Role Scenario Workflows. This response may be attributed to the practical nature of training in relation to tools: the training participants could apply hands-on practice and gain a good working understanding of the tools.

However, a significant percentage of the participants again stated that the training which they received in the use of tools could be improved (in their opinion). Participants again suggested that they would prefer a focus on 'hands-on' usage of tools during training sessions including practical demonstrations of the workflow process in order to allow trainees to gain a clear understanding of the workflow process.

The large majority of Educational Technologists felt that they had been effective in facilitating and delivering training on the use of the Key Role Scenario Workflows and the use of tools to other users of the Key Role Scenario Workflows (such as Tutors and Information Intermediaries). The perceived success of the training given to other project partners may be attributed to the designation of roles within the team which enabled training to be delivered by team members who felt confident about sharing their skills across the range of project partners.

However, the responses to the training from other participants in the project suggest that this approach to training may need to undergo revision. It is vital that effective training is given to all staff involved in a project and that staff within an e-Learning project can deliver effective training to others (such as project partners). Projects must address the issue of internal training in order to ensure that the project is effective: this is particularly important in relation to areas such as the Key Role Scenario Workflows

which underpin the development process. It may be necessary to ensure that project members are thoroughly experienced in all aspects of training before training sessions are undertaken with project partners.

4 Recommendations

The following recommendations collated as a result of this report are directed towards:

- **Educational Technologists**
- **Tutors**
- **Information Intermediaries**
- **Managers**
- **The Online Learning Community**

4.1 Educational Technologists

4.1.1 Key Role Scenario Workflows

The Learning Bank project recommends that projects related to online learning adopt an approach based upon the concept of the Key Role Scenario Workflows.

The workflows provide an effective means of structuring processes which allows both the project team and project partners to have a clear insight into the nature of the tasks which will be undertaken as part of development work.

This research indicates that Educational Technologists may find the Curriculum Mapping and Validation processes particularly useful.

4.1.2 Training

The Learning Bank project recommends that all online learning projects devise and institute a comprehensive programme of training as part of the project lifecycle. The focus of the training programme should be on the needs of the trainees and this should be reflected in the form of the training. The Learning Bank recommends that training takes the form of dedicated training events.

The training programme should also address the issue of training delivery by project staff. Project staff should be trained as trainers in order that they may give effective training to all project partners.

All projects should also ensure that they provide easily available ongoing support and advice for project partners in order to facilitate effective working.

4.1.3 Metadata

The Learning Bank recommends that all projects ensure that project staff are trained in issues related to metadata. The Learning Bank recommends that all project staff are trained, although it may be necessary to allocate training to designated individuals who will lead on issues related to metadata.

The Learning Bank recommends that all projects develop a metadata strategy which encompasses metadata requirements and the assignment of metadata. The Learning Bank has followed the lead from JISC in relation to metadata.

4.1.4 Tools

The Learning Bank recommends that all projects undertake a review of available tools at the earliest stages of a project in order to make an informed choice to support the development process.

The Learning Bank recommends that projects utilise the following tools in the development process:

- JORUM
- Reload
- Macromedia software

4.1.5 Cultural Change

The Learning Bank recommends that all projects work to change cultural attitudes towards online learning within educational establishments by fostering good practice and effective dissemination of information, and by fostering links with curriculum staff.

4.2 Tutors

4.2.1 Key Role Scenario Workflows

The Learning Bank project recommends that Tutors adopt an approach based upon the concept of the Key Role Scenario Workflows in relation to development work based around online learning. The workflows provide an effective means of structuring processes which allows both the project team and project partners to have a clear insight into the nature of the tasks which will be undertaken as part of development work. This research indicates that Tutors may find the Curriculum Mapping and Validation processes particularly useful.

4.2.2 Training

The Learning Bank project recommends that all online learning projects devise and institute a comprehensive programme of training for Tutors as part of the project lifecycle. The focus of the training programme should be on the needs of the Tutors and this should be reflected in the form of the training. The Learning Bank recommends that training takes the form of dedicated training events.

All projects should also ensure that they provide easily available ongoing support and advice for Tutors in order to facilitate effective working.

4.2.3 Metadata

The Learning Bank recommends that all projects ensure that Tutors are trained in issues related to metadata.

