



Project Document Cover Sheet

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Project Information			
Project Acronym	L-MAPS		
Project Title	Dynamic Learning Maps		
Start Date	1 st April 2009	End Date	31 st March 2011
Lead Institution	Newcastle University		
Project Director	Dr Steven Ball		
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Partner Institutions	n/a		
Project Web URL	http://learning-maps.ncl.ac.uk		
Programme Name (and number)	Transforming Curriculum Delivery through Technology (08/08)		
Programme Manager	Lisa Gray		

Document Name			
Document Title	<i>Interim Project Report</i>		
Reporting Period	<i>1st September 2009 to 30th March 2010</i>		
Author(s) & project role	Simon Cotterill & Gordon Skelly (Project Managers) John Peterson & Paul Horner (Project Officers)		
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Project Name: *Dynamic Learning Maps (Newcastle University)*

Report compiled by: *Simon Cotterill, Gordon Skelly, John Peterson, Paul Horner*

With contributions from: *Steve Ball, Tony McDonald*

Reporting period: *September 09 – March 10*

Section One: Summary

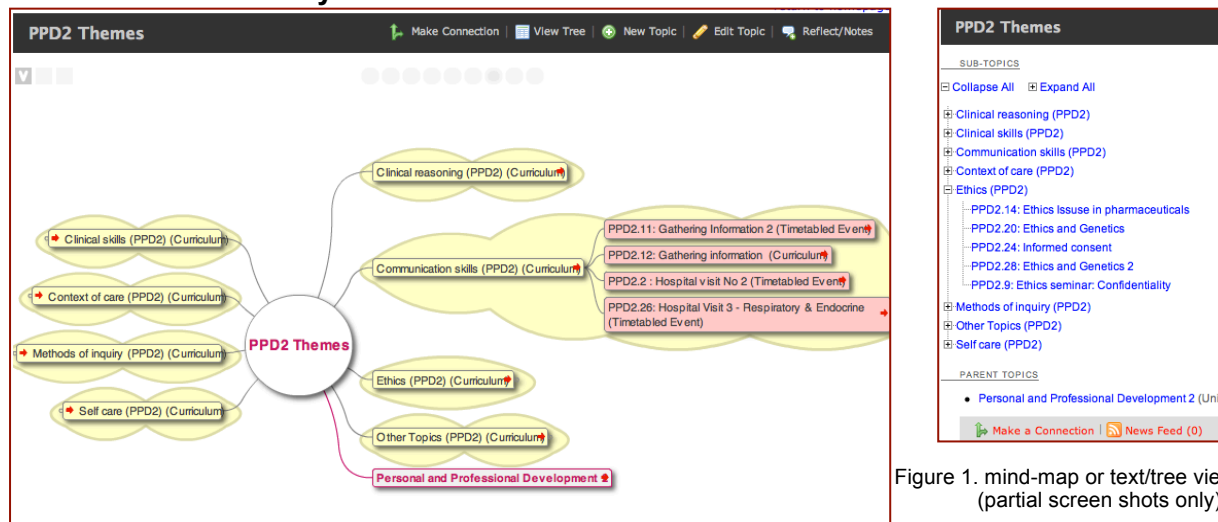


Figure 1. mind-map or text/tree views (partial screen shots only)

This has been an exciting period of rapid progress for the Dynamic Learning Maps (DLM) project, both in terms of development and evaluation.

Development: Significant effort has been put into developing and refining the architecture and user interface for DLM, so that it was ready for formative evaluation and piloting during Semester 2, 2010. The user interface supports different views of curriculum maps including visual mind maps or text/tree based navigation, Figure 1. The importance of supporting preferences was highlighted by the evaluation (below). Personal notes/reflections and files can now be added to any topic in the map using a standards-based interface with ePortfolios. Support for users to add, share, rate and discuss external resources to topics in the map have been refined and news feeds can now be added against specific topics. Initial work on search facilities that take advantage of the ‘connected-nodes’ architecture of DLM have shown great promise for providing ‘intelligent’ results with high relevancy. Results can also be sorted by stage/year group, which was a key requirement for curriculum managers and other stakeholders. There is still a lot of work to do both in terms of technical development and mapping (adding data and connections), but progress has been significant, putting us in a position to begin piloting.

Evaluation: Over 200 students have now participated in the formative evaluation of DLM; with qualitative feedback in focus groups from students in 4 programmes and quantitative feedback through student response systems following demonstrations to Medical students. Piloting is underway in Medicine, with 122 students now having accessed DLM. There has also been significant dialogue with curriculum leaders and teaching staff including presentations at staff meetings, interviews and meetings with staff and activities during project meetings; these have contributed to user scenarios, which have been developed as part of the formative evaluation process. Both qualitative and quantitative feedback indicate the importance of supporting preferences; half of the students sampled had a preference for visual mind maps over the text-based interface. Generally, stakeholders are happy for now with the basic layout in DLM (the map/topic being the main section and then smaller sections for curriculum resources, external resources and personal/portfolio records). Most students did perceive benefits of DLM for their learning, for better understanding the curriculum, supporting review/reflection, and for revision.

The project has made significant progress and is in a good position with a year left to run (completes ends of March 2011)

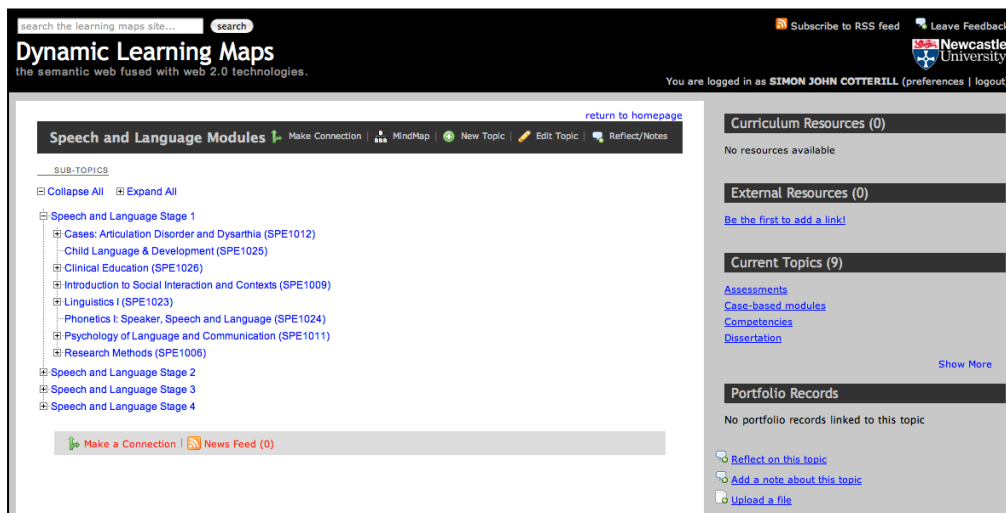
Section Two: Activities and Progress

Project Management (WP1)

