THE IRISH ONLINE LEARNING LANDSCAPE: A CRITICAL TOUR THROUGH THE VALLEY OF THE SHADOW OF THE MOOC

Mark Brown, Eamon Costello, Dublin City University, Mairead Nic Giolla-Mhichil, National Institute for Digital Learning, Dublin City University, Republic of Ireland

Summary

This paper adopts a multi-layered metaphorical framework drawing on a combination of critical discourse and policy analysis and a single institutional case study to describe the somewhat messy and fragmented nature of the Irish online learning landscape. At a macro–level it adopts a bird's eye bifocal perspective to identify some of the grand narratives and competing and co-existing discourses in the current drive to build digital capacity in Irish higher education. Through this analysis the framing of online learning is shown to be part of wider social practice that cannot be separated from deeper debates about the funding of public education and the nature of the good society. At the meso-level a critical tour through the valley of the shadow of the MOOC illustrates that in Ireland new models of online learning have generally failed to engender mainstream support from educators, politicians and policy-makers. Indeed, there is a notable gap in recent policy responses to the challenges and opportunities presented by the MOOC movement. At the micro-level an ecological perspective is adopted in the era of the MOOC towards the complex landscape of innovation and institutional change. A case study is reported of the experience of Dublin City University (DCU) in the strategic selection and carefully phased implementation of the new Academy MOOC platform. Throughout the paper the importance of agency and ability to skilfully border cross and navigate the contested terrain of online learning is emphasised to help shape the future trajectory of higher education.

Introduction

A central tenet of this paper is that the Massive Open Online Course (MOOC) movement is inherently political and part of wider social practice (Brown, 2016a). The concept of social practice recognises that the current language of crisis, disruption, democratisation and re-imagination in the age of the MOOC is entwined with much bigger issues over who controls the system, funding model and future of higher education. Accordingly, in reporting on the Irish MOOC experience this paper argues that we need to adopt a type of multi-layered bifocal perspective combining both political and pedagogical viewpoints in efforts to shape our preferred education futures. At a macro-level adopting the metaphorical lens of a telescope looking down on a deep mountain valley of the higher education system the paper

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

reveals through critical discourse analysis both the light and dark sides of the MOOC movement. It illustrates how the MOOC is far more complex than simple dichotomies of good and bad as online learning is part of a much larger global landscape subject to powerful social, economic and technological change forces. At the meso-level, extending the above metaphor, when down in the valley of educational change the MOOC, and online learning more generally, is entangled in a complex landscape of policy, funding and institutional initiatives, which contain a number of contradictory positions. Through an analysis of recent Irish policy developments the paper illustrates how new models of online learning have generally failed to disrupt relatively traditional perspectives on the nature of higher education. Finally, the paper concludes by reporting at the micro-level how one Irish university is currently implementing an enterprise-wide MOOC initiative using a new soon to be formally launched platform. This experience demonstrates from an ecological perspective the importance of local agency in efforts to better understand and respond to the opportunities and challenges presented by new online models of higher education.

A macro-level perspective

This section adopts a bird's eye bifocal perspective through the metaphorical lens of a telescope to illustrate a number of competing and co-existing MOOC discourses. Based on the premise that 'It is theory that decides what we can observe' (Einstein; cited in Stachel, 2002; p.238) the intention is to provide a theoretical lens to help reveal some of the grand narratives, meta-level tensions and contradictions hidden in the current portrayal of the MOOC movement through popular media, policy texts and many of the current major platform initiatives. Put simply the discussion invites deeper analysis of both the light and dark sides of the MOOC movement to promote more critical debate over some of the choices facing us in uncertain times.

Imagine two people are standing on opposing mountaintops looking down through a telescope into the vast and deep valley of higher education. One sees sunshine; the other, shadow. Both are right (McGuire; cited in Brown, 2016b). Although overly simplistic this metaphorical image illustrates that there are two overarching worldviews shaping our understanding of the change forces influencing higher education: the perspective of the Knowledge Economy and the time honoured tradition of the Learning Society.

