Embedding Classroom Practice in a 21st Century Learning Design (21CLD) MOOC framework

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This poster explores the potential of MOOCs for teacher professional learning. It describes an innovative model that has evolved over a decade and how this could be implemented through different MOOC formats. Designed as a robust yet flexible framework that meets teachers' expressed needs, the model supports school-focused, job-embedded teacher professional learning, which challenges more traditional instructional environments. More specifically, it infuses digital technologies and other elements of 21st century skills into the teaching and learning experience. Employed initially in face-to-face contexts, the most recent development has been the design of a MOOC which maintains key elements and signature pedagogies from the initial phases to support a scalable and sustainable model of teacher professional learning.

Keywords: Teacher education, 21st century skills, MOOCs, peer learning, learning design, ICT.

Towards a scalable & sustainable model of teacher professional learning

This programme of professional learning is distinctive for the way it is school-focused, job-embedded and directly related to teachers' experiences.

Figure 1: Phases in the development of a scalable & sustainable model of teacher professional learning

The initiative now spread over three phases (Figure 1) has two aims (i) to help post primary teachers examine and change their classroom practices, particularly in relation to innovative uses of digital technologies to support the development of 21st century skills; and (ii) to promote the transfer and tangible benefits of this professional development for students' learning. In response to an expressed desire among school leaders and teachers alike, the initiative was also directly linked to a university postgraduate accreditation process (Butler & Leahy, 2015).

Table 1: Impact of the model of professional learning on classroom practices & student learning

Emergence trends in classroom practices	Positive impact on student learning,
- Student-centred learning - Project based learning rather than discrete lesson plans - Students working collaboratively in groups rather than individual learning - Focus on learning not on subject "content" - Awareness of / designing lessons with opportunities for students to develop 21st century skills - Increase in teacher confidence to use a greater range of pedagogical strategies / digital technologies - Collaboration across and between subject departments	Learners: - taking control of their own learning - having greater ownership of the learning activities - demonstrating more engagement / participation - increased collaboration - being active rather than passive in their learning taking on new leadership roles

In order to change classroom practice, teachers need to ask questions about their existing practices (Butler, 2004). The Learning Activity/Student Work (LASW) framework (Shear et al., 2009) provided this context. It enabled the teachers to design learning activities in which they embedded 21st century learning principles, develop the meta-language to describe such learning environments and reflect on their teaching and student learning (Butler & Leahy, 2015).

The model of professional learning enabled participating teachers to design learning environments which were more student-led and characterised by the use of a range of digital technologies supporting an enquiry process that demanded the use of essential skills such as knowledge construction, problem-solving and innovation, self-regulation, skilled communication and collaboration.

Issues of Scalability: Can a MOOC address this challenge?

The challenge is to design learning experiences that support large numbers of teachers to engage in a model of co-learning (Avalos, 2011 in Laurillard, 2016). Building on the successes of phases 1 & 2 (see Table 1) the latest phase is exploring the potential of scaling the initiative through a MOOC. We know from the literature that:
- MOOCs are most appropriate for those learners who already hold an undergraduate college degree or higher (e.g. Ebben & Murphy, 2014).
- Prior level of schooling is a predictor of achievement in MOOCs (Greene, Oswald, and Pomerantz, 2015); Suggesting teachers completing a MOOC for professional development might be more likely to complete it than other participants (Hodges et. al., 2016).
- There is growing interest in how MOOCs can support teacher professional learning (e.g. Hodges, Lowenthal and Grant, 2016). Indeed, Lauillard (2016) considers MOOCs as "a perfect fit" for continuing professional development of teachers.

In phase 3 a MOOC, 21st Century Learning Design (21CLD) has been developed on the Microsoft Educator Community Platform. The core module content is built using the LASW Framework and how innovative teaching practices can support student learning to develop the key 21st skills of collaboration, knowledge construction, self-regulation, problem-solving and innovation, skilled communication, and the use of ICT for learning. A key challenge faced in the implementation of the 21CLD MOOC, is how to recreate the collaborative nature of peer-coaching and develop communities of practice that can sustain the culture of self-evaluation. To this end:
- We have built into the design of each module some opportunities for "more collaborative and constructivist engagement with teachers" (Laurillard, 2016).
- We want participants to be able to work in peer groups, sharing experiences, ideas and expertise. This also aligns with our job embedded approach that recognises the value of the experience and expertise that teachers can offer each other (Butler & Leahy, 2015).
- A preferred design element in a massive course would ideally offer university accreditation (Jobe et al., 2014) thereby addressing the issue regarding the acceptance of accomplishments by employers.

At this point in the evaluation of our work we have developed a conceptual model that envisions a series of layers with different delivery options depending on the context which draws on the 21CLD MOOC assets (see Figure 2). The next stage is to pilot these delivery options to better understand the potential of MOOCs for teacher professional learning.
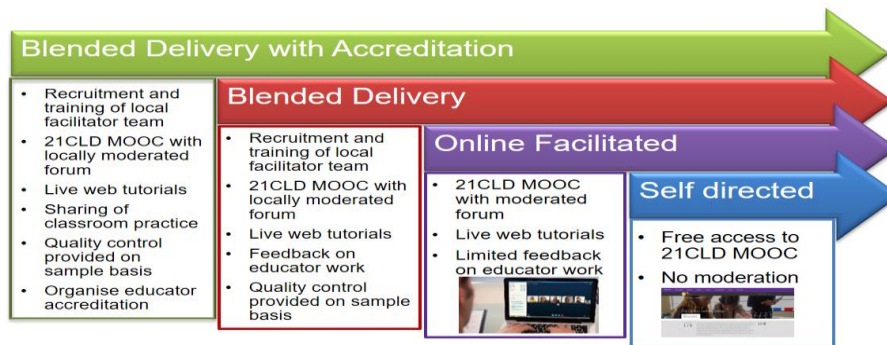
Figure 2: A framework for harnessing the potential of MOOCs

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