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DEVELOPING A COMMONWEALTH CENTRE FOR CONNECTED LEARNING: A CASE STUDY IN THE WEALTH OF NETWORKS

THE GREAT DISCONNECT

The future of online education continues to polarise views. For some, we are at the cusp of a major revolution in our education systems – for others, we are locked in a sustained period of stasis. A recent (Cengage, 2016) report claims that open educational resources (OER) are replacing primary courseware in higher education, with the potential to triple in use over the next five years — from 4 percent to 12 percent of the primary courseware market. The use of OER for supplemental learning materials is expected to quadruple in size as well, jumping from 5 percent to 19 percent. Yet the same report admits that OER is an unknown quantity to many educators: in a survey sponsored by the Independent College Bookstore Association, 39 percent of respondents indicated “that they had never heard of OER” and 36 percent “knew a little about OER but had not used or reviewed OER materials.” Another recent survey from Babson College found that 58 percent of respondents were “not aware” or “had never heard of OER.”

There is a disconnect between the solutions proposed by education strategists, the willingness of policy-makers to implement change in the curriculum, and the praxis in the classroom, where the 'one-size-fits-all' education system resists disruption since 'change' in education is measured in years. There is also geographical disconnect, say between the learner-centric proposals for higher education in the US, and the cautious experiments with MOOCs by European institutions. The interest in Blockchain as a user-centric accreditation system appears to be fuelled by the lack of guarantees on a return on investment in US higher education. In Europe, where I am based, in the past ten years, research hubs such as JRC-IPTS have been more interested in institutional engagement with digital education, with waves of research that support development of policy and procedure in digital learning. There is a consensus among EU policy-makers on the various merits of openness in education, particularly in higher education, in that it: a) reduces or removes barriers to education (cost, geography, time, entry requirements); b) supports modernisation of higher education in Europe - largely carried out via digital technologies; and c) bridges non-formal and formal education – assuming that higher education and other accredited institutions recognise the credentials they each issue to learners. The EU advocates the need for strategic planning and frameworks for open education¹ but the aspirations of the OER movement in Europe remains tangled with the interests of education publishing and fears of infringing copyright law²: finding quality resources, concerns about unknown permissions and difficulty integrating OER in the curriculum continue to be major obstacles to the adoption of OER in mainstream education in Europe.

In a November 2015 TEDx talk³, Will Richardson, a former secondary school teacher and writer, shared two slides which he said illustrated the disconnect between what teachers believe, and what they actually practice in the classroom.

¹ A recent EU report (dos Santos et al, 2016) identifies 10 dimensions of open education, giving a rationale and descriptors for each. The EU suggests the framework would promote transparency for collaboration and exchange of good practice, and guide member states' investment. Although the tool targets higher education institutions, the intention is that the framework is also relevant for EU policy makers and other types of educational institutions.

² On 15 September 2016, the EU announced its intention to develop proposals on the modernisation of copyright to increase cultural diversity in Europe and content available online, while bringing clearer rules for all online players. The proposals are also meant to bring tools for innovation to education, research and cultural heritage institutions.

³ See <https://www.youtube.com/watch?v=sxyKNMrhEvY>

Table 1: Conditions for Powerful Learning vs Actual Practice

Conditions for Powerful Learning (What Teachers Believe)	What People never say (And what is practiced in Schools)
<ul style="list-style-type: none"> • Safe environment • Personal investment • Real world application • Fun • Relevance to their lives • Social • Interesting Questions • Positive Environment • Real Audience • Passion • Teachers / Mentors • Autonomy and Agency • Challenging • Not Time Constrained 	<ul style="list-style-type: none"> • Sitting in rows • 45/60/88 Minute Blocks • One sized curriculum • One subject area focus • Area-grouped co-learners • No real world application • Teacher-controlled • Someone else’s questions • Standardized Assessments • Emphasis on Grades • Carrots and Sticks • No Choice / No Agency • Lack of Relevance • “Handing it in”

Faced with this stasis, policy-makers need to become pragmatic. It is within this context – an increasing awareness of how education systems fail young people whose real lives outside the class bear little resemblance to what is being served as ‘curriculum’ - that connected learning becomes a compelling proposition. The principles of connected learning have been part of the education vernacular for several years and before the advent of the Internet. Built on the three core values of social equity, full participation and social connection, connected learning advocates for broadened access to learning that is socially embedded, interest-driven, and oriented toward educational, economic or political opportunity (Ito et al., 2013). Rather than focusing on a specific technology platform or pedagogy, the focus is exclusively on the learner experience.

