Research Briefing Nº 90

The Learning Designer app for teachers

The Learning Designer sets out to help teachers keep up with the pace of technology innovation, build the evidence of what works, and use technology to enable every learner to achieve their learning potential.
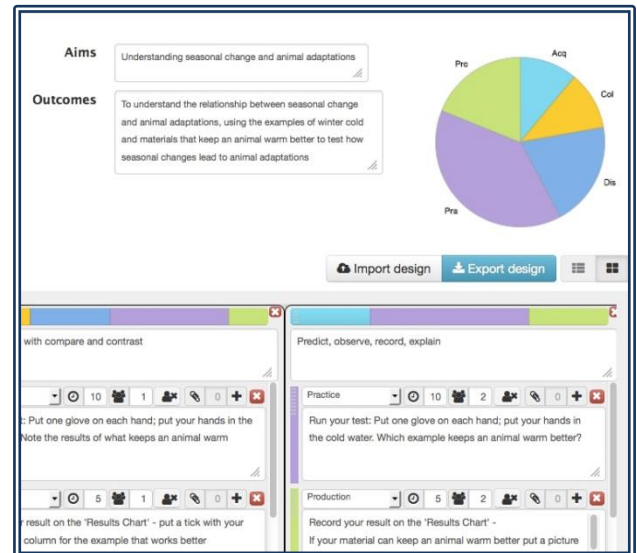
Key words: learning design; technology; effective practice; Continuing Professional Development; CPD; professional learning

Key findings

The Learning Designer initiates a new generation of lesson planning tools. It provides a set of interactive web-based tools designed to help teachers integrate learning technology into their teaching. A learning design is displayed as a sequence of activities, similar to a lesson plan, with all its main properties visible, and editable. It can be used in any educational sector, any curriculum area, and for any type of learning context: traditional classroom-based, online, or a mix of the two.

The study found:

- It is feasible to create learning designs that can be computationally analysed to provide useful visual feedback on their design to teachers, with meaningful verbal and graphical representations.
- The way in which the Learner Designer has been developed models the way in which teachers normally plan lessons and learning activities. The Learning Designer has also been evaluated to ensure that it is very user friendly. Both factors help teachers to use the tool effectively to design learning.
- Teachers in Higher Education (HE) use many theories (sometimes none) to inform their learning design, although pragmatic considerations take priority.
- Teachers' ideas about the nature of learning design tend to match those of the Learning Design research community.
- Teachers recognise the value to their own practice of capturing, representing, and manipulating their learning designs in a computing system.
- It is feasible to migrate good pedagogical designs across discipline areas. From generic and specific instances of a design, teachers can select a generic design and test their own content in it before adopting and elaborating it for their own context.
- Being able to use the Learning Designer to estimate the costs of teacher time, and the effect on the learning experience of class size, Technology Enhanced Learning (TEL) activities, and contrasting types of teaching-learning activity, was seen as having considerable value for institutions and departments.

- By adopting, adapting, trialling, and sharing their learning designs it is now feasible for the teaching community to develop a collective intelligence of what makes effective learning designs or lesson plans.
- As a proof-of-concept prototype, the Learning Designer was well received by representatives of the target user group. In particular, the graphical analysis of learning experience was seen to open a new window into learning design, providing a valued opportunity for reflection and redesign prior to testing the design with students.

What we did

The three-year project was funded by the Economic and Social Research Council (ESRC)/ Engineering and Physical Sciences Research Council (EPSRC) TEL programme. It was a collaborative project between six UK higher education institutions, combining researchers from educational technology and computer science.

There is a particular emphasis on embedding the Learning Designer in the everyday practice of teachers, to help them make optimal use of new digital pedagogies that will enhance the quality and scale of teaching and learning.

How we did it

The project employed a design research methodology, with successive iterative phases of design, development and evaluation.

The design and evaluation phases used a) desk studies of previous related projects and a literature survey; b) interviews with 10 'informant practitioners' to elicit current learning design practice; c) requirements-gathering workshops with HE lecturers and learning technologists; d) iterative user evaluations for each successive design phase, using walkthroughs with individuals and pairs on specific functionality; larger workshops on the full tool, and activities embedded in staff-development programmes. The Learning Designer has now been used in settings in schools (primary and secondary), Further Education (FE) and HE.

The Learning Designer was developed, integrated, and tested in successive versions to refine: the user interface, data structures, ontology, user interactions, community knowledge, advice and guidance on learning design concepts, and a recommender system (uses the user interactions to personalise the design ideas it recommends). Both stand-alone and web-based versions were developed, and are now being integrated as a web-based pedagogic user interface for Virtual Learning Environments (VLEs) such as Moodle.

Further information

The follow-up research is developing the research prototype as a robust online tool for greater access to a wider range of teachers.

See also: Laurillard, D., Charlton, P., Craft, B., Dimakopoulos, D., Ljubojevic, D., Magoulas, G., Masterman, E., Pujadas, R., Whitley, E.A. & Whittlestone, K. (2013). A constructionist learning environment for teachers to model learning designs. *Journal of Computer Assisted Learning*, 29, 15–30.

For more information on Learner Designer see: http://buildingcommunityknowledge.wordpress.com/

Contact

Principal Investigator: Professor Diana Laurillard, Department of Culture, Communication and Media, Institute of Education, University of London
Email: d.laurillard@ioe.ac.uk
Phone: +44 (0)20 7763 2162
Other team members: Dr. Patricia Charlton and Dionisis Dimakopoulos (Institute of Education); Dr Joanna Wild (University of Oxford)

IOE researchers are based at the London Knowledge Lab (LKL) – a collaboration between the Institute of Education and Birkbeck