

# Abstracts

## LAMS in TESOL: Sketching potential

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**Dr Christopher Alexander**

*The University of Nicosia, Cyprus*

This paper aims to provide some initial ideas on how LAMS might be utilised in TESOL (Teaching English To Speakers of Other Languages). Even though this research area requires significant development, it is held that there is growing potential and justification to use LAMS in TESOL. To this end an attempt will be made to illustrate how LAMS (Version 2.2), with its increasing number of authoring tools, could be used (or might be developed to be used) to create sequences that addressed language learning skills in the following six key interrelated areas: vocabulary, grammar, reading, listening, speaking and writing. It is maintained that a pre-while-post sequence could be one way of providing a foundation structure learning-design template on which teachers might draw on their experience to build sequences for the practice of these language skills. Although the creation of a more specialised TESOL authoring tool would assist in the construction of non-Internet dependent and LAMS-gradable sequences, it is held that TESOL sequences can still be authored with many of the existing tools.

### **Biographical notes**

Dr Chris Alexander is the Language Lab Coordinator and LAMS Trainer/Administrator at The University of Nicosia. He is an Assistant Professor in Applied Linguistics and TESOL (Teaching English to Speakers of Other Languages). His Doctorate in Applied Linguistics and TESOL is from Bristol University. He has researched how to develop effective Internet pedagogies for TESOL (Teaching English to Speakers of Other Languages) and is currently researching LAMS use in TESOL. He is a member of the Editorial Board for a number of international CALL (Computer Assisted Language Learning) and TESOL journals and has many paperback and online publications.

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## Codifying the DiAL-e Framework: Making Learning Designs accessible for reuse

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***Simon Atkinson & Kevin Burden***  
*Massey University, NZ*

There are a number of well established 'learning object' repositories (MERLOT / JORUM) and a number of community sharing environments for learning designs (Cloudworks.ac.uk). There are also a large number of media rich resources now available through publicly accessible archives and repositories with large scale investments in digitization such as that by JISC in the UK continuing apace.

However there is still a gap in the support for practitioners in the deconstruction and pedagogical guidance of existing learning objects and 'learning designs' as these fail to articulate the intent of their designers.

In 2007 a team from the University of Hull began a JISC (UK) funded 'assisted take-up' project for one digitization project. That completed work created the DiAL-e Framework ([www.dial-e.net](http://www.dial-e.net)), an articulation of 10 designs for 'things the learner DOES with a digital artefact'

The international team (UK & NZ) is now codifying the DiAL-e designs in a number of 'learning design tools' to optimise the use being made of the various repositories and to encourage the articulation of successful practice. These tools include PowerPoint, eXe, LAMS and Compendium LD.

In this presentation the authors offer their reusable designs in various downloadable 'tool' formats for peer review.

### ***Biographical notes***

Simon is the Strategic e-Learning Advisor at the College of Education, Massey University, New Zealand. He is a social scientist, educational developer and strategist with specialist interests in educational technologies. His research focuses on tertiary education's strategic response to technology-driven social change, the impact of technology-enabled communication on cultural interactions, and models for evaluating technology-enabled learning. His development work in learning & teaching practice includes the development of reusable learning designs to maximize student engagement with digitally rich resources (DiAL-e Framework - <http://www.dial-e.net>). He presents on the web and in person on issues of strategic implementation, innovation, foresight and planning in

contemporary higher education.

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## **Design for Learning: making educational sense in digital contexts**

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### **Helen Beetham**

*Consultant in e-Learning, UK*

The JISC-funded 'Design for Learning' programme explored the convergence of technical developments such as LAMS and IMS LD with an increasingly design-led approach to learning and teaching practice. Its basic premise was that pedagogic intention can be articulated with the support of technology, that these articulations can be shared with other people and systems involved in the learning process, and that they can be enacted through learning activity or object design. Over a dozen JISC-funded projects have now reported their findings. LAMS has been extensively used, tested and augmented, as have other technologies including ReCourse and the two UK pedagogic planners.

### **Biographical notes**

Helen Beetham has worked in the field of e-learning for ten years and is widely published in areas as diverse as e-portfolios, learning theory and educational design. She is a consultant to the JISC e-learning programme, to the HE Academy, and to other UK Government agencies and departments. Her edited volume 'Rethinking Learning for a Digital Age' includes contributions on LAMS and learning design. Her current research interests include digital literacies, curriculum design, and learners' experiences of e-learning.

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## Developing Adaptive Tutorials using LAMS and AeLP

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### ***Dror Ben-Naim***

*University Of New South Wales, Australia*

### ***Ernie Ghiglione***

*Macquarie University, Australia*

In this presentation the focus will be on the theoretical and practical aspects of developing an integrated lesson plan using LAMS and Adaptive eLearning Platform (AeLP) . The entire pedagogical process will be discussed:

1. Conceptualization
2. Development
3. Deployment and in-class monitoring
4. Post activity reflection and adaptation

In the presentation we will also cover some fundamental concepts of Learning Design and ITS Authoring and show how those concepts are achieved when AeLP and LAMS are integrated.