Nevertheless, the emergence and mass uptake of networked and digital technology revived interest in connected learning as a learner-centric framework, with its thinking adapted by Internet academics such as Benkler (2006, 2011) and Rheingold (2012). Social media, digital games, and digital production tools are used by lone educators to push against the boundaries of one-size-fits-all curricula in the belief that the most resilient, adaptive, and effective learning involves individual interest combined with social support. This is inclusive yet very personalised learning by praxis, overcoming adversity and providing recognition for skills gained via alternative routes. For educators adopting connected learning principles, the various experiences, interests and contexts in which learners participate—in and out of school—are potential learning opportunities that may also lead to academic achievement, career success or civic engagement. The use of online social networks also activates communities that are not necessarily geographic: young people use social media to connect with others who share similar interests and co-learn; older learners can lever on online peer-learning networks to pursue niche interests in the information age where in principle, social connections are abundant; academics can actively start to pursue opportunities for curriculum re-design⁴. Within this context, connected learning draws on technology to activate people’s interests, friendships, relationships and academic achievement through experiences grounded in hands-on production, shared purpose and open networks. It represents a framework for understanding and supporting learning, as well as a theory of intervention that grows out of our analysis of today’s changing social, economic, technological and cultural context. Connected learning experiences are also increasingly associated with 21st Century skills and ‘deeper learning’ demanded by the labour market. Framed against this ideal context is the embedded 20th century model of teaching and learning in classrooms that still have young people in assembly lines.

⁴ On 8 September 2016, the Center for Curriculum Redesign (CCR) at Harvard organised an interactive colloquium on "Augmented Humans" at Harvard's Graduate School of Education, exploring the coming impact of Biotechnology, and partially answering CCR's seminal question: "WHAT should students learn for the 21st century?" The colloquium brought together leading minds from the KnowledgeWorks Foundation, the Future of Life Institute, and the Clayton Christensen Institute.

OF ISLAND LABS AND ADVOCACY FOR ONLINE LEARNING

In mid-2015, the Commonwealth of Learning (COL) and Malta⁵'s Ministry for Education and Employment (MEDE) started discussions on more inclusive approaches to education. COL, as an intergovernmental organisation promoting the development and sharing of open learning and distance education knowledge, resources and technologies, has a legitimate interest in the area. MEDE is actively looking for solutions that empower young people in the EU's smallest nation state to follow academic, VET and applied learning paths. Connected learning is being explored as a transversal policy for the changes that need to be activated not just within the Maltese education system, but in developing countries where technology may be used as an enabler of much-needed change in education frameworks.

Malta's reputation on the international education radar is primarily associated with the teaching of English as a foreign language. Yet since 1987, technology has been associated with economic, cultural and social advancement, and prioritised in the investment agendas of successive governments. The aspiration to transform Malta into one of the top 10 global information societies has been matched by public and private sector investment in the technology sector. The ICT industry is a primary pillar of the economy and a driver for the service industry, with the Internet positioned as a social equaliser. Central government's drive to invest in the ICT sector has been complemented by fiscal and regulatory incentives to attract inbound hi-tech investment⁶ and a reputation for best practice in e-government in Europe.

There are a set of characteristics in Malta which, although not unique, when taken as a 'composite' make the island a compelling proposition as an innovation lab. These include small size, topography, cultural and language diversity, strategic location and – perhaps most significantly – the proximity of policy-makers to emerging markets. For instance, a reputation for the testing of mobile telecoms and broadband technologies eventually led to the establishment of SmartCity Malta⁷. Malta now also finds itself strategically placed between two global, political groups – the Commonwealth and the EU. Once the United Kingdom completes its exit from the European Union, Malta could become a linchpin between two networks.