4.2.4 Tools

The Learning Bank recommends that all projects ensure that Tutors are trained in the use of Tools which may be utilised during online learning development work.

4.2.5 Cultural Change

The Learning Bank recommends that online learning projects should develop effective working relationships with Tutors in order to work to change cultural attitudes towards online learning within educational establishments by fostering good practice and effective dissemination of information. Tutors may need to engage in dialogue with management in order to obtain resources (particularly in relation to available time) which may facilitate reuse and repurposing in practice.

4.3 Information Intermediaries

4.2.1 Key Role Scenario Workflows

The Learning Bank project recommends that Information Intermediaries adopt an approach based upon the concept of the Key Role Scenario Workflows in relation to development work based around online learning. The workflows provide an effective means of structuring processes which allows both the project team and project partners to have a clear insight into the nature of the tasks which will be undertaken as part of development work. This research indicates that Information Intermediaries may find the Resource Discovery processes particularly useful.

4.2.2 Training

The Learning Bank project recommends that all online learning projects devise and institute a comprehensive programme of training for Information Intermediaries as part of the project lifecycle. The focus of the training programme should be on the needs of the Information Intermediaries and this should be reflected in the form of the training. The Learning Bank recommends that training takes the form of dedicated training events.

All projects should also ensure that they provide easily available ongoing support and advice for Information Intermediaries in order to facilitate effective working.

4.2.3 Metadata

The Learning Bank recommends that all projects ensure that Information Intermediaries are trained in issues related to metadata.

4.2.4 Tools

The Learning Bank recommends that all projects ensure that Information Intermediaries are trained in the use of Tools which may be utilised during online learning development work.

The Learning Bank recommends that Information Intermediaries utilise the following tools in the development process (particularly in relation to Resource Discovery):

- JORUM

4.4 Managers

4.4.1 Key Role Scenario Workflows

The Learning Bank project recommends that Senior Managers adopt an approach based upon the concept of the Key Role Scenario Workflows in relation to development work based around online learning. The workflows provide an effective means of structuring processes which allows both the project team and project partners to have a clear insight into the nature of the tasks which will be undertaken as part of development work. This research indicates that Senior Managers may find the Key Role Workflow Scenarios particularly useful for the dissemination of policies and good practice.

4.4.2 Training

The Learning Bank project recommends that all online learning projects devise and institute a comprehensive programme of training for Senior Managers as part of the project lifecycle. The focus of the training programme should be on the needs of the

Senior Managers and this should be reflected in the form of the training. The Learning Bank recommends that training takes the form of dedicated training events.

4.4.3 Cultural Change

The Learning Bank recommends that Senior Managers play a key role in changing cultural attitudes towards online learning within educational establishments. It is imperative that there is an exploration of issues related to the strategic area of reuse and repurposing in order to embed the practice within institutions. The Key Role Scenario Workflows may assist this process as they have assisted Senior Managers in understanding the location of reuse within the institution and provided a practical means of implementation which could be used to this end.

4.5 The Online Learning Community

4.5.1 Key Role Scenario Workflows

The Learning Bank project recommends that projects related to online learning adopt an approach based upon the concept of the Key Role Scenario Workflows.

The workflows provide an effective means of structuring processes which allows both the project team and project partners to have a clear insight into the nature of the tasks which will be undertaken as part of development work.

4.5.2 Training

The Learning Bank project recommends that training should be viewed as a key element to success in relation to online learning projects. The focus of the training programme should be on the needs of the trainees and this should be reflected in the form of the training. The Learning Bank recommends that training takes the form of dedicated training events.

The training programme should also address the issue of training delivery by staff from online learning projects. Project staff should be trained as trainers in order that they may give effective training to all project partners.

All projects should also ensure that they provide easily available ongoing support and advice for project partners in order to facilitate effective working.

4.5.3 Metadata

The Learning Bank recommends that all projects ensure that project staff are trained in issues related to metadata. The Learning Bank recommends that all project staff are trained, although it may be necessary to allocate training to designated individuals who will lead on issues related to metadata.

The Learning Bank recommends that all projects develop a metadata strategy which encompasses metadata requirements and the assignment of metadata. The Learning Bank has followed the lead from JISC in relation to metadata.