The Adaptive eLearning Platform (AeLP) is a complete, web based solution for authoring Adaptive Tutorials, deploying them to students, monitoring student progress, and analysing student behaviour. An Adaptive Tutorial is an interactive, online learning activity that intelligently adapts to student knowledge level based on a live analysis of interaction data and performance. Adaptive Tutorials are authored in the AeLP's Authoring Environment and are deployed to students by either embedding them into any LMS, or contextualizing them in LAMS Activities.

### ***Biographical notes***

Dror Ben-Naim is currently completing his PhD in the School of Computer Science and Engineering at the University of New South Wales, Sydney, Australia. His PhD thesis titled "The Adaptive eLearning Platform" has been successfully expanded into a cross-UNSW project involving numerous Schools and Faculties. He has six years experience in developing educational software and elearning content and has mentored students through their Honours and Bachelor degrees. His research focuses on a Virtual Apparatus Framework approach to authoring intelligent tutoring systems.

Ernie Ghiglione is the LAMS Project Manager, based at the Macquarie E-Learning

Centre Of Excellence (MELCOE), Macquarie University. He has previous experience in various open source projects in e-learning. He has developed parts of the .LRN Learning Management System, specially the Learning Object Repository, content delivery platform, one of its assessment engines, the IMS Content Packaging, IMS Metadata and SCORM implementation. Prior to managing e-learning projects, Ernie led large enterprise software development in the US, the Netherlands and India for five years. He holds an MSc, BSc Management Information Systems (magna cum laude) from New York University and a Masters of Software Engineering from the University of Sydney.

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## Layered learning design – linking Generative Learning Objects and LAMS sequences

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**Tom Boyle, Musbah Sagar, Martin Agombar, Nils Millahn**  
*Learning Technology Research institute (LTRI)*  
*London Metropolitan University, UK*

#### **Nils Millahn**

*DN Digital Ltd, UK*

'Learning Design' or 'designs for learning' operate at many different levels from modules, through session plans, down to designs for reusable learning objects. This paper will outline an approach to learning designs for reusable learning objects. These basic level learning objects focus on one clear learning goal or objective. The presentation will first outline the GLO (Generative Learning Object) approach to capturing executable learning designs at this level. This will be illustrated through the GLO Maker authoring tool. The paper will then consider how

these GLOs can be linked to LAMS level sequences. This will be articulated through the concept of layered learning design where one level provides a service which is used by the layer above. In particular, the presentation will consider how GLOs may provide a design service to articulate components in LAMS sequences that deal with rich, multimedia based learning. It will be argued that this layered approach to learning design provides a more powerful approach to design than can be supplied at one layer alone.

### ***Biographical notes***

The four authors have worked as the central the team developing the GLO Maker 2 authoring tool at London Metropolitan University. Tom Boyle is Director of both the Learning Technology Research Institute (LTRI) and the Centre for Excellence in Teaching and Learning in Reusable Learning objects. Musbah Sagar is a Research Fellow in the LTRI who has recently completed a PhD on designing web based collaborative applications. Martin Agombar is qualified both as a teacher and a multimedia developer. Nils Millahn is a consultant with over 10 years internet industry experience who specialises in developing interactive websites and online applications.

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## Visualising processes and products for activity and curriculum design

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**Andrew Brasher, Simon Cross, Paul Clark, Grainne Conole**  
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In the Open University and other distance universities, design of learning activities is typically carried out by teams composed of people with a variety of specialist skills including academics, programmers, graphic designers and editors. The design process is usually iterative and messy; one approach we have taken with the aim of supporting effective and efficient design is to facilitate communication and promote reflection amongst the design team via generation and use of visual representations of learning designs. This approach to learning design builds on previous work (e.g. UML activity diagrams, LAMS) typically focused on visual representations at the course and course component level. Building on work we presented at the 2008 European LAMS conference we will report qualitative evidence about the benefits of, and barriers to, use of visual representation in the Open University's course production processes.

Extending our work at the course and course component level, we will also describe initial work on the use of visual representations for modelling and managing information to support the process of curriculum development.

### ***Biographical notes***

Andrew works in the Learning and Teaching Development team in the Institute of Educational Technology at the Open University. He is currently part of the team working on the OU Learning Design initiative. Most of his work within this initiative has focused on the development of CompendiumLD a software tool for designing learning activities using a flexible visual interface. More information about him is available at <http://iet.open.ac.uk/people/a.j.brasher>.

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## Assessing LAMS Chat and Forum

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**Leanne Cameron**

*Macquarie E-Learning Centre Of Excellence, Australia*

Tutors from the School of Education have been using face-to-face discussions in tutorials to discuss the set course readings. Often when the tutorial discussion began, it became obvious that the students had either not done the required readings or had given them a cursory read at best. Obviously this had a devastating effect on the quality of the ensuing discussion. However, it became clear upon marking their final examination papers, that the students could read these articles without difficulty understand their messages and effectively engage with them – if a mark was attached. Therefore, it was decided to trial assessing the classroom discussions. The students would then have the benefit of this knowledge throughout the course which would enhance their understanding of course lectures and the quality of their other assignments. The logistical problems of conducting meaningful and objective assessment of students' tutorial discussions were substantial until it was discovered that LAMS online Chat and Forum retained all previous history. A trial was begun in which students undertook a number of their tutorial discussions online in class. This presentation will outline the techniques employed by the tutors when they used online in class discussions to formally assess their students.

