CONSTRUCTING THE DIGITAL UNIVERSITY – OPEN, COLLABORATIVE MODELS FOR STRATEGIC PEDAGOGIC AND TECHNICAL CHANGE

Sheila MacNeill, Glasgow Caledonian University, Keith Smyth, University of the Highlands and Islands, Bill Johnston, University of Strathclyde, United Kingdom

Introduction

The notion of the Digital University has gained traction in the last few years as a key topic in the discourse of organisational and educational development in Higher Education around the world, and as a focus for academic research in areas including learning literacies, teaching practice, and technological developments (e.g. McCluskey & Winter, 2012; Goodfellow & Lea, 2013; Selwyn, 2014).

We felt that exploration of this overarching term offered the potential to act as a catalyst for fundamental change throughout an institution from administration to teaching and learning.

Our starting point in 2011 was trying to provide answer to 'what do we mean by the Digital University?' We challenged the assumption that this was a largely trouble free concept driven by technological innovation and infrastructure developments, which could be managed through existing institutional structures. Emerging narratives included an overly techno-centric view that technology alone constituted an environment that could be nominated as "digital". We felt a need to acknowledge the human and social processes involved and proposed that a truly digital university can only be fully realised where there is a fusion between technology and staff/student developments driving innovation and creativity.

Our approach involved: discussion; generation of models that we shared openly via a blog; presentations, workshops, publications; and a major collaborative effort with a Scottish university. This open process characterised by its collaborative, generative, pro-active nature is illustrated in Figure 1 below.
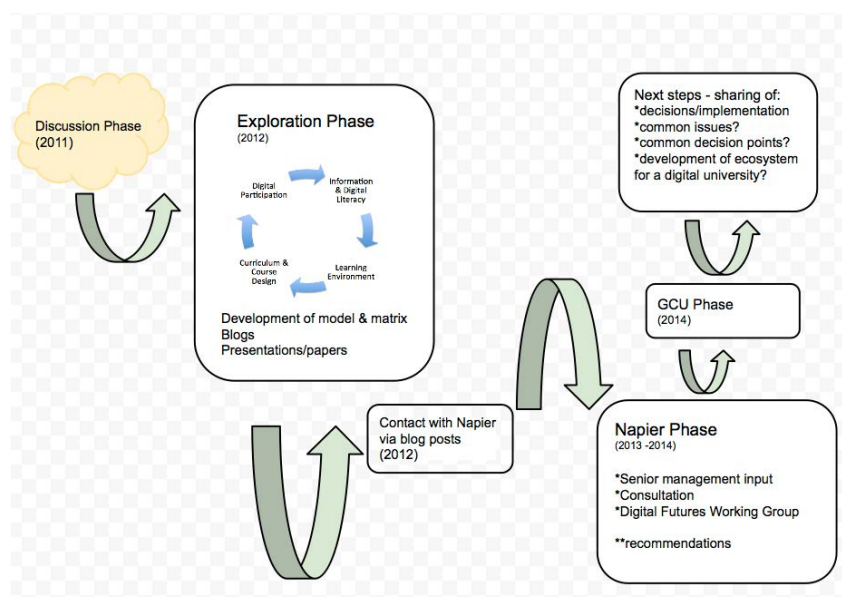
Figure 1. Open dialogue and engagement process

A Conceptual Matrix for the Digital University

During 2012, two of the co-authors of this article set out to develop a strategic model which would provide a multidimensional, holistic view of the concept of the Digital University, and one which could offer a flexible tool for engaging staff in identifying and formulating systematic programmes for change through harnessing, or developing, digital spaces, practices, and provision. This work was instantiated within a series of blog posts entitled "A Conversation around what it means to be a Digital University" (MacNeill & Johnston, 2012).

The Conceptual Matrix for the Digital University that emerged as the key outcome of the above work (Figure 2) is based on four key constructs – digital participation, information literacy, learning environment, curriculum and course design – and the interrelationships between them.

Digital Participation	Information Literacy
*Glocalization *Widening access *Civic role and responsibilities *Community engagement *Networks (human and digital) *Technological affordances	*High level concepts and perceptions influencing practice *Staff & student engagement and development *Effective development and use of infrastructure
Curriculum and Course Design	**Learning Environment**
*Constructive alignment *Curriculum representations, course management, pedagogical innovation *Recruitment and marketing *Reporting, data, analytics	*Physical and digital *Pedagogical and social *Research and enquiry *Staff and Resources

Figure 2. Conceptual Matrix for the Digital University (MacNeill & Johnston, 2012)

Digital Participation involves public engagement by the university with government digital policy and the growing potential of social/consumerist interactions offered by digital technology and the Internet. Information Literacy enables Participation through developing skills, identifying full range of academic relevance and personal development. Both are channelled through the university's Learning Environment, which is conceived in both technological and academic/pedagogical terms. All three influence and condition Curriculum and Course Design.

