

CETIS Technical Review of the JISC Design for Learning projects

The table below summarizes the main tools and technologies used by the projects in the Design for Learning programme. It also summarizes any technical issues faced by the projects with appropriate recommendations for future developments. A list of general useability issues is also included.

Project	Tools & Technologies used	Technical findings / issues encountered	Technical recommendations	Useability issues
CETIS Support Project	media wiki PHP BB del.icio.us rss	Initial problems with spam, but increased security countered initial issues. At start of programme there was no easy way for single sign-on for all support sites (including Glenaffric Moodle installation) Using PHP BB it was relatively simple to integrate a forum facility with the wiki	With the emergence of the Open-ID movement, single sign on is now much more achievable outside institutional systems, and should be encouraged for future projects using multiple web-based resources.	Phoebe have integrated Open-ID but have had little uptake. However this is maybe more of a user immaturity issue rather than a technical one. Phoebe does provide an archetypal use case for Open ID in education. Not a lot of use was made of the forum facilities. This could be due to number of other communication channels available for the programme.

Glenaffric Evaluation Project	Moodle	n/a	n/a	n/a
Mod4L (Models of Practice)	wiki, discussion board, LD light system (word doc)	Multiple representations that convey information in different ways are necessary	Develop domain map(s) for learning design which provides not only a specification of the technological services available, but also an account of the pedagogical and technical couplings between them. Produce more digestible (smaller) versions of final report.	The amount and structure of information required to reuse a learning design is too complex for a single representation. Multiple representations that convey information in different ways are necessary. Produce more digestible (smaller) versions of final report.
London pedagogic planner	excel, Director, Java Swing, Google code	Lack of interoperability with other key systems such as calendaring or student record systems.	Re-build using available open source libraries and toolkits for the user interface layer. Put in place stronger development discipline and process before the re-build, including the ability to run software project build systems, unit testing and continuous integration. Re-architect the software against standard or in-house XSD schemas as a	Users want "high quality interfaces" with visual representations of designs There is a need to host a community of users, researchers, and designers in order to meet the iterative and continuing user requirements. With the user-oriented approach adopted in developing LPP, we envisage a collaborative open source/resource/research/users community for developing pedagogy

			design foundation. Explore "export/import to Phoebe session format"	planners.
Phoebe pedagogic planner	tiki-wiki, TRAC, PHP	TRAC systems cannot render RSS feeds so the current system is unable to exploit outputs from the programme resource sharing bookmarking site. Outputs available in non standard XML	Upgrade Phoebe from TRAC to mediawiki (or other system which can render RSS feeds). Recommend for future projects only wikis with RSS rendering capabilities be used for this type of development Development of outputs from Phoebe to include either in house or standard schemas, XSDs, IMS LD, to allow further integration with other planning tools/institutional systems. Re-architecture of the software around a code core and programming interfaces. Explore more configuration options for context sensitive help so more plug-ins	Practitioners need scaffolding when using technology to design teaching and learning experiences. Visual representations of designs would be helpful for some sets of users.

			<p>can be utilised/built to work with core system.</p> <p>Development of more robust import/export facilities to enable interoperability between systems.</p> <p>Explore "export/import to LPP session format"</p>	
EDIT4L (Evaluation of Design and Implementation Tools for Learning)	DialogPlus Toolkit (DPT), LAMS	n/a	n/a	<p>Institutional uptake of such tools will only occur when:</p> <ul style="list-style-type: none"> *toolkits developed to a stage where they are usable *toolkits made interoperable and their separate roles in the design cycle made clear *the inclusion of the toolkits in programmes that are not seen as specifically elearning in nature *the backing of senior management is in place. *a cultural change within the education sector occurs to accept the value of learning designs per se

ALeD (Authoring using Learning Design)	LAMS	<p>Adding descriptive metadata to a LAMS sequence. LAMS doesn't have extensive metadata support.</p> <p>Lack of preview facility for LAMS in Jorum</p>	<p>Encourage integration of metadata standards in learning design tools</p> <p>Development of preview facilities for Jorum for learning designs (along with other standard compliant formats such as QTI)</p>	<p>Development of preview facilities for Jorum for learning designs (along with other standard compliant formats such as QTI)</p>
D4LD (Designs for Learning Design)	,Sled, COPPERCORE	Improved performance of sled player successfully achieved	n/a	n/a
DeSILA (Designing and Sharing inquiry-based Learning Activities)	LAMS, WebCT Vista,	<p>Delays in upgrading from LAMS1 to LAMS 2 servers</p> <p>Lack of LAMS integration in WebCT, no single sign on mechanism</p>	JISC to continue to support the development of interoperable systems and integration within institutional systems.	<p>LAMS not a "good fit" with PBL, or encouraging student led pedagogy, use of LAMS could encourage unreflective, mechanistic approaches to design.</p> <p>LAMS does provide a "good fit" for the design of linear forms of inquiry and relatively tightly-structured, teacher-controlled pedagogy.</p> <p>Staff can be reluctant to use non institutional standard technology (e.g. any system which is not fully integrated with the institutional VLE).</p>