4.1.5 Cultural Change

The Learning Bank recommends that all projects work to change cultural attitudes towards online learning within educational establishments by fostering good practice and effective dissemination of information, and by fostering links with curriculum staff. It is imperative that there is an exploration of issues related to the strategic area of reuse and repurposing in order to embed the practice within institutions

Appendices

Appendix 1

The Learning Bank – Key Role Scenario Workflows

Appendix 2

The Learning Bank - Key Role Scenario Workflows Evaluation Questionnaire (Educational Technologist)

X4L Phase 2: Workflow Implementation Questionnaire (Educational Technologist)

Date:	
Name:	
Institution:	
Job Title:	

Purpose of the Questionnaire

The purpose of this questionnaire is to collect information from users of the X4L Learning Bank Phase 2 Workflows. The data will be used to evaluate the project.

Please answer the following questions about the experience of using the Educational Technologist Workflow.

Some questions require you to answer '**Yes**' or '**No**'.
Please circle the appropriate answer for each question.

Some of the questions use a numbered rating scale as follows:
1= Very bad 2= Poor 3= Satisfactory 4= Good 5= Excellent
Please circle the appropriate number for each question.

When you have completed this questionnaire in full, please return an electronic copy to:
nicholas.bullen@sbirmc.ac.uk

Context of the Workflow

Did you understand the purpose of the workflow?	Yes / No
Did you understand the different stages of the workflow?	Yes / No
Are there any sections of the workflow which are unclear?	Yes / No
If so, what are they?	
Which parts of the workflow process are of most interest or most useful?	
Which information would you like to see included in the workflow that is not currently included?	
Did you understand the training (which explained the stages of the workflow to you)?	Yes / No

Application of the Workflow	
How easy did you find the workflow to use?	1 2 3 4 5
If you found the workflow hard to use, how would you improve it?	
How effective was the workflow model in facilitating the reuse/repurposing process?	1 2 3 4 5
Did the workflow guide you through the process?	Yes / No
Did the workflow lead to tutors actually taking an existing learning object and repurposing it for use with different learners?	Yes / No
Did the workflow lead to tutors actually taking an existing learning object and repurposing it for use in different contexts?	Yes / No

Application of the Workflow: Tools	
How useful were tools in the process of following the workflow?	1 2 3 4 5
Is there a tool you found particularly useful?	Yes / No
If so, what was the tool?	
Have you come across any other tools that you would prefer to use?	Yes / No
If so, what was the tool?	

Application of the Workflow: Metadata	
Did you assign metadata?	Yes / No
How easy did you find the process of assigning metadata	1 2 3 4 5
Which tool(s) did you use?	
• Reload	Yes / No
• JORUM	Yes / No
How easy was it to use the tool(s) for assignment of metadata?	1 2 3 4 5
Would you use the tool(s) again?	Yes / No

Effectiveness of the Model	
How confident did you feel in engaging with the workflow?	1 2 3 4 5
Which parts of the workflow process did you feel confident about?	
• Resource Discovery	Yes / No
• Curriculum Map	Yes / No
• Validation	Yes / No
• Providing metadata	Yes / No
• Testing	Yes / No
• Usage in a Learning Episode	Yes / No
Which parts of the workflow process did you need help with?	
• Resource Discovery	Yes / No
• Curriculum Map	Yes / No
• Validation	Yes / No

• Providing metadata	Yes / No
• Testing	Yes / No
• Usage in a Learning Episode	Yes / No
Did the use of the workflow inspire you to repurpose and reuse any resources?	Yes / No
Do you think the workflow process encouraged reuse and repurposing?	Yes / No
Were the tasks within the workflow relevant to your practice?	Yes / No
If so, which tasks were relevant to your practice?	
• Resource Discovery	Yes / No
• Curriculum Map	Yes / No
• Validation	Yes / No
• Providing metadata	Yes / No
• Testing	Yes / No
• Usage in a Learning Episode	Yes / No

Training	
How effective was the training you received in the use of the workflow?	1 2 3 4 5
Could the training be improved?	Yes / No
How could the training be improved?	
How effective was the training you received in the use of tools?	1 2 3 4 5
Could the training be improved?	Yes / No
How could the training be improved?	
How effective was the training you delivered to other workflow scenario participants?	1 2 3 4 5

Thank you for taking part in this trial.