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

Figure 1. The competing discourses of online learning (Brown, 2016a)

As Figure 1 attempts to illustrate, a type of double vision is required to see the two grand narratives imbued in the languages of persuasion (discourses) surrounding MOOCs. On one hand the growth of the MOOC has its roots in the contested terrain of globalisation, neo-liberal policies and the emergence of new labour models for the teaching profession (Peters, 2013). Arguably, many of the drivers for online learning promote laissez-faire principles of individual freedom, education as a personal commodity, and the ultimate goal of creating an unrestricted global market for higher education (Brown, 2016a). The drive to adopt new digital technology in education is not new as shown in this quote from President Bill Clinton:

> *Frankly, all the computers and software and Internet connections in the world*
> *won't do much good if young people don't understand that access to new*
> *technology means… access to the new economy (cited in Cuban, 2001; p.18).*

On the other hand the MOOC movement provides a real opportunity to disrupt old models, challenge the elite status of traditional institutions and address increasing global demand for higher education. As Daniel (2012) observes, it will not be possible to satisfy the rising demand for Higher Education, especially in developing countries, by relying on traditional approaches. More to the point, to quote the Irish President, Michael Higgins, in the traditional of the Learning Society, "Higher education has a crucial role to play in laying the foundations of a society that is more inclusive, participatory and equal" (cited in O'Brien, 2016).

Set against the background of these two overarching worldviews four distinct languages of persuasion are identified in the above framework as lenses or tools rather than truths to help interpret some of the competing and co-existing discourses. Notably, these discourses each draw on and borrow the language of open, online, digital, technology-enhanced, any time,

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

anywhere e-learning but reflect quite different perspectives on the purpose, core function and future of higher education.

In the tradition of the Knowledge Economy, the Reproducing Discourse promotes higher education as the sifting agent and producer of human capital needed by the economy in the form of a skilled workforce. Accordingly, the discourse places strong emphasis upon mass education, quality standards and preparation for future employment (Brown, 2016a). Of course, it needs to be acknowledged that reproduction also serves an important role in promoting social cohesion and preserving cultural heritage.

The Reschooling Discourse reflects efforts to reform the traditional higher education system by advancing a new type of global curriculum through the language of disruption, modernisation and technology as progress. An inherent contradiction in this discourse is that major change forces champion greater creativity, innovation and entrepreneurship—yet many xMOOC initiatives perpetuate relatively monolingual instrumentalist views of higher education (Brown, 2016a). Moreover, they generally reinforce the elite status of traditional universities in the context of the global higher education market. While MOOCs are framed in the language of *learning for all* they promote the message that education is an individual commodity, which has a currency measured against conventional qualifications largely obtained from traditional on-campus models of instruction.

In contrast, the Deschooling Discourse reflects a constellation of perspectives sharing the view that traditional institutions are losing their monopoly on higher education. While the original cMOOC perspective was a form of deschooling and the new language of 'openness' promotes access, active citizenship and new education pathways in the traditional of the Learning Society, the discourse also supports unintentionally the goals of deregulation and the free market in keeping with the libertarianism of the wired (Brown, 2016a). For example, new unbundling initiatives and the emergence of digital badges may help to breakdown the Ivory Tower but they equally serve the agenda of a new global higher education market. The risk is that innovative educators seeking to re-imagine higher education in the tradition of the Learning Society may end up collaborating with the enemy. Thus, deschooling can embody a set of values quite different from education as a public good in which the State is responsible for reproduction of local culture and heritage and the provision of a strong education system.

The Reconceptualising Discourse builds on the original UNESCO pillars of learning—learning to be, learning to do, learning to know and learning to live together (Delors, 1996). In the tradition of the Learning Society it promotes life-long learning and skills and knowledge beyond mere preparation for work (Brown, 2016a). The focus is on active participation in all aspects of society and the new 2030 agenda of education for sustainable development (UNESCO, 2015). In the context of MOOCs the discourse shifts the conversation to more fundamental questions about the purpose of education itself. The basic premise is that higher education is an investment in actively shaping a more fair, equitable and socially just world.