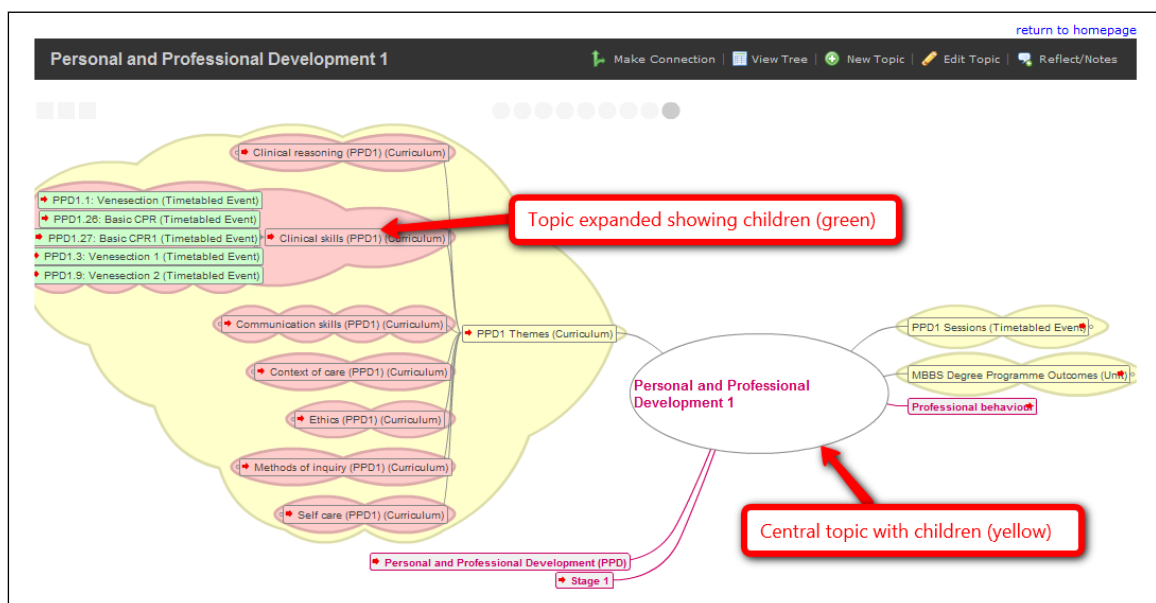
1. A summary of work packages (WP) from the project plan is included in Appendix 1. Relevant work packages are listed against the headings and sections of this report. As well as managing day-to-day activities the project team have a scheduled weekly meeting to discuss and monitor progress. The project director attends alternate meetings. The meetings generate a lot of ideas and discussion, and have been productive for the project.

Development of the Learning Maps application and curriculum data mapping (WP4)

2. The main focus of project activity in this period has been development of the learning maps application in order for it to be available for formative evaluation and piloting during Semester 2, 2010. The development has been informed by meetings and interviews with stakeholders, and focus groups (see below). Modifications ranged from significant changes to the interface to superficial changes in terminology (use of 'topics' preferred over 'nodes' by some stakeholders).



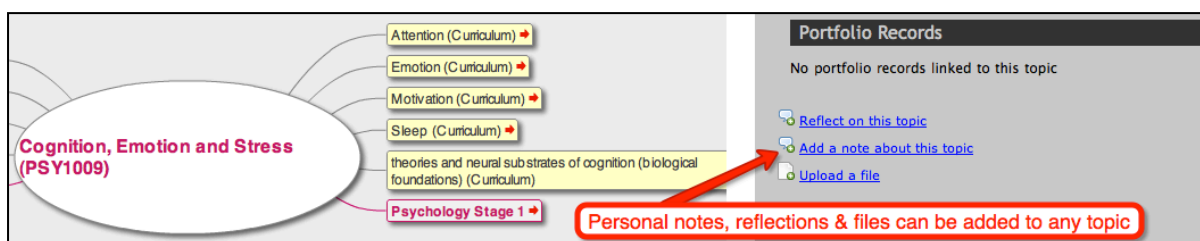
3. We have now incorporated a 'mind map' view in DLM. Users have the choice between this view or a text based 'tree view'. After an initial review of mind mapping and other visualisation software, we have integrated the Flash-based application 'FreeMind' into



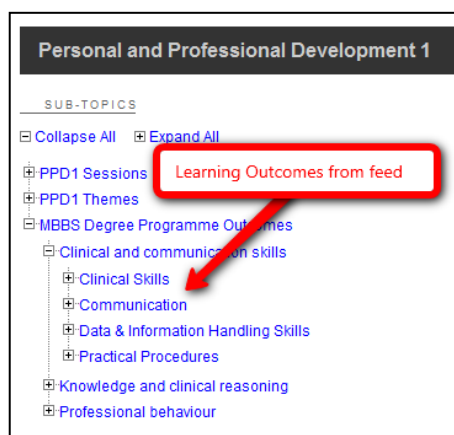
DLM:

- This allows connected topics to be displayed around a central topic in customizable coloured bubbles. These connected topics can then be expanded to show any connected ‘children’, which in turn can then be expanded to show their ‘children’. The map can be dragged around the screen as well as zoomed in and out of to allow students to see the entire map even if it can't all be displayed on screen at once.
- Approximately half of all students polled preferred the ‘mind map’ view to that of a text version. The importance of user preferences is covered in the evaluation section of this report (below).
- The approach in DLM means that any topic can be the central theme of a map, this is in contrast to most other mind mapping and concept mapping approaches, which are usually constructed around a set central theme.