### ***Biographical notes***

Leanne is currently working with MELCOE (Macquarie E-Learning Centre Of Excellence) in Sydney, Australia. She is managing a number of research projects including the LAMS Activity Planner Project that is designing a scaffold to help new university lecturers and teachers develop effective learning designs. Leanne previously worked as a Lecturer with the Australian Centre for Educational Studies at Macquarie University and has also had extensive teaching experience in the schools sector.

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## The LAMS Activity Planner

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### **Leanne Cameron**

*Macquarie E-Learning Centre Of Excellence, Australia*

This presentation will include a detailed demonstration of the LAMS Activity Planner. The Planner has been designed to produce runnable learning activities that can be readily used with students. It provides a scaffold that guides teachers through the design process so that they can add their own content to educationally sound learning activities. In this way, the LAMS Activity Planner will support the sharing of effective pedagogy. It encourages the reuse of existing learning designs, resources and learning objects without requiring Lecturers to become experts in Learning Design or learning theory.

### ***Biographical notes***

Leanne is currently working with MELCOE (Macquarie E-Learning Centre Of Excellence) in Sydney, Australia. She is managing a number of research projects including the LAMS Activity Planner Project that is designing a scaffold to help new university lecturers and teachers develop effective learning designs. Leanne previously worked as a Lecturer with the Australian Centre for Educational Studies at Macquarie University and has also had extensive teaching experience in the schools sector.

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## Using LAMS in the development of the engineering course: International Welded Structures Designer

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***Eric Engh***

*Quality Management Software AS, Norway*

Through different Leonardo da Vinci projects in the period 2005-2010 new pedagogical principles for organizing and delivering more cost- and time-efficient blended learning and training have been developed for the VET community within the welding sector. The basis for these projects have been a new pedagogical methodology called Activity Based Training (ABT). With ABT the students created a product and obtained theoretical and practical education and training according the status of the product development. LAMS was used as a design tool for the course development. For the period 2009 through to 2011 a new development for International Welded Structure Designer (IWSD) will take place. The courses will be approximately 100 or 180 hours of theory. The pedagogical basis for the courses will be cases which are based on real life experience. Around the cases a framework will be developed allowing the students to reflect on the cases and obtain theoretical education as long as they solve the cases. Important factors will be a structured approach to the course itself, followed by a flexible system which will allow the students to be branched into different area of theory, giving feedback to the teachers at different levels. It is also foreseen that the use of video as a tool for creating visual reports will be exploited further. LAMS with tools and facilities is the backbone for the course development. The paper will present the key ideas and results from this project with practical examples from the course.

### ***Biographical notes***

Erik Engh is the Managing Director of Quality Management Software, Norway. The company's main activities are related to project development within quality assurance, pedagogical methodologies within education, targeting industrial education at different levels, development of outsourcing methodologies in an industrial context, use of visual communication and collaboration tools.

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## OpenScenario: A web-based Integrated Development Environment of Pedagogical Activities using Scenarios (IDEAS)

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**Christine Ferraris, Laurence Vignollet**  
*Université de Savoie, France*

**Christian Martel**  
*Pentila Corporation, France*

Creating technology enhanced collaborative learning activities remains a difficult task. Despite the existence of modelling languages, the appropriation by teachers or trainers has not happened yet possibly because the tools provided do not match their habits and requirements. In order to contribute to resolving this issue, we propose an integrated environment, called OpenScenario. This environment allows, through a unique interface, access to all tools and services required to flexibly create, deploy, monitor and assess scenario-based pedagogical activities. This environment will be described and illustrated with a real life fully-fledged application for Competencies Assessment.

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## New features in LAMS 2.3

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### ***Ernie Ghiglione***

*Macquarie University, Australia*

In this session the new innovative features of LAMS Version 2.3 will be presented. LAMS 2.3 enables a new level of collaboration in learning design by adding full interactivity with audio and video in every activity. Other new features for teachers include a gradebook, instant messaging support for students during their LAMS sequences, full latex equation editors, and more.

Technical improvements in LAMS now allow it to run on small devices such as netbooks or intel classmates delivering a performance 375% faster than previous versions with a quarter of the memory use.

### ***Biographical notes***

Ernie Ghiglione is the LAMS Project Manager, based at the Macquarie E-Learning Centre Of Excellence (MELCOE), Macquarie University. He has previous experience in various open source projects in e-learning. He has developed parts of the .LRN Learning Management System, specially the Learning Object Repository, content delivery platform, one of its assessment engines, the IMS Content Packaging, IMS Metadata and SCORM implementation. Prior to managing e-learning projects, Ernie led large enterprise software development in the US, the Netherlands and India for five years. He holds an MSc, BSc Management Information Systems (magna cum laude) from New York University and a Masters of Software Engineering from the University of Sydney.

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## Rich services in interoperable Learning Designs: can the circle be squared?