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

In summary, the truth is that although the MOOC is not a single entity most major online learning initiatives championed by the big players reflect the interests of the Knowledge Economy. What this means is the MOOC movement is simultaneously both good and bad. While the two overarching worldviews presented above are not mutually exclusive, and the bifocal perspective illustrates the need to move beyond crude dichotomies, the current preoccupation with higher education *in* change due to macro economic drivers and powerful technological forces would benefit from a paradigmatic shift to the language of higher education *for* change. The real question is what type of higher education system do we want new and emerging models of online learning to serve in the future? The answer to this question is unavoidably linked to broader social imaginaries and our ideas about the purpose of education and constitutes the good society. This line of thinking underscores the point that MOOCs should be in the service of big ideas rather than being the big idea itself (Brown & Costello, 2015).

A meso-level perspective

This section extends the original mountaintop metaphor by offering a meso-level perspective from within the valley of the shadow of the MOOC. It provides a metaphorical tour of the valley in the context of Irish higher education to illustrate how new models of online learning are entangled in a complex landscape of policy, funding and institutional initiatives, which contain a number contradictory positions. Despite the earlier statement by the Irish President, and the opportunity MOOCs invite to discuss bigger ideas about the future of higher education, in Ireland there has been very little serious engagement by educators, politicians and policy-makers in the potential of online learning for helping to develop a more inclusive, participatory and equal society.

Early MOOC initiatives

Ireland offers an interesting site for this type of analysis as according to *Forbes* magazine it has the distinction of hosting the world's first MOOC through the ALISON platform (High, 2013). A recent study on ALISON published by the European Commission's Joint Research Centre Science Hub (Souto-Otero et al., 2016) reports that the platform first established in 2007 has reached more than six million learners. Although not a recognized institution offering accredited qualifications, according to the company by December 2015 there were over 750,000 ALISON graduates worldwide. If this figure is accurate, then this makes ALISON one of the largest free online course providers.

The claim of being the first formally accredited Irish institution to offer a MOOC beginning in 2013 is shared by Dublin Institute of Technology, Hibernia College, and IT Sligo (Brown & Costello, 2016). It is interesting to note that despite these early initiatives the draft *Digital Roadmap: Phase 1* released in May 2014 (National Forum for the Enhancement of Teaching and Learning in Higher Education, 2014), with the aim of building digital capacity in Irish higher education, made no explicit reference to MOOCs. Whether this was a deliberate decision at the time by the writing team is unclear. With the benefit of hindsight the absence

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

of MOOCs from the draft Digital Roadmap is somewhat surprising, particularly since a section of the document reviews wider European and global developments (Brown & Costello, 2016). Moreover, the Digital Roadmap endorses the principles of open education to support future developments in higher education.

In May 2014, the National University of Ireland (NUI), an overarching body serving the interests of four member universities and several colleges, invited interested groups to tender on the feasibility of a collaborative National online education initiative, encompassing MOOCs, for the Irish university sector (Brown & Costello, 2016). A brief news item about this initiative featured in the *Times Higher Education*:

> *The new organisation, which would include Irish universities outside the NUI group, may begin by offering a series of MOOCs showcasing Irish education. Depending on the level of public interest, the organisation could then move into profitable accredited programmes (Powell, 2014).*

Although the tender closed in September 2014, and a written report was expected within several months of the project getting underway, to date there has not been any public statement in response to this initiative. It is known that a report was produced but this has never been widely circulated. However, before the tender process had closed, in June 2014 Trinity College Dublin (TCD) announced its intention to join the UK-based FutureLearn platform and to offer a MOOC later in the year on the theme of *Irish Lives in War and Revolution: Exploring Ireland's History 1912-1923*. Reportedly almost 14,000 people registered for this MOOC, which started in September (Kenny, 2014).