Appendix 3

The Learning Bank - Key Role Scenario Workflows Evaluation Questionnaire (Tutor)

X4L Phase 2 – Workflow Implementation Questionnaire (Tutor)

Date:	
Name:	
Institution:	
Course:	
Level:	

Purpose of the Questionnaire
The purpose of this questionnaire is to collect information from users of the X4L Learning Bank Phase 2 Workflows.

Please answer the following questions about the Workflow.

Some questions require you to answer '**Yes**' or '**No**'.
Please circle the appropriate answer for each question.

Some of the questions use a numbered rating scale as follows:
1= Very bad 2= Poor 3= Satisfactory 4= Good 5= Excellent
Please circle the appropriate number for each question.

Context of the Workflow	
Did you understand the purpose of the workflow?	Yes / No
Did you understand the different stages of the workflow in relation to your own role / work practice?	Yes / No
Are there any sections of the workflow which are unclear?	Yes / No
If 'Yes', what are the unclear sections?	
Which parts of the workflow process are of most interest or most useful? Please give details	
Which information would you like to see included in the workflow that is not currently included? Please give details	
How useful was the training you received in the workshop (which explained the stages of the workflow to you)?	1 2 3 4 5

How would you rate the training which you received in the workshop?	1 2 3 4 5

Application of the Workflow	
How easy did you find the workflow to use?	1 2 3 4 5
Are there any improvements you would make? Please give details.	
How effective was the process of creating curriculum maps in facilitating the reuse/repurposing process?	1 2 3 4 5
In what way(s) did the workflow support the reuse and repurposing process?	1 2 3 4 5
Did the workflow guide you through the process?	Yes / No
Did the workflow lead to tutors actually taking an existing learning object and repurposing it for use with different learners?	Yes / No
As a result of engaging in workflow activity, did you take an existing learning object and repurpose it for use in different contexts?	Yes / No
Which factors helped you in the implementation of the workflow processes? (for example, support, time resources, etc)	
Which factors hindered you in the implementation of the workflow processes? (for example, support, time resources, etc)	

Application of the Workflow: Tools	
Did you use tools to assist you in the application of the workflow process?	Yes / No
Which of the following tools did you use?	
• Reload	Yes / No
• JORUM	Yes / No
• Moodle (or any other Virtual Learning Environment)	Yes / No
• Web Authoring tools (such as Dreamweaver, Flash)	Yes / No
• Videobuilder	Yes / No
• Microsoft software (such as Word, Producer)	Yes / No
• TOIA	Yes / No
How useful were the tools in the process of supporting the workflow?	1 2 3 4 5
Is there a tool you found particularly useful?	Yes / No
If so, what was the tool?	
Have you come across any other tools that you would prefer to use?	Yes / No
If so, what was the tool?	

Application of the Workflow: Metadata	
Did you assign metadata to learning materials?	Yes / No
How easy did you find the process of assigning metadata?	1 2 3 4 5
Which tool(s) did you use to assign metadata?	
• Reload	Yes / No
• JORUM	Yes / No
How easy was it to use the tool(s)?	1 2 3 4 5
Would you use the tool(s) again?	Yes / No

Effectiveness of the Workflow Model	
Were the tasks within the workflow relevant to your practice?	Yes / No
If so, which tasks were relevant to your practice?	
• Resource Discovery	Yes / No
• Curriculum Map	Yes / No
• Validation	Yes / No
• Providing Educational Metadata	Yes / No
• Testing	Yes / No
• Usage in a Learning Episode	Yes / No
Did the use of the workflow inspire you to repurpose and reuse any resources?	Yes / No
Do you think your engagement with the workflow encouraged and promoted reuse and repurposing activity at a personal and/or course level?	Yes / No
Did you feel confident about undertaking the tasks identified within the workflow for your role?	Yes / No
Which parts of the workflow process did you feel confident about?	
• Resource Discovery	Yes / No
• Curriculum Map	Yes / No
• Validation	Yes / No
• Providing Educational Metadata	Yes / No
• Testing	Yes / No
• Usage in a Learning Episode	Yes / No
Which parts of the workflow process did you not feel confident about?	
• Resource Discovery	Yes / No
• Curriculum Map	Yes / No
• Validation	Yes / No
• Providing Educational Metadata	Yes / No
• Testing	Yes / No
• Usage in a Learning Episode	Yes / No