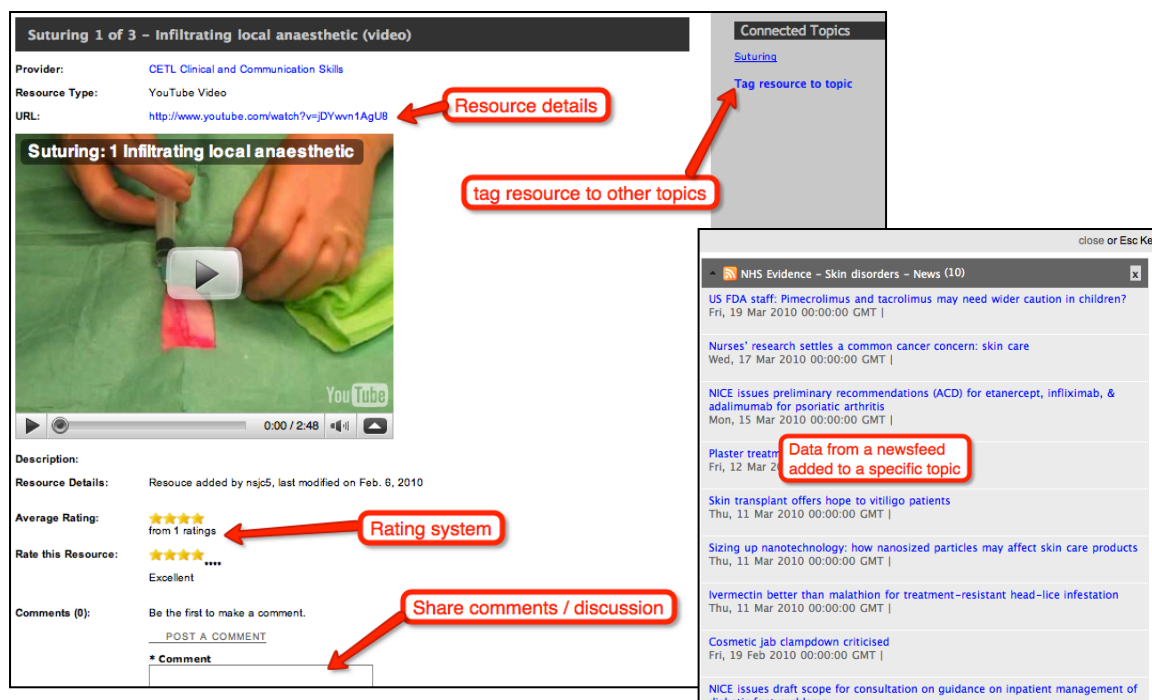
4. The initial interoperability work to integrate with **ePortfolio** has been completed. Learners can now upload files, add notes and reflections against any topic in their map. This work will be refined further with input from a JISC funded mini-project in PIOP3 (see below).



5. The DLM application has been enhanced to read in **feeds** i) to display links to curriculum resources and ii) to use data from the feeds as ‘topics’ in the map. For example DLM displays curriculum resources (links to study guides, presentation & lecture recordings) using a feed from a curriculum database and also reading list feeds from the library. Feeds can also be used to display ‘topics’, which can be fed in from an external system. This includes support for feeds with nested data – for example: learning outcomes (hierarchical) are pulled in from our curriculum database feed and displayed as ‘child’ topics for a module. This involves a level of complexity – because of the need to be able to make connections between topics and to be able to attach external resources to any node – work on this is ongoing). We have so far included support for reading both RSS and ATOM feeds but plan to extend this further in the future.



6. Support for users to add, share, rate and discuss **external resources** to topics in the map have been refined and news feeds can now be added against specific topics.



Any user is able to add external resource such as; a website link, youtube video, image, book etc. to the tool. They have the option to set the resources to be personal or shared. Resources are then tagged to topics in the map and the tags appear in the right hand menu when viewing the topic. Users are free to make connections between existing resources and topics if they think they relate although they are not allowed to edit a resource unless they created it. We hope that this will encourage users not only to share their own resources but also help us find what students think are the best resources 'out there'.

A user rates a resource by choosing a star rating for it, between 1 and 4. A user can only rate a resource once but is free to change their rating at any time. The average ratings are then shown on the external resource list, the search results page and on the resource itself along with the total number of ratings received.

Comments can be left by users against a resource, with any comments being openly displayed on the resource details page. Currently no moderation occurs so any comments posted are automatically added immediately. As a user has to be logged into the site to leave a comment, and the user is recorded against the comment we hope that this will be enough of a deterrent to anyone thinking of abusing the system. However we do have the ability to delete or hide comments if we think they are inappropriate.

Users can also tag news feeds to topics in a similar way as they do for external resources. We decided to keep resources and feeds separate as we felt there was a distinction between the two. When adding a news feed, a user enters the url of the feed along with the type of feed it is and whether they wish to keep it private or public. Once added, users are able to expand down the feed and see any data pulled in from that feed directly in the tool rather than having to go to the external site.

7. Initial work on **search facilities** that take advantage of the ‘connected-nodes’ architecture of DLM have shown great promise for providing ‘intelligent’ results with high relevancy. The initial search process matches nodes and resources but also identifies connected nodes and nodes that the resources are attached to. This can be powerful; for example results in a search on ‘kidney’ will include linked nodes and resources related to ‘renal’ or ‘nephrology’. This is an area of great potential that we will want to revisit in more detail later, particularly as we start to accrue data on strength of connections between nodes based on usage and resource usage – which could also be used to further optimise the search. Currently, a limitation is that the search doesn’t include feeds that are drawn in dynamically, so some hybrid of the connected nodes search and conventional indexing may be explored in the future.

search the learning maps site... search

Dynamic Learning Maps

the semantic web fused with web 2.0 technologies.