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**Dai Griffiths**  
*University of Bolton, UK*

Since the inception of IMS Learning Design (LD) the conundrum of providing flexible runtime services which are also interoperable has been a key problem. The LAMS platform, inspired by IMS LD gave priority to the creation of a practical framework for the integration of a rich set of services (at the expense of cross-platform interoperability of service rich learning designs), while the infrastructure built to run IMS LD focused on interoperability of learning designs (at the expense of a rich set of services). In this presentation we report on work in the TENCompetence project towards a resolution of this impasse through the provision of a rich and flexible set of services for IMS Learning Design runtime, using a widget server developed by the project. The capabilities of the widget server, and its potential for use in a wider context are outlined. The presentation also describes related work in the TENCompetence Learning Design Toolkit, which situates IMS LD in the context of a wider framework. Reflections are offered on the role of IMS LD in eLearning applications today, and the way in which these have informed an LD Player currently under development in TENCompetence is outlined.

### ***Biographical notes***

Dai Griffiths is Reader in eLearning at the Institute for Educational Cybernetics, The University of Bolton. His background is in the Arts and he has worked in education at all levels from primary to professional development. For over fifteen years he has been working in the field of educational technology, and in recent years he has focused on pedagogic design, and the IMS Learning Design specification. He has spent much of his working life in Spain, and holds a Doctorate from Universitat Pompeu Fabra, Barcelona.

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## Working towards effective practice in a digital age

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### **Sarah Knight**

*JISC Innovation Group, UK*

This session introduces an updated version of the 2004 JISC publication 'Effective Practice with e-Learning' and explores how practitioners can remodel a curriculum through technology in order to support an increasingly numerous and diverse student body.

Taking into account messages from the publication, 'Effective Practice in a Digital Age', and the greater understanding of student behaviour acquired from JISC-funded research into learners' experiences of e-learning and expectations of its use in higher education, the session will involve delegates in asking: Can we identify guiding principles from today's practice to meet the demands of tomorrow?

### **Biographical notes**

Sarah Knight is the Programme Manager for the Pedagogy programme of the JISC e-Learning programme, which aims to ensure that e-Learning, as practised in UK post-16 learning contexts, should be 'pedagogically sound, learner-focused and accessible.

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## Evaluating learning designs through the formal representation of learning patterns

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***Diana Laurillard, Dejan Ljubojevic***

*London Knowledge Lab, Institute of Education, London, UK*

Open design is an intriguing concept for education, because the development of pedagogy has never operated in this way before. What are the optimal conditions for sharing and re-use of open designs to work?

Pedagogy has always been shared through imitation, but there is rarely an opportunity for pedagogy to be shared and debated, shaped and refined, while being designed within a professional community of practice, because it is difficult to make it public and shareable.

With the opportunity now to share ideas and designs through digital representations several projects have set out to capture pedagogy through representation in the form of 'learning patterns'. We also now have the means to represent pedagogy in the form of a runnable sequence of learning activities, through LAMS. Can we optimise this relationship?

The presentation considers using learning patterns to evaluate the pedagogy embedded in a learning design sequence.

Could they be described in terms of formal computational metrics for the quality of a learning design that could advise learning designers as they work? Could a federated pattern-repositories system be devised to enable identifying and reusing learning patterns across its constituents? We will present the initial results of our explorations with learning patterns.

### ***Biographical notes***

Diana is Chair of Learning with Digital Technologies in the School of Mathematics, Science and Technology at London University. She has expertise in many areas of e-learning including: research and development of e-learning across numerous subject areas, learners, and learning technologies; strategy development in educational policy at institutional and government levels. She has conducted considerable research into pedagogy in maths, science, engineering and modern languages.

Dejan is Research Officer with London Knowledge Lab (Institute of Education),

working on the Learning Design Support Environment project (ESRC/EPSRC funded). His interests are in the area of reusable learning designs, interdisciplinary collaboration and communities of practice. He was previously a Research Fellow with the Learning Technology Research Institute (London Metropolitan University), where he was the principal developer of the Generative Learning Object Maker software tool. Publications span several topics, including: computer-based adaptive learning support based on reuse of learning objects, generative learning object models and tools, design for interdisciplinary collaboration, and models and tools for reuse of learning designs.

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## Design for learning and the research/teaching nexus

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***Philippa Levy***

*University of Sheffield, UK*

There is increasingly strong policy emphasis nationally and internationally on the importance of mainstreaming student learning through inquiry and research, thereby contributing to strengthening the 'research/teaching nexus' in higher education, from the first undergraduate year upwards (e.g. Boyer Commission 1999; Jenkins et al 2007; New Zealand Ministry of Education 2002). Paul Ramsden's recent call for new models of curriculum argues that all curricula should 'incorporate research-based study for undergraduates (to cultivate awareness of research careers, to train students in research skills for employment, and to sustain the advantages of a research-teaching connection in a mass or universal system' (2008: 11).