Learning Episodes	
Were you able to integrate the workflow with other workflows / work tasks duties and practices?	Yes / No
If so, which tasks were relevant to your practice?	
• Lesson planning	Yes / No
• Development of schemes of work	Yes / No
• Assessment	Yes / No
• Evaluation	Yes / No

Training	
How effective was the training you received in the use of the workflow?	1 2 3 4 5
Could the training in the use of the workflow be improved?	Yes / No
If 'Yes', how could the training be improved?	
How effective was the training you received in the use of tools?	1 2 3 4 5
Could the training in the use of tools be improved?	Yes / No
If 'Yes', how could the training be improved?	

Thank you for taking part in this trial.

Appendix 4

The Learning Bank - Key Role Scenario Workflows Evaluation Questionnaire (Information Intermediary)

X4L Phase 2 – Workflow Implementation Questionnaire (Information Intermediary)

Date:	
Name:	
Institution:	
Job Title:	

Purpose of the Questionnaire
The purpose of this questionnaire is to collect information from users of the X4L Learning Bank Phase 2 Workflows.

Please answer the following questions about the Workflow.

Some questions require you to answer '**Yes**' or '**No**'.
Please circle the appropriate answer for each question.

Some of the questions use a numbered rating scale as follows:
1= Very bad 2= Poor 3= Satisfactory 4= Good 5= Excellent
 Please circle the appropriate number for each question.

Context of the Workflow	
Did you understand the purpose of the workflow?	Yes / No
Did you understand the different stages of the workflow in relation to your own role / work practice?	Yes / No
Are there any sections of the workflow which are unclear?	Yes / No
If 'Yes', what are the unclear sections?	
Which parts of the workflow process are of most interest or most useful? Please give details	
Which information would you like to see included in the workflow that is not currently included? Please give details.	
Did you understand the training in the workshop (which explained the stages of the workflow to you)?	Yes / No
How would you rate the training which you received in the workshop?	1 2 3 4 5

Application of the Workflow	
How easy did you find the workflow to use?	1 2 3 4 5
If you found the workflow hard to use, how would you improve it?	
How effective were the curriculum maps in facilitating the reuse/repurposing process (by providing information for locating resources from available content)?	1 2 3 4 5
How effective was the workflow model in facilitating the reuse/repurposing process?	1 2 3 4 5
Did the workflow guide you through the process?	Yes / No

Application of the Workflow: Tools	
Did you use tools to assist you in the application of the workflow process?	Yes / No
If so, which tool(s) did you use?	
How useful were the tools in the process of following the workflow?	1 2 3 4 5
Is there a tool you found particularly useful?	Yes / No
If 'Yes', what is the tool?	
Have you come across any other tools that you would prefer to use?	Yes / No
If 'Yes', please give details of the tool?	

Application of the Workflow: Metadata	
Did you assign metadata to the learning materials?	Yes / No
How easy did you find the process of assigning metadata?	1 2 3 4 5
Which tool(s) did you use to assign metadata?	
• Reload	Yes / No
• JORUM	Yes / No
How easy was it to use the tool(s)?	1 2 3 4 5
Would you use the tool(s) again?	Yes / No

Effectiveness of the Model	
How confident did you feel in engaging with the workflow?	1 2 3 4 5
Which parts of the workflow process did you feel confident about?	
• Resource Discovery	Yes / No
• Curriculum Map	Yes / No
• Validation	Yes / No
• Providing classification metadata	Yes / No
• Testing	Yes / No
• Usage in a Learning Episode	Yes / No
Which parts of the workflow process did you need help with?	