You searched for "cystic fibrosis"; there were 22 results found.

You are currently viewing the results as a Table

Results found in **Topics (18)**:

Topic	Category	Relevance	Stage
Cystic Fibrosis	(Diseases and Conditions)	100.00%	-
MTC2: Case 1 - A Young Man with Cystic Fibrosis	(Timetabled Event)	50.00%	1
NME2.1: Case 1 Revisited - A Young Man with Cystic Fibrosis/Structure of the Exocrine Glands	(Timetabled Event)	50.00%	1
Case 1: A Young man with Cystic Fibrosis	(Case)	50.00%	1
NME2 Sessions	(Curriculum)	31.53%	1
Diseases of the Digestive System	(Diseases and Conditions)	29.12%	-
Cases introduced in Stage 1			
MTC Sessions			
Salivary Glands			
Diseases of the Respiratory System			
NME2 themes			
Newborn blood spot screening			
NME2.3: Pancreatic function/dysfunction			
Failure to thrive			
MTC themes			
Persistent chest infections			
Pancreas			
Exocrine glands			

Results found in **Resources (4)**:

Resource	Category	Relevance	Stage
Cystic Fibrosis	(Website)	100.00%	
Cystic fibrosis manifestations (diagram)	(Image)	100.00%	
Cystic Fibrosis Trust	(Website)	100.00%	
Suspected cystic fibrosis	(Website)	100.00%	

Results utilise mapped connections between topics and between topics and resources

Search results can also be viewed as mind maps or tag clouds

8. Results can also be sorted by **stage/year** group (see screenshot). This was a key requirement for curriculum managers and other stakeholders, these directly relate to requirements documented in user scenarios for occasional teachers (US3) and curriculum managers/QA (US5). The project team discussed a number of different approaches to including stage/year in the DLM architecture. Rather than stage being a property of a ‘node’ we took the approach of adding stage as ‘meta data’ associated with a node. This approach will work reasonably well in the 4 programmes being piloted, but will need refinement later to support teaching sessions shared by two or more programmes and by modular programmes in general.

search the learning maps site... search

Dynamic Learning Maps

the semantic web fused with web 2.0 technologies.

You searched for "psychiatry"; there were 61 results found.

You are currently viewing the results as a Table

Results found in Topics (16):

Topic	Category	Relevance	Stage
Mental health and behavioural conditions	(Diseases and Conditions)	100.00%	-
Dementia	(Diseases and Conditions)	20.58%	-
Careers and NHS	(Organisation)	20.00%	-
Psychiatry	(Specialty)	100.00%	-
Medical Specialties	(Specialty)	32.27%	-
TSM108: Biology of mood and anxiety disorders	(Timetabled Event)	17.68%	2
MIC3.18: Mental Health and Illness 1	(Timetabled Event)	16.93%	2
MIC3.20: Mental Health and Illness 2	(Timetabled Event)	16.93%	2
TSM106: Anxiety disorders	(Timetabled Event)	16.93%	2
TSM107: Mood disorders	(Timetabled Event)	16.93%	2
Thought, Senses and Movement	(Unit)	10.19%	2
Mental Health (EJR)	(Unit)	18.31%	3
CSIM3 Sessions	(Curriculum)	35.64%	4
Careers forum: Psychiatry	(Timetabled Event)	50.00%	4
Mental Health (ESR)	(Unit)	18.31%	5

search results can be sorted by stage

9. There has been refinement of the 'Connection Manager', a mapping tool which allows people to make connections between topics – a form of structured tagging to encourage use standardised language/taxonomy. The user is first given a list of categories which they have access to (this is based on the course they are studying). Once a category is selected a list of child topics for that category with the option to view the results as an alphabetical list or as a tree view (default view can be set up in admin area) are shown. Next to each child topic is a tick box which the user simply ticks to make a connection. If a connection is already made the box is pre-ticked letting the user know a connection is already there. The user also has the ability to set the type of connection (child, co-requisite, equivalent, general, parent, prerequisite) along with who the connection is available to (public, private, course).

Please select the category from which you wish to choose topics. Then tick the topic you wish to make a connection with. You can choose multiple categories/topics and connections are saved as you tick each box.

Anatomy and Physiology | **Selected nodeset** | Disease and Conditions | Graduate Skills Framework

MBBS Assessment and Appraisals | MBBS Cases, Core Presentations and Conditions | MBBS Degree Programme Outcomes | MBBS Units and Sessions | Medical Specialties

Add connection as: General connection | Type of connection

Publish: Visible to everyone | Who sees the connection

nodes available for selection:

Display results as: Alphabetical List Hierarchical

Nodesets available to the user

Child topics of selected nodeset

Connection made

- Diabetes Type 1
- Diabetes Type 2
- Diabetic retinopathy
- Diseases and Conditions of the Immune System
- Diseases of the Cardiovascular System
- Diseases of the Digestive System
- Diseases of the Genitourinary System
- Diseases of the Nervous System and Sensory Disorders
- Diseases of the Respiratory System
- Diseases of the Musculoskeletal System
- Diseases of the Integumentary System
- Disseminated Intravascular Coagulation
- dissociated personality disorder
- Down's Syndrome
- Dry eye syndrome - keratoconjunctivitis

10. Preliminary work on facilities for curriculum managers includes tools to manage **protected 'sets'** of nodes e.g. a collection of 'core conditions', These can be listed showing connected topics against each title, with the ability to filter on the type of node. The sets can be accessed as an RSS feed for use by external applications or downloaded in CSV format.