With the exception of this FutureLearn partnership, a project by IT Sligo to develop a MOOC for the transition between school and higher education, and an online professional development course offered by the Irish Law Society, apart from ALISON there have been no truly sustainable MOOC initiatives. Moreover, the results of a survey on MOOCs in Irish higher education institutions as part of a larger European study conducted in late 2015 shows that there is no single primary objective across the sector for adopting MOOCs (Brown & Costello, 2016). Of the three Irish institutions in this sample engaged in developing MOOCs the primary objective was spread between "Innovative Pedagogy", "Reach New Students" and "Increase Institution Visibility".

Recent policy initiatives

In April 2015, a more complete *Roadmap for Enhancement in a Digital World 2015-2017* was published to help advance a shared vision of "a [higher education] culture that fully embraces digital learning and digital innovation" (National Forum for the Enhancement of Teaching and Learning, 2015a, p.iv). Given the above discussion it is not surprisingly the updated Roadmap makes very few references to MOOCs, with this term completely absent from the Executive Summary. Although the Roadmap has other commendable features the initiative arguably favours more traditional campus-based models of higher education and does little to

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

address a major barrier to the growth of online delivery. As Brown and Costello (2016) note the current model limiting off-campus delivery, due to little or no government financial support is at odds with recent European reports from the High Level Group on the Modernization of Higher Education (2014) calling for more inclusive funding approaches that help to open up education, develop more flexible modes of delivery, and diversify student populations.

Similarly, MOOCs do not feature in the *Digital Strategy for Schools: Enhancing Teaching, Learning and Assessment 2015-2020* (Department of Education and Skills, 2015) launched in October 2015 by the Minister for Education and Skills. Nevertheless, in January 2016 the same Minister was present to launch Ireland's first MOOC for teachers—a collaborative effort between Dublin City University, H2 Learning and Microsoft—on *21st Century Learning Design*. Even more recently the *Strategy for Technology-enhanced Learning in Further Education and Training 2016-2019* (Education and Training Boards Ireland | Further Education and Training Authority, 2016) fails to address the challenges and opportunities posed by MOOCs. This oversight or conscious decision is particularly surprising given the Strategy has a vision by 2019 of technology-enhanced teaching and learning providing greater access to further education and training, and moreover achieving positive outcomes for learners, enterprise, and wider society and the economy.

The disconnection between national policy initiatives and wider macro level MOOC developments in Europe and globally is particularly obvious in the *National Plan for Equity of Access to Higher Education 2015-2019* (Higher Education Authority, 2015) published in December 2015. MOOCs and the potential contribution of new models of higher education do not figure in this plan, and nor do they appear in Ireland's National Skills Strategy 2025 (Department of Education and Skills, 2016a) also launched by the Minister for Education and Skills in January 2016. Despite recognising that technology's pervasiveness means people of all ages increasingly need to be *technologically literate* in order to participate fully in society, referring to e-health, online banking and online supermarket shopping, there is no acknowledgement of the potential of online learning for improving lives, creating better places to live and work, and driving more sustainable economic growth.

The absence of MOOCs and new models of online learning more generally from the above policy documents no doubt explains why they do not feature in a recent comprehensive briefing paper for the new Minister for Education and Skills (Department of Education and Skills, 2016b). Thus, the reality of the situation is that currently in the Irish context MOOCs do not feature prominently in policy-level discussions and speculatively may even have been deliberately dismissed by influential educators and policy-makers as nothing more than a passing fad (Brown & Costello, 2016).

In summary, in the Republic of Ireland there has been no clear policy direction or nationally co-ordinated approach to the growth of the MOOC movement. Arguably, the policy gap around MOOCs is part of a bigger issue concerning the lack of government funding for

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

online, off-campus, distance students, which in European terms remains a significant barrier to the goal of opening up access through more flexible modes of delivery to meet the needs of a diverse population. If, as the *National Plan for Equity of Access to Higher Education* states, "As a country we have everything to gain and nothing to lose by increasing levels of participation in higher education among all Irish citizens" (Department of Education and Skills | Higher Education Authority, 2015; p.i), then perhaps Ireland would benefit from a more strategic response.

