

Design for Learning in Technology-rich Contexts

Background and Motivation

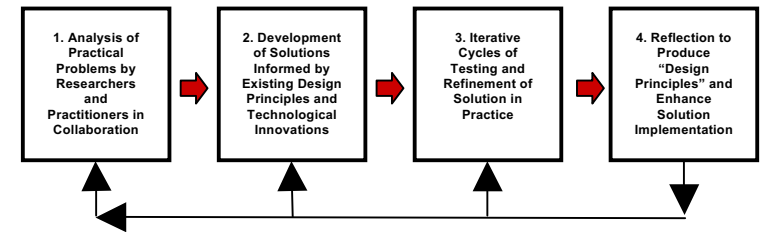
New and emerging technological innovations are inciting to reconceptualise teaching and learning, and also playing a role as an accelerator for transformation. Technology itself as a teacher supporting tool can be very effective to design for learning in technology-rich contexts. Learning Design (LD) tools enable users to design courses using digital technologies, allowing them to collaborate and share learning designs with the aim of developing good pedagogical practice, improve learning outcomes and delivery methods. Despite the advantages of pedagogy-based, technology-informed LD tools the rate of adoption in practice remains low.

Developing a learning design framework for technology-rich contexts and promoting teachers and designers to use these digital tools for learning design is essential in the digital age. It can potentially help teachers to create most effective learning design by avoiding them wasting their time and energy. It also promotes the use of digital technologies in teaching and learning and can lead to a practical way of measuring the effectiveness of learning design and improve the learning outcomes. Last, but not least, an LD framework can provide guidelines for researchers, practitioners or designers of learning, and support adaptability to the nature/context of the learning environment. This research project focuses on the following objectives:

1. Analyse existing literature and practice: develop an understanding of the modern context of Learning Design in technology- rich environments covering learning design models and how these are adopted in practice, and of the available LD tools.
2. Research into user requirements: analyse current practice with learning design tools; identify requirements, needs and skills for effective learning design, and develop usage scenarios.
3. Create a Learning Design Framework in technology-rich environments building on existing research and practices, and the findings of our research. Validate the LD conceptual framework.
4. Research the optimal design for an effective support tool for learning designers. Develop and evaluate a research prototype.

Methodology and Methods

The overall project methodology is the Design-Based Research (DBR) Approach (Fig. 1) accompanied with sociomaterial theory as an analytical lens to understand teachers' learning design perceptions and practice.



Refinement of Problems, Solutions, Methods, and Design Principles
Figure 1. The Phases of Design Based Research

Grounded theory will be used to develop the LD framework (Fig. 2).

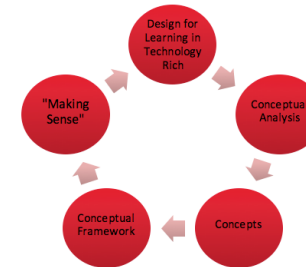


Figure 2. The Process of Building Conceptual Framework

After validating the conceptual framework, we will use it to inform the design of a research prototype. Standard software engineering methods (Fig. 3) will be adopted at this stage.

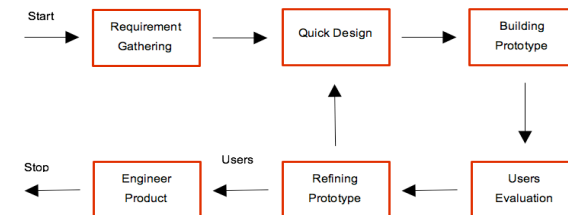


Figure 3. Prototyping Software Life Cycle Model

Publications

Celik, D., & Magoulas, G. D. (2016). Teachers' Perspectives on Design for Learning Using Computer Based Information Systems: A Systematic Literature Review. In Proc. of the 21th UKAIS Conference, 11-13 April 2016, Oxford, UK.