The conceptual matrix was designed as a strategic tool for institutions to:

- Analyse policy documents.
- Channel strategic discussion.
- Focus on specifics whilst retaining a broader perspective.
- Shape the division of labour to best effect.
- Co-ordinate projects, debate, decision making and action.

The Conceptual Matrix can be used to ask key questions relating to each of the four quadrants. For example, how is Digital Participation managed in the university – is this within widening access initiatives or lifelong learning provision? Where is Information Literacy visible in the university – is this in library programmes, or perhaps staff and student development provision? How is the Learning Environment currently conceived in the university – as a unified concept or divided between infrastructure and estate, or teaching and learning? And who has the locus in Curriculum and Course Design, development and management – where do decisions reside, and how influential are overall institutional objectives on outcomes common to all courses (e.g. employability, citizenship) in shaping practice at ground level?

Applying the Conceptual Matrix

Since being developed the Conceptual Matrix, and associated tools, have successfully been applied in aiding strategic discussions and scoping possible future developments at a number of universities in the UK (including the University of Dundee, University of Greenwich and Glasgow Caledonian University), and also at Macquarie University in Sydney. However perhaps the most significant application of the Conceptual Matrix thus far has been in the Digital Futures consultation undertaken at Edinburgh Napier University between 2013 and 2014.

The matrix proved invaluable by providing a means to both reflect on the institution's position and begin identifying possible directions for Edinburgh Napier as a 'Digital University'. The application of the matrix in the initial dialogue at Edinburgh Napier also helped establish an understanding that being a 'Digital University' was not about being digital in all that the institution set out to do, but was instead about being a university that could harness current and emerging digital technologies and practices to enrich curriculum and other key aspects relating to learning and teaching.

Using the Conceptual Matrix, Edinburgh Napier were able to develop a strategic institutional response that was holistic, consultative, iterative and innovative. A number of diverse perspectives were uncovered often informed by the responsibilities that different individuals or departments have for specific aspects of digital practice within the institution, representing a form of 'value pluralism' (Johnson & Smyth, 2011) that presents a key challenge in taking a broader view of what it means for a university to 'be digital'.

Full details of the Edinburgh Napier consultation, and the resulting recommendations, are openly available at
http://staff.napier.ac.uk/services/vice-principal-academic/academic/strategyactivity/DigitalFutures/Pages/Digital-Futures.aspx.

Many of the short-term recommendations were focused on the consolidation and enhancement of current digital practice and provision. Longer-term recommendations are of a more aspirational nature and concern: innovation in open educational practice; learner engagement in online professional communities; and learners as contributors to digital bodies of knowledge. In particular, the notion of the 'digitally distributed curriculum' was proposed as an important 'organising concept' for the longer term recommendations (Figure 3).

The idea of a digitally distributed curriculum was defined in the final report of the Digital Futures group as "one that provides an innovative learning and teaching experience, extends learning and teaching across cohorts and communities, can meet diverse needs around work-based learning and CPD, and that is digitally sustainable as well as pedagogically progressive" (DFWG, 2014, p.17).
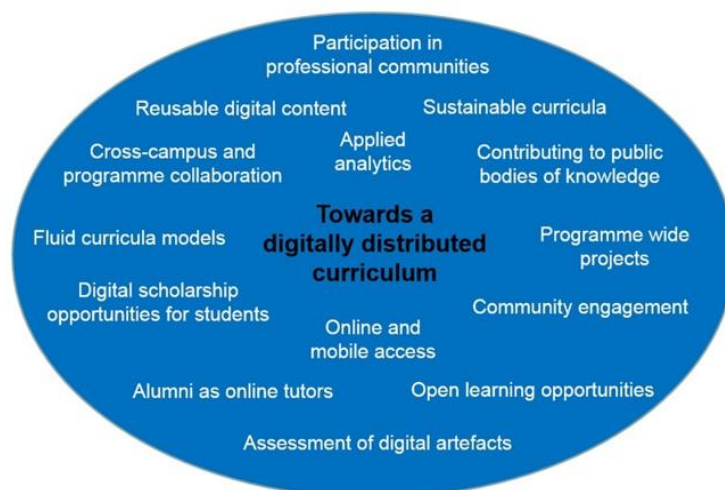

Figure 3. Towards a digitally distributed curriculum (DFWG, 2014)

The various recommendations of the Digital Futures Working Group are now being taken forward at Edinburgh Napier University through the DigitalU (or The Digital University) project that was formed in January 2015.

Future Developments

Our work in conceptualising and visioning the nature of the Digital University has taken us on a journey from the development of the Conceptual Matrix (MacNeill & Johnston, 2012) through the application of the matrix in the genesis and development of the Digital Futures consultation at Edinburgh Napier University, which has engaged us in furthering our collective thinking and ideas about the nature of the Digital University.

An important part of our future work will be to broaden out our dialogue and collaborations to involve other colleagues and institutions in coming to a more informed shared perspective on the realities, challenges and possibilities of the Digital University construct by, for example, exploring the relevance of the concept of an "ecosystem" (MacNeill, 2014).

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