The screenshot shows a web interface titled 'Manage Sets'. At the top right, there is a link 'return to homepage'. Below the title, there is a text block: 'Below is a list of sets which you have access to. By selecting a set from the list below you may see topics within that particular set.' Below this text is a search bar containing 'MBBS Core Presentations' and several icons: a plus sign, a pencil, 'update', 'rss', and 'csv'. A red box with an arrow points to the search bar with the text 'Potential to use defined sets in other applications'. Below the search bar, there is a filter section: 'Show All Connections or filter by Anatomy, Case, Core Presentation, Curriculum, Custom Psychology, Diagnostic, Diseases and Conditions, general, Graduate Skill Framework, Learning Outcome, Organisation, Skill, Specialty, Subjects and Disciplines, Subject and Disciplines, Timetabled Event, Treatment, Unit (Module)'. A red box with an arrow points to the 'Diseases and Conditions' filter with the text 'Filtering list of connected topics by the type of topic'. Below the filter, there are two numbered items. Item 1 is 'Core Presentation Abdominal mass / swelling' with a list of topics: 'Crohn's disease (Diseases and Conditions)', 'Fluid, fat, foetus, flatus, faeces (abdominal distention, bloating and constipation)', 'Hernia (Diseases and Conditions)', 'Intra-abdominal cancer (Diseases and Conditions)', and 'Ovarian cyst (benign or malignant) (Diseases and Conditions)'. A red box with an arrow points to this list with the text 'Viewing MBBS core presentations'. Item 2 is 'Core Presentation Abdominal pain' with a list of topics: 'Biliary colic (Diseases and Conditions)', 'Cholecystitis (Diseases and Conditions)', 'Ectopic pregnancy (Diseases and Conditions)', 'Gastro-oesophageal reflux disease (GORD) (Diseases and Conditions)', 'Intra-abdominal cancer (Diseases and Conditions)', 'Irritable Bowel Syndrome (IBS) (Diseases and Conditions)', 'Peptic ulcer (Diseases and Conditions)', and 'Peritonitis (Diseases and Conditions)'.

11. With help from the LTMS infrastructure team **authentication** for the DLM pilots is using CAS single sign-on, which allows seamless links with MB BS Learning Support Environment and other systems. CAS was adopted by LTMS as a spin-off of the JISC funded lamsect project¹. This allows 'layered' authentication in this case tying in to LDAP, Active Directory and secondary authentication sources (to support a broader userbase, including external clinical teachers in the NHS). The framework that DLM is developed in (Django) supports a range of authentication plug-ins/middleware.
12. During the initial content loading/topic mapping using feeds we noticed a significant degradation in server response time. It was evident early on that we needed to cache as much of the learning maps content as possible. Building on work by John Snowdon and the LTMS Infrastructure team MemCached is being used extensively in DLM. This includes data pulled in from feeds, which is cached locally for a period of time. The system can then simply read the information from the cache and thus keep loading times to a minimum. When setting the time limit we had to be conscious that it was stored for long enough too kept the site running fast but also that the data returned did not become out of date.
13. We have found that using RSS feeds as a way of navigating dynamic content has worked really well. However, we've also found that the linear nature of an RSS feed can cause us some problems - particularly when we want to open new feeds based on the content of a feed. We're looking into creating our own namespace to extend an XML feed, so that we can obtain useful metadata.

<http://learning-maps.ncl.ac.uk/blog/post/ncldlm-namespace/>

¹ <http://iamsect.ncl.ac.uk/>

14. Paul Horner has investigated the **MedBiquitous Competency Framework** following a recommendation from Dave Davies (Advisory Board member). The specification is still in draft format but could have some real benefits for DLM and ePortfolios. The framework is an XML specification that allows competencies to be marked up in a defined and clear way. In the simplest of terms, it defines a series of competencies and looks at how these relate to one another. It's designed to be used by standards agencies to provide a method of displaying things like skills and competencies so that they can be accessed easily by third parties. Further details:
<http://learning-maps.ncl.ac.uk/blog/post/medbiquitous-competency-framework/>
15. This is still very much a work in progress both in terms of software development as part of the project, and in terms of data and mapping for the programmes too.

Curriculum data and mapping

16. *In addition to the JISC funded project there has been a lot of effort put into data mapping (see data in Appendix 2). Population of the curriculum maps was essential for meaningful formative evaluation and piloting of DLM. Initial development work concentrated on the learner, but now we are adding additional tools for curriculum managers (e.g. point 10, above). For longer-term sustainability, it will be essential to enhance DLM so that curriculum managers, administrators and teachers can maintain their curriculum data.*
17. *Data from a timetable system for the MBBS programme has been included in DLM, we are grateful to John Moss for his help in setting up a feed for this data.*
18. *As part of the mapping process Simon Cotterill has carried out document analysis of a series of study guides from the MBBS programme to capture use of 'core presentations' (presenting symptoms) across the curriculum. This did raise issues (see Section 5, below)*
19. *A key lesson has been that where curriculum data exists for other purposes, don't expect it always to be a simple case of 'plugging in to it' – there will be governance, QA process and data mitigation/translation issues. Examples given below in Section 5: Lessons learnt.*
20. *A separate tool was developed to manage learning outcomes and link these to units /modules, this provides a feed used in Learning Maps. This was necessary because existing data from an MBBS study guides database was in non-standardised text; this tool enables curriculum managers to map specific outcomes, but to still use context-specific language.*

Consultation with Stakeholders (WP3)

21. *On 16th Sept 2009 in an LTMS internal meeting we discussed governance and use of corporate data in Learning Maps (this was partly in relation to the JISC ID-MAPS project²).*

² <http://research.ncl.ac.uk/idmaps>

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22. *We had a successful project update meeting on 16th Nov 2009 for the broader project team, Advisory Board members and a student representative. + discussion of objectives & evaluation with our External Evaluator, David Baume*
23. *There were a series of discussions with the School of Psychology culminating in the Focus Group in November 2009 (below).*
24. *Discussion with Philip Bradley (Director of Medical Studies) in November 2009 which contributed to 2 additional user scenarios (US3 & US5 below).*
25. *Steve Ball gave a presentation on the project to the Board of Medical Studies on the 13th Jan 2010 –this included seeking approval for evaluation and discussion of ongoing costs of maintaining a curriculum map.*
26. *On 25th Jan 2010 Simon Cotterill gave a presentation to the Speech and Language Sciences Staff Committee. This generated a lot of discussion and the group are in the process of deciding the most appropriate group to start piloting with.*
27. *During January 2010 we had a series of meetings with Prof. John Spencer and 2 Stage 4 Medical Students doing their Student Selected Components (SSC) in Medical Education. This provided useful formative feedback on the project and set the stage for piloting in MBBS. We also had a meeting with Dr Kevin Windebank about mapping paediatrics in the curriculum, in relation to one of the SSC projects.*
28. *On the 19th Feb 2010 we had an Advisory Board Meeting; two recommendations followed up were investigation of the MedBiquitous Competency Framework (see point 14, above) and use of XCRI (see point 36, below).*
29. *On the 8th March Simon met with Helen Nazlie to discuss piloting in Speech and Language Sciences – which will be on a module on dysphagia.*
30. *On the 12th March Simon and Gordon met with Brian Lunn who leads two modules on Mental Health in the MBBS programme. This involved a demonstration of DLM and discussion of where psychiatry is taught in the programme and how it fits the concept of the 'spiral curriculum'.*