<p>Sharing the LOAD (Learning Objectives , Activities and Designs)</p>	<p>GLO (generative learning object tool) , LOAM (learning object attribute matrix)</p>	<p>Developed a quiz tool, but it does not have QTI functionality.</p> <p>GLOs generally easily integrated into institutional learning systems such as VLEs.</p>	<p>Further investigation of integration of GLO tools within institutional systems, such as VLEs, repositories.</p> <p>Development of tools such as GLO to include specifications such as IMS QTI so user data can be shared with institutional systems.</p>	<p>GLOs generally aimed a at lower level of design granularity than other programme outputs. Further investigation in how to integrate these as part of an larger orchestrated learning design (for example as part of a LAMS sequence or IMS UoL) combining other functionality, such as discussion fora etc would be useful.</p>
<p>DoL (Designs on Learning)</p>	<p>wiki (confluence), blogs (blosjum), podcasts, slideshare, del.icio.us, RSS</p>	<p>Developed institutional focused vocabularies – not mapped to any formal schemas.</p> <p>URI addressability for blog/wiki entries</p> <p>Lack of semantic structure of data.</p>	<p>Mapping of outputs against IMS LD, and metadata against other formal vocabularies.</p> <p>Further investigation around motivations for staff/students to use social software.</p> <p>Further investigation around export/import general interoperability issues between wiki systems.</p> <p>Further investigation of semantic technologies in relation to sharing and re-use of learning</p>	<p>Underestimated technical capabilities of staff & students in using social software.</p> <p>Users are empowered by being able to chose their preferred technologies.</p>

			designs/learning objects	
<p>eLIDA CAMEL (e-learning Independent Design Activities for Collaborative Approaches to the Management of e-Learning)</p>	LAMS, Moodle, ReLOAD	<p>Hosting LAMS v1 sequences on LAMS v2 server was problematic. Planned migration from LAMSV1 to v2 did not occur. Ended up with two servers; one for each version. Both integrated with Moodle.</p> <p>Project partners can't guarantee support and hosting of sequences developed during project life-cycle. Hosting partner has limited server space for non-institutional based work.</p>	<p>Sandbox learning design server available from JISC (or appropriate JISC service) for back-up hosting for projects to ensure sustainability of resources.</p> <p>This could be done cost-effectively by hosting with a cloud vendor such as Amazon, and asking institutions for a modest contribution to the running cost.</p>	<p>The CAMEL approach to collaborative design proved to be very motivating for practitioners. Further support for collaborative design initiatives should be provided.</p>
<p>LD4P (Learning Designs for Practitioners)</p>	ReLOAD, SLED, Blackboard, LAMS, ReCourse, OpenDoc, Java FX,	<p>Removing LD <organisation> element from a IMS LD content package allows it to be loaded in a non LD compliant VLE. Default option would be helpful.</p> <p>Gap between usability of current generation of tools and user abilities/expectations</p> <p>Lack of interoperability between current suite of LD tools and systems. IMS</p>	<p>Further funding to dealing specifically at IMS LD building on experience and outputs from DfL.</p> <p>Larger scale trials of design tools with real users to provide more detailed feedback for UI developments</p>	<p>Despite UI issues with tools, practitioners and students had positive attitudes towards LD.</p> <p>Novice users of tools need support with authoring which has time implications</p>

		LD seen as the potential glue to link these together.		
Construct2Learn	LAMS, Behaviour Composer	Issues with setting up project website within institutional system, so used support project wiki	Evaluate effectiveness of multiple web presence for programmes – consider use of one wiki for all projects within a programme, and/or use of RSS (or similar syndication) for project updates, etc to be available from a central point.	LAMS and Behaviour Composer provided very different routes for learner interaction. The former being more prescriptive and the later more learner centered

August 8, 2008