Education policy-makers in Malta are increasingly aware that the attention to ICT infrastructure (including investment in classrooms with whiteboards and broadband and free tablets for younger students) has not been matched by changes to pedagogy, assessment or accreditation regimes. In its discussions with COL on connected learning, MEDE found further common ideological ground in its ongoing project to develop a lightweight accreditation system for online education – irrespective of the jurisdiction where the teaching and learning originates. The system will provide a process for the licensing of e-learning providers and e-learning programmes by the National Commission for Further and Higher Education, and is open to any providers of formal education who wish to be licenced to: a) operate within the Republic of Malta, and/or; b) award ECTS credits within the European Higher Education Area. Malta is a full member of the Bologna Process and the Malta Qualification Framework is referenced to the European Qualifications Framework. This means that an institution that has courses accredited in Malta can de facto, can seek recognition for its courses in other EU jurisdictions. COL has been developing the Transnational Qualifications Framework (TQF) for small states⁸. Malta's work with the accreditation of digital education is of significant interest not just to the TQF, but in opening up opportunities for online learning to be accredited in more than one EU jurisdictions. MEDE is also monitoring the application of Blockchain as a new system to record, house, curate, secure, and distribute evidence of learning. The MIT Media Lab and Learning Machine have been working on a collaborative project for issuing official credentials, also known as certificates, onto the Bitcoin blockchain, and MEDE has developed relationships with both organisations.

⁵ Malta is an archipelago of three islands situated in the central Mediterranean some 93 km south of Sicily and 288 km north-east of Libya, with a surface area of 316 sq. km. and an indigenous population of 417,617. It is the smallest and most densely-populated country in the EU. Malta has been a member of the Commonwealth since 1964.

⁶ As an example, in 2004, Malta became the first EU Member State to enact comprehensive legislation on remote gaming, and industry stakeholders consider Malta as one of the foremost tried and tested iGaming jurisdictions in the world.

⁷ This is the first European outpost of the SmartCity global network of business townships, set up to attract knowledge-based companies serving the EU and North African markets.

⁸ The Transnational Qualification Framework (TQF) provides small states with procedures and guidelines to translate national accreditation for recognition through the international accreditation program of the Virtual University for Small States of the Commonwealth (VUSSC).

THE VIRTUAL CENTRE FOR CONNECTED LEARNING

On 25 November 2015, during a Commonwealth Heads of Government Meeting in Malta⁹, COL signed a memorandum of understanding with the Commonwealth of Learning. One of the key proposals for collaboration is the establishment of a Commonwealth Centre for Connected Learning (CCCL) to lever on the potential of technology and make education more relevant and inclusive to young people through connected learning praxis, contributing to the development of essential, inclusive 21st century skills¹⁰ in the process. Functionally, the CCCL will be based in Malta but operate as a virtual hub for a global network of groups, agencies, institutions and activists interested in the rapid deployment of pilots for connected learning in the Commonwealth and the EU.

As the Centre prepares to setup operations in late 2016, *Table 2* summarises the key objectives articulated in the Foundation document, and identifies a set of initial challenges:

Table 2: High-level objectives and challenges for the CCCL

CCCL OBJECTIVES	CCCL CHALLENGES
<p>1) Increase the quality and relevance of digital learning</p> <ul style="list-style-type: none"> • By making learning more interactive and connected through the strategic use of digital media – more responsive to learners' individual needs and goals through innovative pedagogies and use of the learner's progress analyses (for instance through data analytics). • By making learning more collaborative, connecting the learner to peer learning networks, wherever these may be, and blending formal education with informal and non-formal learning. • Through support and advocacy for the creation and use of open educational resources and new forms of teaching and learning practices, exploring new methods that may regenerate educational content, curricula and assessments. 	<ul style="list-style-type: none"> • Ensuring the relevance of digital learning implies a number of issues that include: quality assurance; the complementarity between open educational resources, self-produced and “traditional” educational materials; the need for transparent, equitable, modular assessment regimes that validate and certify the skills and knowledge acquired, irrespective of the medium used for such acquisition. • Making sense of the abundant amount of resources available in today’s connected world is problematic. • A wider perspective of ‘quality’ should also be considered to include the qualitative shift in forms of teaching and learning which digital education entails.
<p>2) Increasing the impact of educators</p> <ul style="list-style-type: none"> • Facilitating new pedagogies and research tools for a more personal and effective interaction with each student and enabling deep learning in individuals. • Training educators in 21st century skills to make teaching more effective, engaging and relevant for learners. 	<ul style="list-style-type: none"> • Paying attention to the social and human impact of digital education means focusing on the impact on teachers exposed to radical changes in their roles. Educators have to move out of a siloed mindset where they are accustomed to learning the same set of standards, and think about how they can help young people translate their interests into different domains – social domain, civic or academic. • This requires continuous and specific teacher training and shifts in the structures of educational systems and institutions to allow educators the necessary freedom, autonomy and

⁹ See <https://www.col.org/news/items/malta-ministry-education-and-employment-and-col-announce-partnership-collaborate-digital>

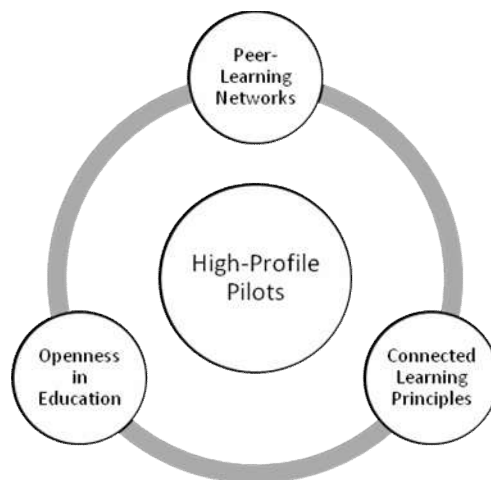
¹⁰ See World Economic Forum (2015). *New Vision for Education: Unlocking the Potential of Technology*. The report identifies 16 skills including 'ICT Literacy' as a functional literacy and 'Critical thinking / problem solving' and 'communication'.

	flexibility.
<p>3) Addressing inequalities and social integration in society through more relevant, accessible and cost-effective education</p> <ul style="list-style-type: none"> Ensuring technology and support is provided to enable learners to digitally access the best content, resources and teachers. Developing and providing access to OER collaboratively maintained by educators, enhancing the quality and relevance of teaching materials while reducing their cost. 	<ul style="list-style-type: none"> Paying attention to factors that may limit access to knowledge and skills when learners, peers and educators can meet and exchange in virtual environments. Physical location and socio-economic backgrounds need to be factored into more inclusive approaches to education. At different stages of life, educational provision can be enhanced by reducing intergenerational inequalities.
<p>4) Supporting and disseminating applied research and best practices in tech-enabled and connected learning</p> <ul style="list-style-type: none"> Transforming research needs into pragmatic information and advisory services for target stakeholders on any aspect of technology-enabled and connected learning, including the selection of appropriate infrastructure. 	<ul style="list-style-type: none"> Learner-centric (as opposed to institutionally-sound) approaches are dependent on bringing together teachers in the field with social scientists, researchers and policy-makers with a combined sense of urgency and a common commitment to social enterprise in education.

The CCCL objectives are indicative of the urgency to shift the discourse on technology in education, from policy and investment in ICT infrastructure to praxis. Education systems should contribute to the development of 21st century skills, including digital literacy, and increasingly data literacy. Yet algorithms in education tend to be designed by people with strong data and technical skills but a narrow perspective of equity. The bias that exists within such systems needs to become explicit, particularly if we want to address inequities and integrate social learning and eliminate bias towards learners who are disenfranchised, such as refugees or people in poverty. There is also a need to address the issue of universal accreditation of learning, irrespective of the medium used for teaching and learning. Technology can be used for individual learning profiling, paving the way for radical changes to curricula. We need to investigate those attributes of our education system that are no longer aligned well with technology and analytics.