The question is how should Ireland strategically respond to the MOOC movement? What role does a small nation state like Ireland have in the provision of online education in an increasingly globally connected digital world? Why would Ireland bother when there is already a plethora of MOOCs available to Irish citizens through major platform providers?

A micro-level perspective

This final section argues that to answer the above questions you have to be much deeper in the valley to fully understand the potential of the MOOC movement. Accordingly it describes a micro-level initiative by Dublin City University (DCU) to launch a major second-generation suite of MOOCs using a new platform known as Academy. In the absence of a national response, and after considerable deliberation, DCU has made a strategic decision to embark on an enterprise wide MOOC initiative using a new platform that has been developed over the last 18 months by Moodle HQ. This decision was not taken lightly. It follows a lengthy process of identifying the key institutional drivers for any such initiative and a review of existing platforms to evaluate their alignment and suitability in terms of the University's primary objectives (Brown, Costello, Donlon, & Nic Giolla Mhichil, 2015). Notably, the most influential factor in selecting Academy was the opportunity to build on our long history of innovation and in the case of MOOCs shape the design and future direction rather than be a client of an existing platform (Brown, Costello, Donlon, & Nic Giolla Mhichil, 2016).

Extending the valley metaphor through a more complex ecological perspective and understanding of change that draws on the concept of digital resilience (Weller & Anderson, 2013), the intention of DCU's Open Learning Academy initiative is create a "third space" to foster new innovations in teaching and learning. Such a creative space is intended to enable more agile and future-focussed responses to the opportunities presented by the rapidly evolving MOOC movement. Moreover, Academy is seen as a vehicle for promoting a step change in the current design and delivery of both existing online programmes and traditional face-to-face degree courses. In this respect the decision to implement Academy was influenced by the ability to transfer or border cross new found skills and knowledge in learning design back to the University's existing learning management system (i.e., Moodle). DCU is already a major leader in the use of Moodle in Europe and is the first institution in the world to adopt the new Academy platform.

The first MOOC on the new Academy platform known as "Head Start Online" was piloted in August 2016. This MOOC was designed after a synthesis of the literature and review of digital

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

tools at other major online distance education providers (Brunton et al., 2016) to promote the readiness of prospective mature, part-time, online learners during the initial stages of the study life-cycle. Future MOOCs include a course on the Irish language and culture (Irish 101) along with three designed from a contemporary perspective to build on the 100-year commemoration of the 1916 Easter Rising. Three other MOOCs have been chosen for their focus on teacher education and explore Learning Leadership, 21st Century Skills for Teachers and Coding for Teachers. Future MOOCs are planned and already there is evidence of the benefits of working in a new platform that enables the University to be a future-maker rather than future-taker. In this respect this micro-level MOOC initiative is an investment in the development of digital resilience more generally across the University.

Conclusion

The future of the MOOCs is not a trivial matter. This paper has shown through a multi-layered metaphorical tour through the valley of the MOOC that online learning is part of wider social practice, which cannot be separated from deeper debates about the future of higher education. A critical discourse and policy analysis adopting a type of bifocal perspective at the macro and meso-levels helps to reveal some of the barriers, contradictory positions and powerful social, economic and technological change forces associated with the increasing drive (or not) to build digital capacity in the Irish higher education system. In reporting on the Irish experience most first generation MOOC initiatives have not been sustainable and appear to have taken place largely in parallel to more mainstream policy developments. Ironically in the so-called Silicon Valley of Europe the status of online learning remains somewhat messy and fragmented, which is unlikely to change unless the Government recognises the need to support diverse and geographically dispersed part-time online learners. That said, although the status of online learning remains uncertain and discussions about MOOOs need to go beyond simple dichotomies of good and bad, we have local agency to navigate, border cross and re-imagine our own pathways towards more equitable, socially just and preferred education futures. If micro-level MOOC initiatives such as the Open Learning Academy serve to highlight the current policy disconnection and lead to more inclusive funding models, which open up greater access to higher education, then they will have done the people of Ireland a great favour.