Is there a role for design for learning methodologies and tools in support of this agenda? How might they be used and developed in ways that are consistent with the aim to encourage student ownership of their experiences of learning through inquiry, and to foster inquiry partnerships between students and staff? This presentation will offer a critical reflection on issues and challenges in design for research- and inquiry-based learning, drawing in part on lessons learned from research into the use of the Learning Activity Management System (Levy et al: 2009). A conceptual model identifying four modes of inquiry-based learning will be considered, and the case for developing tools specifically for students as designers of inquiry and research processes will be explored.

### ***Biographical notes***

Philippa is Academic Director of CILASS, the Centre for Inquiry-based Learning in the Arts and Social Sciences, and a member of the Department of Information Studies, at the University of Sheffield, UK. Her research interests are in the areas of higher education pedagogy and learning support/development, including the educational roles of information professionals. She has a special interest in the use of digital technologies in learning and teaching. Through her role with CILASS she has become involved in the design of new learning spaces, including an inquiry collaboratory that was selected in early 2007 as a national exemplar of

good practice. She is taking forward a number of research projects exploring aspects of the student and staff experience of inquiry-based learning, including exploration of the impact of learning space design.

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## **LAMS Sequence Metadata Application Profile**

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### ***Anna Mavroudi, Thanasis Hadzilacos***

*Open University of Cyprus, Cyprus*

### ***Spyros Papadakis***

*Hellenic Open University, Greece*

A key dimension of Learning Design is educational metadata which facilitates search, evaluation, acquisition, and re-use of any kind of resources like learning objects and learning activities sequences.

A Metadata Application Profile (MAP) consisting of 17 fields for Learning Objects (LO) and learning sequences, crafted specifically for the needs of the LAMS Community of Practice (CoP) is presented, justified and discussed. MAPs are sub-schemas of the amalgamation of standard metadata schemata for LOs, in our case LOM, DC and the metadata of sequences of learning activities used in the LAMS repository. MAPs are needed because standard metadata schemata are cumbersome in their excruciating detail (whence not adhered to), incompatible, and still not sufficient for the needs of a particular CoP. Our methodology for designing the LAMS CoP MAP started with an analysis of the LAMS sequence repository; it consisted of selecting a globally representative sample of LAMS learning sequences, choosing the statistically most popular ones, evaluating the correctness of their metadata usage and determining suitable corresponding metadata fields from LOM and DC. As a result, the MAP recommended adheres to international metadata standards and the needs of the community of LAMS while keeping in mind the work done in order to promote future interoperability, ease of indexing and successful search of the Learning Sequences in the LAMS repository.

### ***Biographical notes***

Anna studied Mathematics in the University of Thessaloniki (1998-2003) and Information Systems in the Hellenic Open University (2004-2007). She has been working as a teacher in Mathematics (2002-2007) and at the Hellenic Open University (HOU) as research staff member specialist in educational technology (2007-2008). At the HOU she customised the functionality of open source digital libraries (dSPACE), suitable for e-learning content. She has also studied metadata standards and their use in the description of the digital assets included in the digital library of the HOU. She is a PhD student in the fields of educational technology and artificial intelligence.

Spyros is PhD candidate in the School of Science and Technology at Hellenic Open University (HOU) in the field of e-Learning. He is member of a research team in the Laboratory of Educational Content, Methodology and Technology (e-CoMeT Lab) at HOU and in Education and Training Sector at Research Academic Computer Technology Institute (RA-CTI), Greece. His current research interests include, e-Learning, teaching and learning in virtual learning environments, blended learning and learning design. He has authored or co-authored seven books in Greek (among them "Basic skills in ICT" for 120.000 Teacher's Training in Greece) and over thirty research papers in international journals and conferences.

Thanasis has been Information Systems Professor and Academic Chair at the Open University of Cyprus since 2007. He was at the Computer Technology Institute, Greece as researcher (1986-2007), Scientific Director of Educational Technology and e-Learning; a member of the BoD and Director of research units, teams & projects). Hellenic Open University (HOU 2000-2007): Dean of Science and Technology, associate professor (software engineering). His studies include: Harvard, UPatras (Computer Science) and HOU (Theology). He designed and managed "Odysseia", the Greek national project for ICT in secondary education (1996-2002). Council of Europe: "Teaching and Learning in the Communication Society" group (2004). E.U. DG Education & Culture: Greek national representative for Ploteus, the educational opportunities European portal.

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## Open Educational resources to Open Educational designs: Openness as a route to sharing

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### **Patrick McAndrew**

*Open University, Milton Keynes, UK*

Sharing practice and experience between educators working in higher education has proved itself to be a hard problem: content is often not designed for transfer; people need to adopt ownership before use; the investment in time to understand someone else's teaching can be high; and, it is rarely anyone's job to look for ways to reuse resources. Previous work on pedagogical patterns and learning design (McAndrew, Goodyear and Dalziel, 2006) suggested that making designs more explicit may help sharing take place. The development of learning design repositories (Burgos & Griffiths, 2005) and the growth of the LAMs community offer some evidence for the validity of this view. However it seems that it is only a partial solution as designs in isolation can be too abstract without underlying instantiations. The Open Educational Resources (OER) approach to sharing content offers a possible source for such sharable instantiations. This presentation will look at how work on design representations can come together with open access materials to provide a basis to research routes to reusability. It will consider the potential cycle for use and reuse of OER, the needs of the educator community and look at examples of additional design material produced in CompendiumLD.