In practice, the success or otherwise of the CCCL will to a great degree depend on its founders' ability to facilitate, develop and share high-profile pilots in connected learning that resonate with target stakeholders. This process will involve the activation and management of three inter-connected pathways:

Figure 1: Three Pathways for activation and management of CCCL Pilots



Connected learning needs to pay attention to connections: understanding network structure and practices is vital if the CCCL wishes to activate global networks of trust. Much will depend on the ability of the CCCL to pivot between networked individualism (Wellman, 2002) and lever on the strength of weak ties (Granovetter 1973, 1983). Yet, as Robins (2015) rightly claims, network topology alone is hardly ever sufficient for praxis. Social science involves social entities (or actors) involved in social action – these have a range of individual, human characteristics that may be crucial. And the range of other possible factors in a networked social system is potentially very wide: geographical space, time, social setting, culture and so on.

The CCCL needs to operate as the hub of a network made up of key stakeholder groups, irrespective of geographical location. Adapting a model proposed by Willcox et al. (2016), *Table 3* identifies stakeholders:

Table 3: Characteristics of Target Stakeholders for the CCCL

CCCL Target Stakeholders	Target Stakeholder Characteristics
Institutional and OER leaders	People who embrace new learning processes online, in their classrooms and elsewhere on campus or in their communities. They develop new organisational structures that serve as diverse a population of students with a variety of professional researching and learning engineers as well as traditional faculty - recognising, encouraging and rewarding interdisciplinary collaborations seeking to advance both the science and practice of learning.
Legislators and policy-makers	People who can demonstrate their support for education innovation through forward-looking regulatory actions, funding for interdisciplinary research and novel program opportunities.
Legacy education companies	Institutions that contribute experience in areas such as curriculum design, delivery at scale, data analytics ¹¹ and can accelerate the adoption of science-based learning practices.
Foundations and associations	Organisations collectively representing networks of stakeholders with limited resources for direct participation, and prepared to convene and support key projects, and disseminate lessons learnt.
Educational researchers	Experts prepared to collaborate beyond the usual research silos and ensure their scholarly gains are translated in tangible improvements for learners, based on the best science and the most promising opportunities. Digital learning tools offer opportunities for rapidly scaling best practices in many modes of education. Researchers must guide the selection and development of these best practices to help bridge the gap between research and practice.

Connecting classrooms and deploying digital devices is of secondary importance to revitalising the curriculum content and changing the role of digital technologies at education institutions. Improving the design and implementation of effective connected learning experiences inevitably requires a shift in designing learning paths for young people who might not necessarily know what these pathways can look like. The role of teachers remains pivotal if in-person education is to be enhanced by blending online experiences. Teachers provide context and mentoring and fostering reflection and discussion. New technologies should be used to support teachers and allow them to free up time from conveying content to focus on high-value in-person interactions with students. Equally important is the role of the learning engineer, typically a creative who builds bridges between the various fields of education and develops additional infrastructure to help teachers teach and students learn. The CCCL will lever on proprietary networks to identify these professionals - and use emerging media to make their work as effective and widespread as possible, and relevant to different contexts.

¹¹ The Canadian scholar George Siemens observes the lack of analytics built into the design of OER material as opposed to content from publishing companies who continue to dominate the educational content market through value layers. Siemens believes that education institutions today are more likely to use analytics to support existing systems that can be controlled as opposed to demonstrating the value of alternatives.