Continuity planning (WP7)

31. *On 11th January 2010 we had an internal School meeting to discuss a continuity strategy for DLM, including discussion of potential continuity activities.*

Engagement in JISC community and Programme activities

32. *The project was represented at the JISC programme meeting, 13-14th Oct 2009. It was interesting to hear about the projects in the Curriculum Design programme.*
33. *On the 5th Nov 2009 we had a phone conference with the JISC team to discuss feedback on the interim progress report.*

34. On 11-12th Nov 2009, we participated in a JISC Cluster meeting, hosted by the COWL project at the Centre for Academic Writing, Coventry University.
35. Paul Horner had a proposal accepted for a JISC mini project for portfolio interoperability (**PIOP 3**), which is very complementary to the project. This will involve developing the Leap2a specification for interfacing with other applications (rather than just the wholesale transfer of portfolio data from one system to another, as has been the focus of most portfolio interoperability work). This will involve collaboration with colleagues in Nottingham and Pebble Pad, which will help shape the development of Leap2a for this purpose.
36. Simon Cotterill has recently led an **XCRI** mini project proposal which has been approved by JISC, parts of which are linked to DLM. "North East XCRI Test-bed" (NEXT) is a collaborative project involving Newcastle University and Durham University. It involves developing feeds using the XCRI course description specification from multiple workshop booking systems and reading them into aggregators, including DLM. XCRI will be extended to include specific skills related to workshops and DLM will draw in the information on topic pages relevant to those skills. There will also be some exploratory work around exchanging course information related to the joint medical programme run by the two Universities. At the last DLM Advisory Board meeting David Baume had recommended looking further into use of XCRI in DLM.
37. On 19th February 2010 the team met with Stephen Remde and Peter Hartley from Bradford University in relation to the **c-link project**. c-link demonstrates graphically how two concepts are linked together using Wikipedia or other data sources. An online demo of this tool is available at www.conceptlinkage.org/clink. You simply enter two words and click search. The words could be related or (seemingly) unrelated and the tool will browse through the links it finds from the start concept and try to find a way through to the final concept. There may be scope for future collaboration between c-link & DLM.
<http://learning-maps.ncl.ac.uk/blog/post/c-link-concept-mapping/>

Section Three: Outputs and Deliverables

Please indicate clearly what outputs, if any, have been produced in this reporting period. Include any outputs, including interim and work in progress, that might be of interest to other projects or external audiences. Please describe and provide details of where these can be found, e.g. URLs or attached documents etc. Please note which of these if any have been uploaded to the design studio.

Outputs produced during this reporting period (WP9)

38. These outputs below are available at: <http://learning-maps.ncl.ac.uk/docs/>

Output	Ref	Completed
User Scenario 3: the occasional teacher	US3	Nov 2009
User Scenario 5: the curriculum manager / external QA	US5	Nov 2009
Focus Group Report (Psychology)	FG2	Nov 2009

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- 3 page report		
<i>Focus Group Report (BSc Speech & Language Sciences)</i> – 6 page report, including reflections by project team	FG3	Dec 2009
<i>Focus Group Report (MSc Language Pathology)</i> – 5 page report, including reflections by project team	FG4	Dec 2009
<i>Information sheet – Speech & Language Sciences, Psychology & Medicine versions</i>	IS1	Feb 2010
<i>Instructions (Medicine) v1.0</i>	UG1	Feb 2010
<i>Results from MBBS stage 2 student response evaluation 12th March, 2010 -includes methods, results & reflection</i>	SR1	March 2010
<i>Results from stage 1 student response evaluation 12th March, 2010</i>	SR2	March 2010
<i>Video snippet – project overview (for JISC Programme meeting)</i>	V1	Oct 2009
<i>Video snippet- walk through DLM site (based on demo to students)</i>	V2	March 2010

What outputs are you expecting to arise from the project? Please provide an up-to-date list. This should include a short paragraph summarizing expected technical outputs/system integrations, or any unanticipated outputs.

Set-up and Engagement

- User needs analysis (3+ user scenarios) external
- Continuation strategy plan initially internal +JISC, later external
- Project website and community blog external
- Dissemination plan external
- Project plan external

Development and Materials

- Review of current practice external
- Learning maps prototypes initially internal
- Refined **software application** external
- Documentation for stakeholders (e.g. user guides) external
- Technical guidelines external

Evaluation

- Evaluation Plan external
- Baseline & refining project goals external
- Piloted study with MBBS internal
- Documented case studies external
- Evaluation process documentation. external
- Evaluation report external

Dissemination

- Presentations external
- Newsletters external
- Final project report external
- Internal and national dissemination events external
- Project Website external

Section Four: Evaluation

Provide details of progress during this reporting period in terms of the development and implementation of the project evaluation plan. Include what activities you have undertaken (including details of the methods used), what you feel has worked, what has not, and any aspects you have changed. Please provide links to any relevant materials (e.g. evaluation reports, tools, blog posts, team reflections, etc)

Evaluation Activities (WP5 / WP6)

