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How HE educators learn to teach Massive Open Online Courses. A case study

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Abstract
People working within HE institutions need to learn new forms of teaching and learning practice, to transform the ways they work. This study explores the types of knowledge gained by those working in HE when they teach massive open online courses (MOOCs). Data were gathered through a case study involving interviews with six people with teaching roles on one MOOC. Data analysis used Tynjälä’s model of integrative pedagogy to identify the different types of theoretical, practical, sociocultural and self-regulative knowledge needed in order to teach in a MOOC. The analysis shows that individuals did not engage in formal training (theoretical knowledge); they learned by experience; by (re-)running the MOOC and from learners’ feedback (practical knowledge). They also reflected on their learning experience, on their contact with different cultures, on engaging with ideas from other MOOCs and people (self-regulative knowledge). They worked collaboratively, sharing expertise, but sometimes found communication with colleagues was difficult (sociocultural knowledge). When they faced challenges they integrated theoretical, practical and self-regulative knowledge to solve problems (mediating processes).

Introduction
Opportunities for learning are being opened up in ways intended to contribute to the ‘public good’. One of the most visible manifestations are Massive Open Online Courses. These courses are different from conventional HE courses in that they are open to any participant, fully online and tend to attract large numbers of students. Therefore MOOCs necessitate new forms of academic practice. Consequently, professional learning in this context is critical. This study therefore asks:

How do educators in Higher Education learn how to teach in massive open online courses?

Empirical studies indicate that change in professional practice requires conceptual and practical knowledge as well as the development of socio-cultural and self-regulative knowledge (Eraut 2004; Tynjälä 2008). These knowledge types are integrated within the ‘Integrative Pedagogy’ (IP) framework (Tynjälä & Gijbels 2012). Therefore, the IP model is used to analyze the data.

Outline of the ‘Integrative Pedagogy’ framework
The IP framework (see Figure 1) illustrates the gap between knowledge needed at work and knowledge and skills developed in formal education (Tynjälä & Gijbels 2012; Tynjälä et al. 2014; Tynjälä et al. 2016). The framework deals with the challenges of combining academic learning with working life and

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vocational learning. The model is designed to create learning environments in which four elements of expertise can be integrated.

There are four tightly integrated elements of professional expertise: theoretical, practical, self-regulative and sociocultural knowledge. Theoretical knowledge is explicit and formal in nature. Practical knowledge, is more implicit, developed from experience and embedded in skills. Self-regulative knowledge includes metacognitive and reflective skills. Sociocultural knowledge is embedded in social practices. In order to bridge the different components of expertise, analytic and technological tools are used to support mediating processes (problem solving, integrative thinking). The emotional level of learning is another important aspect of competence development.

The IP model is used here to analyze how educators acquire different types of knowledge. Earlier studies show that workplace learning involved: doing the job, cooperating and interacting, working with clients, reflecting on and evaluating work experiences, formal education and contexts outside work (Eraut 2004; Kaatrkoski et al. 2016).

Methods of Data Collection and Analysis
This study is part of a multi-case study of how educators learn academic practice for MOOCs. This paper focuses on a case study of a history MOOC (see Table 1). Thematic analysis was used to code and analyze educators’ interviews. In order to identify how people learn how to teach in MOOCs, codes included the components of professional expertise of the IP model.
### Findings

None of the educators had engaged in formal training in how to teach in a MOOC. They engaged in different ways to learn new forms of practice. For instance, they participated in a Facebook group where they collaborated to answer learners’ questions more effectively by also preparing a ‘frequently asked questions’ document in an external blog of the course. This learning through experience enabled them to learn ‘practical knowledge’. They learnt through experience about important issues, such as legal and copyright requirements. However, because they had not engaged in formal training, they learned limited ‘theoretical knowledge’ around these topics.

Educators showed evidence of being self-regulated. They reflected that this MOOC was a sharp learning experience for them where they learnt by the challenges they met and overcame (i.e. copyright) as well as from the different cultures of learners they interacted with. They also took initiative to get ideas from other MOOCs to adopt to their own MOOC. The development of sociocultural knowledge emerged from working collaboratively (meeting and agreeing on dividing tasks to be completed) and sharing expertise, although two participants identified problems with learning in this way as they were not having frequent communication with regards to the MOOC facilitation.

During the process of development and facilitation of the MOOC, interviewees integrated theoretical, practical and self-regulative knowledge to solve issues (i.e. mediating processes). For instance, copyright issues did not let them use existing material which compelled them to produce new material that they then reused in other courses beyond the MOOC, on campus. The technological mediating tools they used during mediating processes included a Facebook group to communicate with other educators as well as sharing documents to help them developing and facilitating the MOOC.

The ‘emotional’ aspect of learning was stressed in references to a ‘labour of love’. All participants had worked outside their working hours because, as one noted, the success of the MOOC is down to how much an educator is willing to interact with learners. Educators taught MOOCs for enjoyment, although other motivations were to increase their academic reputation or the reputation of their university.

### Conclusion

Knowledge of new practices is required in order to develop and facilitate a MOOC. This study shows that educators may not be aware of these new practices, necessitating the need for professional learning. There is evidence that educators learn how to teach in MOOCs through experimentation and the types of knowledge they learn tend to be practical, socio-cultural and self-regulative in nature. This evidence will inform further research into how educators learn to teach in MOOCs.
References