### **Biographical notes**

Patrick is Senior Lecturer in The Open University's Institute of Educational Technology. He has led a range of research projects addressing how materials and environments can support learning through the use of learning design and the provision of tools for learners. Patrick has a degree in Mathematics from the University of Oxford and a PhD in Computer Science from Heriot-Watt University in Edinburgh. He is currently leading OLnet, a collaborative initiative to research the use open content for free education. OLnet is supported by The William and Flora Hewlett Foundation.

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## Theory and reflection in pedagogy planner tools to support learning design

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### **Liz Masterman**

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### **Marion Manton**

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University of Oxford, UK*

Within the e-learning research community, theories of learning are now widely considered to play a key role in the effective integration of digital technologies into teaching and learning. Indeed, this stance has underpinned the development of a number of pedagogy planners: purpose-built tools that support teachers in the practice of learning design. However, data from evaluations of two such tools (Phoebe and the London Pedagogy Planner) suggest that, while some teachers accord a major role to theory in professional development and practice, others assert the primacy of reflection on personal experience.

These findings have substantial implications for a multi-institutional team which is currently researching a range of tools to provide university lecturers with a new online “learning design support environment” (LDSE: <http://www.ldse.org.uk>). Therefore, we are working with ten “informants” – experienced lecturers, staff developers and/or e-learning specialists – who are providing input into the design of this environment. In this presentation we will report on in-depth interviews exploring informants’ relationship to theory and reflective practice with a view to understanding, inter alia, i) the extent to which guidance provided by the LDSE should be underpinned by theory; ii) which of the panoply of theories, models and pedagogic frameworks are most relevant; and iii) how should the LDSE should balance theory versus personal experience as a criterion for reflection.

### **Biographical notes**

Liz has 12 years’ experience researching and evaluating learning technologies at all educational levels, having previously worked for 15 years in the commercial IT sector. She is currently Senior Researcher with the Learning Technologies Group, University of Oxford. Since 2004 Liz has worked on a number of projects investigating the tools and processes involved in learning design, and also has a

longstanding interest in the integration of cognitive and socio-cultural approaches in the design and evaluation of technology-mediated learning. She is currently collaborating on a multi-institutional project to develop a Learning Design Support Environment, led by Prof. Diana Laurillard.

Marion is eLearning Research Project Manager at Technology-Assisted Lifelong Learning (TALL), in the Department for Continuing Education at the University of Oxford. As well as managing research projects, she is responsible for the ensuring the quality of all TALL programmes from an online learning perspective.

Her particular interests are in effective pedagogical models for different learning scenarios and how best to facilitate these using technology, and the development of effective tools and processes to help academics identify these and translate knowledge of their subject and teaching into high quality online learning. Marion has led many research projects for TALL including Phoebe and Cascade.

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## From e-pedagogies to activity planners: How can they help teachers?

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***Elena de Miguel, Covadonga López, Ana Fernández-Pampillón and María Matesanz***

*Universidad Complutense de Madrid, Spain*

Within the framework of the Project E-Ling, at Universidad Complutense de Madrid (Spain), our research team is working on the creation of educational materials and defining online pedagogies in the area of Linguistics. We have been using LAMS for some years now, to design activity sequences in higher education. Our learning sequences have fundamentally focussed on collaborative learning environments, however, we have realised that LAMS can be employed in many different online pedagogies. One of our main interests in LAMS is to point out its adaptability, as some of the designers/ teachers working with us can only see the use of sequences as an instructor-led type of learning. We have transformed some of our tested sequences into pedagogical planners, using the LAMS Activity Planner tool. In the second stage of our work, we are surveying teachers about the use of these planners, in order to determine if planners help them, not only to save time, but open new possibilities for using different pedagogies in LAMS. In this presentation, we will show some examples of planners, sequences obtained through these planners and some of the analysed opinions.

This research is being done within the project "Un modelo hipermedia modular para la enseñanza de la Lingüística General", TIN2005-08788-C04-03 funded by DGICYT (Spain), main researcher Covadonga López Alonso.

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## Lessons Learned from IMS Learning Design Tool Developments

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**Susanne Neumann, Petra Oberhuemer**

*University of Vienna, Austria*

The IMS Learning Design (IMS LD) specification was introduced in 2003 to provide a standardized language for describing activity-focused learning arrangements. Since then, several projects were funded to provide proof of practice for IMS LD. Funded projects included primarily tool developments and the transfer of learning arrangements and courses into the language of IMS LD. The presentation will focus on two main points in this regard. First, outcomes of an IMS LD Expert Workshop will be presented. Experts combined their experiences within IMS LD related projects and discussed problems in regard to the IMS LD tool developments, and what may represent barriers to a wider acceptance. Second, results of an evaluation of an IMS LD graphical modelling tool, which requires no prerequisite knowledge in regard to IMS LD, will be presented. The evaluation, which was performed with 21 instructors at a higher education institution, showed deficiencies in the general approach to tool development, where editors and runtime environments are usually separated. Conclusions from the two parts of the presentation will be combined in regard to the conference theme “Opening Up Learning Design”, more specifically focussing on factors that may need to be in place to further propel IMS LD.