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

References

1. Brown, M. (2016a). MOOCs as social practice: A kaleidoscope of perspectives. In E. De Corte, L. Enwall & U. Teichler (Eds.), *From books for MOOCs? Emerging models of learning and teaching in higher education* (pp-31-41). Wenner-Gren International Series, 88. London: Portland Press.

2. Brown, M. (2016b). *The unbundling of higher education: A tale of two valleys.* Keynote presentation at 5th HEA Forward-Look Forum, Unbundling of Higher Education: What are the Implications and Opportunities for Ireland? Dublin, 19th May. Retrieved from http://www.slideshare.net/mbrownz/the-unbundling-of-higher-education-a-tale-of-two-valleys/mbrownz/the-unbundling-of-higher-education-a-tale-of-two-valleys

3. Brown, M., & Costello, E. (2015). *Why adopt MOOCs? Defining institutional drivers.* Paper presentation at Opening up Education: National MOOC Symposium, Dublin City University, Dublin, 1st May. Retrieved from http://www.slideshare.net/mbrownz/why-adopt-moocs-defining-institutional-drivers

4. Brown, M., & Costello, E. (2016). MOOCs in the Republic of Ireland: A gap in the policy landscape. In D. Jansen & L. Konings (Eds.), *European policy response on MOOC opportunities. Overview of papers representing a European policy response on MOOC opportunities* (pp.67-73). HOME policy forum in Brussels, 28th June. Retrieved from http://eadtu.eu/images/publicaties/European_Policy_response_on_MOOC_opportunities_June_2016.pdf and http://www.slideshare.net/mbrownz/moocs-in-the-republic-of-ireland-a-gap-in-the-policy-landscape

5. Brown, M., Costello, E., Donlon, E., & Nic Giolla Mhichil, M. (2015). A strategic response to MOOCs: How one European university is approaching the challenge. *International Review of Research in Open and Distributed Learning, 16*(6), 98-115.

6. Brown, M., Costello, E., Donlon, E., & Nic Giolla Mhichil, M. (2016). *Moodle in the age of the MOOC: The DCU Open Academy initiative.* Paper presented at MoodleMoot Ireland UK 2016, London, 23rd March.

7. Brunton, J., Brown, M., Cleary, A., Costello, E., Delaney, L., Fox, S., Galvin, C., Gilligan, J., O'Regan, L., & Ward, J. (2016). *Lost in transition: A report on enabling success for flexible learners.* Dublin: Dublin City University. Retrieved from http://studentsuccess.ie/wp-content/uploads/2016/06/STUDENT_SUCCESS_TOOLBOX-LOST_IN_TRANSITION_REPORT.pdf

8. Cuban, L. (2001). *Oversold and underused: Computers in the classroom.* Cambridge, MA: Harvard University Press.

9. Delors, J. (1996). *Learning: The treasure within. Report to UNESCO of the International Commission on Education for the Twenty-first Century.* UNESCO. Retrieved June 18, 2014, from http://unesdoc.unesco.org/images/0010/001095/109590eo.pdf

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

10. Department of Education and Skills (2015). *Digital Strategy for Schools: Enhancing Teaching, Learning and Assessment 2015-2020.* Dublin: Department of Education and Skills. Retrieved from https://www.education.ie/en/Publications/Policy-Reports/Digital-Strategy-for-Schools-2015-2020.pdf

11. Department of Education and Skills (2016a). *Ireland's National Skills Strategy 2025.* Dublin. Retrieved from https://www.education.ie/en/Publications/Policy-Reports/pub_national_skills_strategy_2025.pdf