CONCLUSION

Putting connected learning into practice requires personal commitment and an ability to activate peer-learning networks for the benefit of the individual learner – even at a ‘cost’ to the institution. The CCCL will need to embrace this ideology to mobilise stakeholders - whether these are teachers, learners, families, economic or social partners. It will need to identify opportunities for change programmes in the Commonwealth and the EU and connect and empower participants through lightweight support systems of institutions and experts, aligned in placing the learner at the centre of more inclusive education propositions. The Centre’s founders and its future partners will need to operate as change agents collaborating towards identifiable deliverables while remaining grounded in the knowledge that education legacy sectors mean that change cannot happen overnight. The emphasis on replicable pilots means that individual visionaries, wherever they may be located, must have the propensity to collaborate and act in concert. Role models are successful groups and institutions that are willing to pilot new, thoughtfully designed approaches. Pragmatic, quick wins will secure support from key stakeholder groups if they are replicable; cultural differences easily identifiable; and ‘red-tape’ eliminated at the outset.

Perhaps the most encouraging aspect of the CCCL initiative is that the collaboration between the founders kicked off before the formalities for establishing the foundation have been concluded. A MOOC platform developed by the Indian Institute of Technology is being used by Malta's Institute for Tourism Studies to develop online courses which may, in turn, be used as case studies for other island states. The one tablet per child programme underway in Malta will be monitored by COL to feed into its databank of reviews of large-scale, government-supported educational tablet initiatives.

Pilot Teacher professional development programmes in ICT in Malta are exploring COL’s Commonwealth Certificate for Teacher ICT Integration (CCTI).

The positive affordances of online education and connected learning in particular, need to be put to good use to help learning institutions, teachers and learners acquire digital skills and learning methods. The hope is that initiatives such as the CCCL will lead to energised forms of digital scaffolding and shift the emphasis from policy discourse to praxis - providing learning support at a cognitive but also human level and encouraging institutional education to implement change in the curriculum. The creation of case studies should also help policy-makers continuously evaluate the kinds of education reforms proposed. The commitment to social entrepreneurship values and equity in education are becoming increasingly important if we want to make sure that technological, institutional and pedagogical advances benefit the many, not just the few.

REFERENCES

- Benkler, Y. 2011, *The Penguin and The Leviathan: The Science and Practice of Cooperation*, Crown Business, New York.
- Benkler, Y. 2006, *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, Yale University Press.
- Cengage Learning (2016), Open Educational Resources and the Evolving Higher Education Landscape.
- European Commission (2016), *State of the Union 2016: Commission proposes modern EU copyright rules for European culture to flourish and circulate*. Available at: http://europa.eu/rapid/press-release_IP-16-3010_en.htm?locale=en
- dos Santos, A., Punie, Y., Castano-Munoz, J. 2016, *Opening up Education: A support framework for higher education institutions*. JRC Science for Policy Report
- Granovetter, M.S. 1983, The strength of weak ties: a network theory revisited. *Sociological Theory*, vol. 1, pp. 201-233.
- Granovetter, M.S. 1973, The Strength of Weak Ties. *The American Journal of Sociology*, vol. 78, no. 6, pp. 1360-1380.
- Ito, M., Gutierrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, K., Schor, J., Sefton-Green, J., Watkins, J. 2013, *Connected Learning: An Agenda for Research and Design*. Irvine, CA: Digital Media and Learning Research Hub.
- Kampylis, P., Punie, Y. & Devine, J. 2015, *Promoting effective digital-age learning - A European framework for digitally-competent educational organisations*.
- Rheingold, H. 2012, *Net Smart: How to Thrive Online*. MIT Press Cambridge MA.
- Robins, G. 2015, *Doing Social Network Research. Network-based Research Design for Social Scientists*. Sage.
- Siemens, G. 2011, *Learning Analytics: The Emergence of a Discipline*. American Behavioral Scientist October 2013 57: pp.1380-1400
- Wellman, B. 2002, *Little Boxes, Glocalization, and Networked Individualism. Digital Cities II: Computational and Sociological Approaches* Springer-Verlag, Berlin, pp. 11-25.
- Willcox, K.E., Sarma, S., Lippel, P.H. (2016), *Online Education: A Catalyst for Higher Education Reform*. MIT Online Education Policy Initiative. Final Report.