• Resource Discovery	Yes / No
• Use of Curriculum Map in resource discovery	Yes / No
• Providing classification metadata	Yes / No
• Validation	Yes / No
• Testing	Yes / No
Do you think the workflow process encouraged reuse and repurposing?	Yes / No
Were the tasks within the workflow relevant to your practice?	Yes / No
If so, which tasks were relevant to your practice?	
• Resource Discovery	Yes / No
• Use of Curriculum Map in resource discovery	Yes / No
• Providing classification metadata	Yes / No

Training	
How effective was the training you received in the use of the workflow?	1 2 3 4 5
Could the training in the use of the workflow be improved?	Yes / No
If 'Yes', how could the training be improved?	
How effective was the training you received in the use of tools?	1 2 3 4 5
Could the training in the use of tools be improved?	Yes / No
If 'Yes', how could the training be improved?	

Thank you for taking part in this trial.

Appendix 5

The Learning Bank - Key Role Scenario Workflows Evaluation Questionnaire (Senior Manager)

X4L Phase 2 – Workflow Implementation Questionnaire (Senior Manager)

Date:	
Name:	
Institution:	
Job Title:	

Purpose of the Questionnaire
The purpose of this questionnaire is to collect information from users of the X4L Learning Bank Phase 2 Workflows.

Please answer the following questions about the Workflow.

Some questions require you to answer '**Yes**' or '**No**'.
Please circle the appropriate answer for each question.

Some of the questions use a numbered rating scale as follows:
1= Very bad 2= Poor 3= Satisfactory 4= Good 5= Excellent
 Please circle the appropriate number for each question.

Context of the Workflow	
Within your institution, what policies relate to reuse and repurposing methodologies? Please give details.	
Did you understand the purpose of the workflow?	Yes / No
Did you understand the different stages of the workflow?	Yes / No
Are there any sections of the workflow which are unclear? If so, what are they?	Yes / No
Which parts of the workflow process are most important in your role? Please give details	
Are there processes which are not identified which you would like to see included in the workflow?	Yes / No
If 'Yes', please give details.	

Application of the Workflow	
Do you reuse and repurpose in your institution?	Yes / No
Which policies link to this strategic area? Please give details.	
How easy did you find the workflow to use?	1 2 3 4 5
If you found the workflow hard to use, how would you improve it? Please give details.	
Did the workflow guide you through the process?	Yes / No
How effective was the workflow model in facilitating the reuse/repurposing process in your institution?	1 2 3 4 5
Did the workflow assist you in understanding the location of reuse and repurposing activity within your institution?	Yes / No
Did the workflow assist you in implementing reuse and repurposing activity within your institution?	Yes / No
Did the workflow assist you in the process of embedding reuse and repurposing activity within your institution?	Yes / No

Application of the Workflow: Resources	
Are there any resource implications in engaging in the following reuse and repurposing activities?	1 2 3 4 5
<ul style="list-style-type: none"> • Mapping If 'Yes', please give details.	Yes / No
<ul style="list-style-type: none"> • Resource Discovery If 'Yes', please give details.	Yes / No
<ul style="list-style-type: none"> • Use of reuse and repurposing tools If 'Yes', please give details.	Yes / No
<ul style="list-style-type: none"> • Validation If 'Yes', please give details.	Yes / No
<ul style="list-style-type: none"> • Testing If 'Yes', please give details.	Yes / No
<ul style="list-style-type: none"> • Use of learning objects in teaching and learning delivery If 'Yes', please give details.	Yes / No

Effectiveness of the Model	
How would you rate your institutions capacity to engage with the workflow (all key role scenarios)?	1 2 3 4 5

In terms of your own key role, which parts of the workflow process were most effective in supporting reuse and repurposing methodologies?	
• Communicate strategic priorities	Yes / No
• Secure resources for development	Yes / No
• Disseminate best practice	Yes / No
• Identify funding opportunities	Yes / No
• Feed into institutional development policy	Yes / No
In terms of your own key role, which parts of the workflow process were least effective in supporting reuse and repurposing methodologies?	
• Communicate strategic priorities	Yes / No
• Secure resources for development	Yes / No
• Disseminate best practice	Yes / No
• Identify funding opportunities	Yes / No
• Feed into institutional development policy	Yes / No
Did the use of the workflow inspire you to further promote repurpose and reuse within your institution?	Yes / No
Were the tasks within the workflow relevant to your practice? If 'Yes', please give details.	Yes / No

Thank you for taking part in this trial.