### ***Biographical notes***

Susanne is a researcher with the Center for Teaching and Learning at the University of Vienna. Within the EU projects PROLIX and ICOPER, she focuses on the IMS Learning Design specification and teaching methods. Regarding IMS Learning Design, her research interests lie with the translation of specification concepts into practitioner language as well as its applicability in corporate training and higher education. Regarding teaching methods, her research focuses on their generic description and transfer as well as the methods’ use and adoption. Her dissertation work, which is mentored by Rob Koper, focuses on the classification of teaching methods.

Petra has been Deputy Head of the Centre for Teaching and Learning at the University of Vienna since 2003. Her current tasks mainly focus on the development and support of new approaches to the integration of learning technology into mainstream education to promote effective pedagogies and quality



teaching at an institutional level. Her interests include issues related to Open Educational resources sustainability models and the adoption of e-learning standards in large scale practice. She is participating in numerous inter/national projects dealing with didactical aspects of technology enhanced learning. Petra is author of numerous articles and is speaker at international conferences.

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## Assisting Tutors at the Hellenic Open University in the processes of designing, planning, managing and reusing Learning Activities

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**Christos Pierrakeas, Spyros Papadakis, Michalis Xenos**  
*Hellenic Open University, Greece*

The aim of this paper is to present some early findings of the pilot implementation of Learning Design at the Hellenic Open University (HOU). This study represents the first step of a broader effort that seeks to use learning design tools to support tutors and learners in distance education across our university by charting existing international experience and methodology. This study aims to investigate how active tutors and students at the HOU (Greece), approach understand and deploy LAMS and the additional support and tools they would find helpful. Such work holds interest for all developers and users of learning design tools. Ten semi-structured interviews were conducted with Computer Science undergraduate students and one tutor who has utilized LAMS to support his students in their first year distance study. This paper examines the evidence of this case study through a discussion of issues emerging from the interviews and a questionnaire responded to by 28 students of this group. The students demanded 'just-in-time' tutoring, more practical tutorial examples and exercises to be active and hands-on, practical support by peers. Tutors interested in adopting Learning Design will find it innovating and it can enhance their understanding of technological support, on the other hand, it is complex, demanding and time consuming.

### **Biographical notes**

Christos holds a BSc in Mathematics (1986) and a Ph.D. in Medical Informatics (1994) from the University of Patras, Greece. He also holds two Postgraduate Certificates in 'Open and Distance Learning' and 'Adults Education' from the Hellenic Open University (HOU). Currently he is Technical Supervisor and Acting Head of the Educational Content, Methodology and Technology Laboratory (e-CoMeT Lab) at HOU. He is Tutor with the HOU in the Department of Informatics. His main research fields include: machine learning and expert systems applications in Computer Science and Education, development and evaluation of educational material and educational process evaluation. He has authored 3 books and over 30 papers in international journals and conferences.

Spyros is PhD candidate in the School of Science and Technology at Hellenic Open University (HOU) in the field of e-Learning. He is member of a research team in the Laboratory of Educational Content, Methodology and Technology (e-CoMeT Lab) at HOU and in Education and Training Sector at Research Academic Computer Technology Institute (RA-CTI), Greece. His current research interests include, e-Learning, teaching and learning in virtual learning environments, blended learning and learning design. He has authored or co-authored seven books in Greek (among them “Basic skills in ICT” for 120.000 Teacher’s Training in Greece) and over thirty research papers in international journals and conferences.

Michalis received the Diploma degree in Computer Engineering & Informatics, in 1991 and the PhD degree in Software Engineering, in 1996 from the University of Patras, Greece. Since 1991 he has been holding teaching assistance, teaching and research positions at the Departments of Computer Engineering & Informatics and Mathematics of the University of Patras, and the Research Academic Computer Technology Institute, Patras, Greece. Currently he is an Assistant Professor in the Computer Science Department of the School of Sciences and Technology of the Hellenic Open University. His current research interests include, inter alia, Software Quality, Software Metrics, Software Quality Evaluation, and Educational Technologies. He has authored or co-authored 8 books in Greek and over 100 papers in international journals and conferences.

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## Using Moodle Activities within LAMS

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**Ernie Ghiglione, Marina Rodríguez Aliberas , Lluís Vicent, James R. Dalziel**

*Macquarie University, Australia*

In this paper we discuss the implementation of the LAMS Tool Contract to include Moodle learning activities within the highly visual context of the Learning Activity Management System (LAMS). We aim to show how learning tools, from different Learning Management Systems, (LMS) can be included in a visual learning design environment such LAMS using a common interface (LAMS Tool Contract). In addition, we present an example of tool interoperability where learning activities can be used in complex and sophisticated learning designs using LAMS.