39. *David Baume is helping the project refine its evaluation strategy.*
40. *There has been significant dialogue with curriculum leaders and teaching staff including presentations at staff meetings, interviews and meetings with staff and activities during project meetings; these have contributed to user scenarios, which have been developed as part of the formative evaluation process.*
41. *Two additional user scenarios have been written following further consultation with stakeholders (occasional teacher + external audit).*
42. *On the 23rd Nov 2009 we had a Focus Group in the School of Psychology. Though only 2 students participated it was a very fruitful discussion; very different views on mind mapping and unanticipated idea that Learning Maps would be very useful to inform module selection. Informed extra 'top level' items in the map.*
43. *Focus Group with BSc Speech and Language Sciences, 2nd Dec 2010 (9 students). A detailed report is available on the project Website.*
44. *Focus Group with MSc Language Pathology, 7th Dec 2009 (7 students).). A detailed report is available on the project Website.*
45. *Launch of pilot with Stage 1 Medical students, 26th Jan 2010. This was a brief slot at the end of a PPD lecture with Prof John Spencer. SC gave a demonstration and then sent a personalised Email and instructions to the students.*
46. *Launch of pilot with Stage 2 Medical students, 10th Feb 2010. This was a brief slot at the end of a PPD lecture with Prof John Spencer. SC gave a demonstration and then sent a personalised Email and instructions to the students.*
47. *A further short demonstration to Stage 2 Medical students followed by structured feedback using a student response system on 12th March 2010.*
48. *A further short demonstration to Stage 1 Medical students followed by structured feedback using a student response system on 19th March 2010.*



Summary of Evaluation Findings (WP5 / WP6)

Both qualitative and quantitative feedback indicate the importance of supporting preferences; half of the students sampled had a preference for visual mind maps over the text-based interface. Generally, stakeholders are happy for now with the basic layout in DLM (the map/topic being the main section and then smaller sections for curriculum resources, external resources and personal/portfolio records). Most students did perceive benefits of DLM for their learning, for better understanding the curriculum, supporting review/reflection, and for revision.

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Please give details of the key evaluation activities you will undertake in the next 6 month period. Please tell us the rationale/purpose for activity, planned method, participants, and timing.

Please note that we expect these evaluation activities to produce lessons and outcomes for reporting under section 5 of future interim reports and for your final report or final evaluation report.

- 49. Over 200 students have now participated in the formative evaluation of DLM; with qualitative feedback in focus groups from students in 4 programmes and quantitative feedback through student response systems following demonstrations to Medical students.*
- 50. Piloting is underway in Medicine, with 122 students now having accessed DLM (data at 25/03/10).*
- 51. Both qualitative and quantitative feedback indicate the importance of supporting preferences; half of the students sampled had a preference for visual mind maps over the text-based interface. Generally, stakeholders are happy for now with the basic layout in DLM (the map/topic being the main section and then smaller sections for curriculum resources, external resources and personal/portfolio records). For more detail see focus group reports and results from the student response system surveys available on the project Website:*
- 52. Most students did perceive benefits of DLM for their learning, for better understanding the curriculum, supporting review/reflection, and for revision.*

Section Five: Outcomes and Lessons Learned

Outline any emerging outcomes or lessons that have been learned during this reporting period through your research, evaluation and piloting activities which could be of interest to others outside of your institution, and identify any emerging themes. Please be aware that these reports will be made available publically, so please indicate clearly any lessons that you wish NOT to share more widely. Also outline any new ideas or opportunities that have emerged.

When thinking about outcomes and lessons you might: (a) revisit your original challenge and identify anything you have learned that is helping your institution to address this challenge; (b) revisit any mindmaps or other representations you have of the problem space in which you are working and identify any changes; (c) revisit your original research or evaluation questions and identify any areas in which your understanding has changed, or been enriched, qualified, or confirmed.

- 53. As documented in the previous progress report, it has taken a long time to gain common understanding of the Learning Maps concept – even within the project team. There is a great diversity of opinions between stakeholders; e.g. very strong and differing opinions on curriculum mapping.*
- 54. Importance of supporting personal preferences in the software development (mind maps vs. text/tree, and other ways of viewing information) - discussion in focus groups indicated that that these preferences can be quite polarised with a few students actively disliking mind-maps in general, whilst others have a very strong preference for them.*
- 55. Terminology is important; students were generally comfortable with the concept of 'nodes'; however this was alien to some staff and admin stakeholders (use of 'topics' now preferred over 'nodes' in the user interface).*
- 56. A key lesson has been that where curriculum data exists for other purposes, don't expect it always to be a simple case of 'plugging in to it' – there will often be governance, QA process and data mitigation/translation issues.
 - a. For example, we have utilised data from the MOFS system (governance c/o the JISC ID-Maps project), but module summaries/outcomes are stored as a**

single 'lump' of text, which is formatted and populated inconsistently by different module leaders. It was therefore necessary to manually extract key topics/themes to populate the maps for psychology and speech and language sciences (a 'skeletal' framework, rather than a rich map at this stage).

- b. Another example has been the MBBS timetable data that we have used; we are having to devise semi-automated processes to manage this in a sustainable way to cater for changes in the curriculum. Complications arise because the best source for currency is only available for Semester 1 until Christmas and also session titles can include text appropriate for timetable, but not for a curriculum map e.g. 'Coach leaves at 3pm'!*
- c. As curricula mature, information in curriculum documents may become inconsistent. e.g. 'Breathlessness' (an MBBS core presentation) is referred to in 5 different ways across numerous study guides e.g. 'shortness of breath'. Also topics may be aggregated, often with different levels of aggregation in different documents. This can create challenges for curriculum mapping.*

57. The use of a student response system for feedback in a short session has worked even better than anticipated. The quantitative results compliment the findings from the focus groups.

Section Six: Communication and Dissemination Activities (WP8)

Provide details of any activities or events which have involved liaison or collaboration outside the project consortium, including key project stakeholders. Attach or provide URLs for any appropriate dissemination or presentation materials.

Please also provide an update on your communication methods, including project blogs, twitter, YouTube etc. and discuss their effectiveness.

Discuss any strategies you have found useful for engaging stakeholders at this stage of the project.

Outline any publicity the project received during the reporting period.

