

# Leveraging MOOCs for Blended Learning: Capturing Effective ‘Wrapping’ Strategies With a Learning Design Pattern Language

Ling Li, University of Hong Kong, [lingli.edu@hku.hk](mailto:lingli.edu@hku.hk)  
Nancy Law, University of Hong Kong, [nlaw@hku.hk](mailto:nlaw@hku.hk)

**Abstract:** There is an emerging trend to deploy MOOC resources in blended courses. This study aims to explore a systematic strategy for pedagogically productive exploitations of MOOC course designs in blended contexts. Adopting a design pattern language, this study documents and compares the learning designs of a Java course offered in both a fully online and a blended mode, so as to identify effective pedagogical patterns in transforming MOOCs to blended learning.

## Introduction

The implications of massive open online course (MOOCs) have been widely expanded in the higher education landscape. Following the development of SPOCs (small private online courses), BOOCs (big open online courses) and DOCCs (distributed online collaborative courses), another new model is emerging, which uses MOOCs to support blended course design (Bruff, 2012; Bruff, Fisher, McEwen, & Smith, 2013; Caulfield, 2012a, 2012b; Fisher, 2012; Holotescu, Grosseck, Cretu, & Naaji, 2014). In this model, MOOCs, which have the functions of lecturing, testing and discussion, are regarded as ‘super-textbooks’, around which local instructors ‘wrap’ a set of in-class activities to customize their own courses. This approach promotes the exchange of learning design and materials in an online teaching community and opens up a new way to make use of MOOCs. However, building a blended course that incorporates an existing self-contained MOOC with the fixed content authored by another instructor can be challenging (Bruff et al., 2013; Caulfield, 2012a). The different targeted learners and manners of delivery, and the two instructors (in the video and the classroom) who may or may not hold the same view on the course content, could all be obstacles to a coherent coupling of online and offline components.

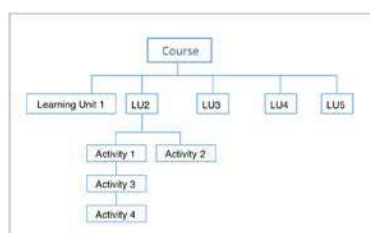
A small number of educational researchers and practitioners have been discussing and experimenting with effective strategies to build blended courses around MOOCs (Bruff, 2012; Bruff et al., 2013; Caulfield, 2012b; Fisher, 2012; Holotescu et al., 2014). These studies have identified various techniques that can usefully complement, extend and deepen the existing online components, such as creating small group discussions/activities, adding additional/challenging materials, clarifying concepts and questions shooting (ibid). Although these techniques are very effective practices in wrapping MOOCs, they are captured and presented as isolated ideas rather than as working parts of integrated approaches of teaching. The learning experience that a blended course creates for students is supposed to be fundamental and far-reaching (Garrison & Kanuka, 2004; Graham, 2006). When instructors develop a blended course, they cannot merely focus on instructional techniques by adding a group activity here and a different resource there. Instead, they should be cognizant of a spectrum of pedagogical approaches that organically synthesize across face-to-face and online components, through which the targeted learning outcomes can be effectively tackled. However, there has yet to be any systematic, well-documented and pedagogically-grounded strategies that teachers can draw upon when transforming MOOCs to a blended mode.

This study was set out to explore and develop a repertoire of pedagogically productive wrapping strategies that teachers can apply in developing blended courses from MOOCs. Adopting a learning design pattern language, this study documents and compares the learning designs of a Java course in both a fully online and a blended mode, in order to identify effective pedagogical patterns in transforming MOOCs to blended learning.

## A learning design pattern language

We argue that systematic pedagogical deployment should focus on pedagogical patterns (Goodyear, 2005; Laurillard, 2012) as basic units in transforming MOOCs to blended mode. The learning design pattern language (Law, Li, Herrera, & Salas-Pilco, 2017) adopted in this study provides a research-based design language for clear representation of patterns in a systematic way. Specifically, the pattern language encompasses hierarchically nested structures that capture a course design at different levels of granularity: course, learning units and learning tasks (Figure 1). So instead of capturing fragmented techniques, the multilevel language allows us to document the dynamic process and the complete pedagogical approach in which the techniques are

embedded. This allows us to make visible the tacit knowledge of instructors' design thinking, and distil the effective design patterns that can play out in other contexts.



**Figure 1.** The hierarchically embedded 3-level structure of the learning design pattern language.

## Research method and data collection

This study documents and compares the learning designs of the fully online and the blended modes of the Java course. Two research methods were adopted to obtain the required data. The first and primary method was observation. We have two team members auditing, in the role of students, both the fully online (archived) and the blended Java courses, and documenting the learning designs using the pattern language. In the meantime, we have conducted two rounds of interviews with the instructor to validate our documentation of the learning designs.

## Findings

A series of design patterns have been captured from the two modes of the Java course. The findings show how the same learning outcome objectives were delivered differently in the two modes of the Java course. With the learning design pattern language, we are able to capture and present the instructor's MOOC-wrapping techniques in coherent pedagogical patterns. This allows us to see adequately how the different design components, online and offline, work together to generate transformative learning experience. In the poster session, we will present the full set of effective design patterns that we have identified in transforming MOOCs to blended contexts. They are envisioned to form a repertoire of strategies to support instructors' experimentations with leveraging MOOCs for blended learning.

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