### ***Biographical notes***

Ernie Ghiglione is the LAMS Project Manager, based at the Macquarie E-Learning Centre of Excellence (MELCOE), Macquarie University. He has previous experience in various open source projects in e-learning. He has developed parts of the .LRN Learning Management System, specially the Learning Object Repository, content delivery platform, one of its assessment engines, the IMS Content Packaging, IMS Metadata and SCORM implementation. Prior to managing e-learning projects, Ernie led large enterprise software development in the US, the Netherlands and India for five years. He holds an MSc, BSc Management Information Systems (magna cum laude) from New York University and a Masters of Software Engineering from the University of Sydney.

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## Using LAMS to facilitate an effective synchronous virtual classroom in the teaching of algorithms to undergraduate students

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***Eleni Rossiou, Konstantinos Paparrizos***

*University of Macedonia, Greece*

***Spyros Papadakis***

*Hellenic Open University, Greece*

Modern theories of learning suggest that there is a social dimension to the learning process. However, the majority of traditional students don't participate actively in the actual classroom environment. Transition from f2f learning to blended learning means greater demand for support via synchronous Tutoring Tele-Meetings (TTM). In conventional Higher Education in Greece students have physical presence by attending lectures but they don't really have the opportunity to actually involve themselves in the learning process. Virtual classroom is one of the tools that can reduce the sense of isolation by offering more engagement opportunities for both online and traditional students. Keeping everyone engaged in a virtual classroom is a challenge because, unlike a physical classroom, students' body language cannot be read. It is important to provide students with learning activities before, during and after the TTM in order to achieve much more than just listening and passive attendance. In this paper we propose a LAMS sequence template and we share the lessons learnt about using LAMS to facilitate open education in our university. Organizing synchronous e-learning opportunities for our students is an effective way to increase self-learning with less guidance and support. By using LAMS we can properly prepare and monitor our students to enhance their participation in effective TTM with which we complement teaching of algorithms to undergraduate students.

### ***Biographical notes***

Eleni has BSc in Mathematics, MSc in Computer Science, Postgraduate studies in Distance Education and Adults Education. She is PhD candidate in the area of blended learning methods with synchronous (virtual classrooms) and asynchronous tools. She is a teacher of Informatics in secondary education and adults' trainer in National Centre for Public Administration and Local Government (E.K.D.D.A.). She is member of Algorithmic Operations Research Group of the University of Macedonia, member of Hellenic Network of Open and Distance Education, and member of Hellenic Scientific Association of Information and

communication technologies. She has authored and co-authored various research papers and books. She has extensive experience in distance education, adults' education, teaching and learning in virtual learning environments and development of eLearning materials.

Spyros (B.Sc. in Mathematics, Postgraduate Certificate in Distance Education, and M.A. in Adult Education) is a PhD candidate in the School of Science and Technology at Hellenic Open University (HOU) in the field of e-Learning. He is a member of the research team in the Laboratory of Educational Content, Methodology and Technology (e-CoMeT Lab) at HOU and in Education and Training Sector at Research Academic Computer Technology Institute (RA-CTI), Greece. His current research interests include, learning design, educational technology, virtual learning environments and blended learning. He has experienced in all aspects of software development. He has authored or co-authored 7 books in Greek (among them "Basic skills in ICT" 120.000 copies for Teacher's Training in Greece) and over 30 research papers in international journals and conferences.

Konstantinos is a professor in the Department of Applied Informatics, University of Macedonia, Greece. He received his MSc and PhD in Operations Research from Case Western Reserve University. His research interests include mathematical programming, network programming, algorithm analysis, and data structures. His research interests are focused in the areas of linear and nonlinear programming, network optimization, combinatorial optimization, analysis of algorithms and data structures. Research papers have been published in Mathematical Programming, DIMACS, Annals of Operations Research, European Journal of Operational Research and other journals. He has reviewed for many scientific journals and is a member of INFORMS and the Mathematical Programming Society.

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## 9Step: A social web learning pathways tool

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### ***Martin Weller & Liam Green-Hughes***

*The Open University, Milton Keynes, UK*

This will be a demonstration and discussion based around a preliminary idea to develop a simple learning pathways tool. Most learning design type tools start from the knowledge we have regarding pedagogy and learning. As such they are often sophisticated, but also complex to use. The aim of this approach is to start from the basic principles of successful social web applications, and once we have defined these, to build a learning pathways tool that matches them.

The resultant tool, 9step, is far simpler than many of its counterparts, but it may have greater potential to achieve the critical mass required for success. The presentation will outline the core principles, demonstrate the tool and use this as the basis for discussion. Issues we will consider include whether simple tools can achieve complex learning, is a socially mediated learning tool viable, and what are the key principles for such a tool?

### ***Biographical notes***

Martin Weller is Professor of Educational Technology at the Open University. His interests are in new technologies, the implications of digitisation for education, open learning and social media. He was Project Director for the OU VLE and SocialLearn project. He blogs at [edtechie.net](http://edtechie.net)

Liam Green-Hughes is a developer who works at the Open University and a blogger. He wrote the OU's first applications on Facebook and helped set up the OU's institutional repository Open Research Online. He takes a keen interest in the opportunities offered by open source software, social media, web based communities and mobile technologies, particularly ultra mobile computing. His blog can be found at: <http://www.greenhughes.com>.

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