58. Project flyers were distributed at the Centre for Recording Achievement (CRA) residential 26-27th Nov 2009

59. Paul Horner talked about the project and gave a demo at the JISC-CETIS PIOP/Leap2a meeting at Birmingham, 23rd Nov 2009

60. Paul Horner and John Peterson gave a demonstration to the S-MSED School Exec, 16th Feb, 2009.

61. The Project Blog has been updated with developments and reflections on the launch of the first pilots.

62. A workshop proposal submitted to the annual Association for Medical Education in Europe (AMEE) conference, 2010

63. An abstract related to the project has been submitted for 'ePortfolios 2010'

64. *The DLM team have been invite to Durham University to discuss potential implication of Learning Maps for the joint Medical programme.*

Section Seven: Issues, Challenges and Opportunities

Review your original risk analysis and comment on any changes to the risk profile and how you are managing this. If any risks have become live issues affecting the project explain how you are dealing with them. Report on any other issues that did not stem from identified risks and explain how you are tackling them. For all identified issues or challenges detail what impact any issues may have on the achievement of project targets.

Report on any unexpected opportunities, positive outcomes and successes arising from changes to the plan and new opportunities.

65. *The risks identified in the proposal and project plan have not arisen.*

66. *The project team have been able to take advantage of funding opportunities for PIOP3 and the XCRI mini project*

67. *SC is spending much more time on the project than anticipated/budgeted for.*

Section Eight: Collaboration and Support

68. *See section on engagement above (points 32 to 37).*

69. *The opportunity to openly discuss challenges with peers at cluster meetings is a valued (occasionally duplicated at Programme meetings?) and the building of relationships with our Critical Friend has worked well, resulting in useful advice regarding the re-profiling of our project time-line.*

70. *The project may need to take advise from the Programme Manager on minor reprofiling of the budget. The travel budget has already been exceeded – attendance at cluster meetings in addition to frequent programme meetings was more than anticipated at the time of writing the proposal.*

Section Nine: Financial Statement

Total Grant	£198,791	Duration of project	
Reporting Period	1st April 2009 to 31st March 2011		

Budget Headings	Total budget allocated	Expenditure this reporting period	Total expenditure to date	Further information
Travel & Subsistence	£2,500	£1761.10	£3624.14	Overspending
Equipment	£9,000	£0	£887.70	
Dissemination activities	£5,000	£211.25	£814.05	
Evaluation activities	£9,000	£0	£0	External evaluator to invoice

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Other (please specify)	£53,411	£0	£9,667	
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Checklist:

Before you return this report:

- Ensure that your project webpage on the JISC site is up to date and contains the correct information. Attach details of any required amendments to this report. Project webpages can be found from: www.jisc.ac.uk/curriculumdelivery
- If there have been any changes to the original project plan and/or work packages, ensure that amended copies of the relevant sections of your project plan are attached to this report.
- Identify and name any areas within this report that you'd like removed before the report is made public (*see below)

***Please note** the interim reports will be made available on the JISC website and on the Circle site with the budgetary information removed. We recognise that projects may occasionally address very sensitive issues. We would like you to present as full a picture in this report as you can as the lessons you learn are valuable to us. We assure you that any issues you identify as confidential are removed before the report is made public. Where such issues do represent valuable lessons for the community we will involve you in further discussion as to how they could be passed on without identifying institutions or individuals.

Appendix 1. Work Packages

Work Packages (WP)	Description	Months	Deliverables
WP1: Project Management and Setup	Establish terms of reference, advisory & reporting structures. Detailed project planning and dissemination strategy. Staff recruitment.	0-6	Advisory Board. Dissemination plan. Detailed project plan. Project Officer recruited.
WP2: Review of current practice	Investigate existing structures and solutions and define requirements	0-9	4 Short Reports
WP3: Consultation with stakeholders	Identify criteria suite for mapping curricula, external relationships and personal student experiences	3-7 +ongoing	User needs analysis
WP4: Developing the Learning Maps	Implement learning maps using pilot degree programme.	0-12	Learning Maps application
WP5: Pilots	Initial large scale pilot to evaluate the developed concepts and infrastructure	10-24	Pilot Learning Maps in a range of contexts Documented case studies
WP6: Evaluation	Develop, and guided implementation throughout the project, using methodologies to identify and understand attainment of project outcomes	0-24	Documented evaluation processes. Evaluation report.
WP7: Refining and implementing sustainability strategy	Plan how the project deliverables can be sustained and built upon.	12-24	Sustainability strategy
WP8: Dissemination	Dissemination for engagement and understanding	0-24	Website, community blog, 2 national meetings, dissemination at national and regional conferences and local events with stakeholders.
WP9: Project Documentation	Review achievements, collate findings, document and assess outcomes.	18	Final report, Completed evaluation

Appendix 2. Summary of data in DLM (25th March 2010)

Individuals who have logged on: 138 (122 students)
(56 stage 1, 59 stage 2 & 7 other)

Key data

Nodes	2,687
Connections between nodes	3,962
Meta data items	1,973
Links to external resources	965
Connections resource to nodes	1,459
External news feeds	50

Types of nodes in the map:

Timetabled Event*	864
Curriculum	723
Diseases and Conditions	303
Learning Outcome*	242
Anatomy	119
Core Presentation	105
Case	72
Specialty	63
General	43
Diagnostic	43
Unit	34
Graduate Skill Framework	24
Organisation	16
Skill	15
Treatment	10
Subjects	9
other	2

Nodes by programmes

MBBS/A106	1,620
Not assigned (public)	486
Psychology/C800	344
Speech/B620	237

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Type of connections between nodes

Parent +	3,055
General connection	867
Equivalence	39
Prerequisite	1

Metadata by scheme

MBBS session	831
Timetable (Cellcat id)	817
LSE (MBBS)	153
NCL Module Code	64
MeSH	49
Module Code	33
Feed Parameters	18
Pubmed Search	8

Types of external resources linked to

Website	490
Book (library reading lists) *	351
YouTube video	48
Article	38
Image	24
Video (not YouTube)	13
Presentation	1

*automated population from external resources; with meta data 'hooks' to provide a means of updating against the remote data set – further work on sustainability planned.

+Nodes can have multiple parents in our model.