12. Department of Education and Skills (2016b). *Organisation and current issues: A brief for the information of the Minister for Education and Skills.* Dublin. Retrieved from http://www.education.ie/en/Publications/Ministers-Brief-/Ministers-Brief-2016.pdf

13. Department of Education and Skills | Higher Education Authority (2015). *National Plan for Equity of Access to Higher Education 2015-2019.* Dublin. Retrieved from http://www.hea.ie/en/policy/national-access-office/national-plans-equity-access-higher-education/2015-2019-access-plan

14. High, P. (2013, December 31). Lessons from the CEO oft he first ever MOOC [Blog post]. Forbes, Tech. Retrieved from http://www.forbes.com/sites/peterhigh/2013/12/31/lessons-from-the-ceo-of-the-first-ever-mooc/#89855b15d02d

15. High Level Group on the Modernisation of Higher Education (2014). *Report to the European Commission on new models of learning and teaching in higher education.* Retrieved April 24, 2014, from http://ec.europa.eu/education/library/reports/modernisation-universities_en.pdf

16. Kenny (2014, September 1). Almost 14,000 begin free online history course at Trinity College [Blog post]. Irish Times, Education. Retrieved from http://www.irishtimes.com/news/education/almost-14-000-begin-free-online-history-course-at-trinity-college-1.1914318

17. National Forum for the Enhancement of Teaching and Learning in Higher Education (2014). *Principles and first insights from the sectoral consultation on building digital capacity in Irish higher education. Digital roadmap – phase 1.* Retrieved from http://www.teachingandlearning.ie/wp-content/uploads/2014/05/Digital-Roadmap-PHASE1MAY282014.pdf

18. National Forum for the Enhancement of Teaching and Learning (2015a). *Teaching and learning in Irish higher education: A roadmap for enhancement in a digital world 2015-2017.* Dublin. Retrieved from http://www.teachingandlearning.ie/a-roadmap-for-enhancement-in-a-digital-world-2015-2017/

The Irish Online Learning Landscape:
A Critical Tour through the Valley of the Shadow of the MOOC
Mark Brown et al.

19. National Forum for the Enhancement of Teaching and Learning in Higher Education (2015b). *Learning Resources and Open Access in Higher Education Institutions in Ireland. Focused Research Report No 1.* Dublin. Retrieved from http://www.teachingandlearning.ie/wp-content/uploads/2015/07/Project-1-LearningResourcesandOpenAccess-1607.pdf

20. O'Brien, C. (2016, April 8). President Higgins: Universities facing 'intellectual crisis' [Blog post]. The Irish Times. Retrieved from http://www.irishtimes.com/news/education/president-higgins-universities-facing-intellectual-crisis-1.2602607

21. Peters, M. (2013, August 17). Massive open online courses and beyond: The revolution to come [Blog post]. Truthout. Retrieved from http://www.truth-out.org/news/item/18120-massive-open-online-coursesand-beyond-the-revolution-to-come

22. Powell, N. (2014, May 8). Irish bid for a tiger share of online market [Blog post]. Times Higher Education. Retrieved November 19, 2015, from https://www.timeshighereducation.com/news/irish-bid-for-a-tigers-share-of-online-market/2013113.article

23. Souto-Otero, M., Inamorato dos Santos, A., Shields, R., Lažetić, P., Castaño-Muñoz, J., Devaux, A., Oberheidt, S., & Punie, Y. (2016). *OpenCases: Case Studies on Openness in Education.* Institute for Prospective Technological Studies, Joint Research Centre, European Commission.

24. Stachel, J. (2002). *Einstein from 'B to Z'* (Einstein Studies, Volume 9). Boston: The Center for Einstein Studies, Boston University.

25. UNESCO (2015). *UNESCO and sustainable development goals.* Retrieved from http://en.unesco.org/sdgs

26. Weller, M., & Anderson, T. (2013). Digital resilience in higher education. *European Journal of Open, Distance and e-Learning, 16*(1), 53-66. Retrieved from http://www.eurodl.org/materials/contrib/2013/Weller_Anderson.pdf