

The Digital University in the Modern Age: A proposed framework for strategic development

Sheila MacNeill, JISC and Bill Johnston, University of Strathclyde

The Digital University: What is it? How do we achieve it?

The notion of a Digital University seems to be gaining traction within institutions, however we have observed that it is being used in a very narrow context, mainly relating to digital technology and infrastructure e.g. repositories and/or VLEs. The exploration of the term Digital University offers the potential to explore central issues for strategic development in a more holistic manner. Digital literacy is also a term that, although increasingly being used in HE, is still not commonplace; and again suffers from narrowly focussed discussions particularly relating to computer science related skills and not as a developing set of wider ranging competences.

We believe that digital literacy is an extension of information literacy - one cannot exist without the other. So, the "literacy" of the digital university is the literacy of information. This in turn raises wider social issues of digital inclusion and the role universities can play in the wider community. Figure one identifies our key constructs and provides a model of their interrelationship.

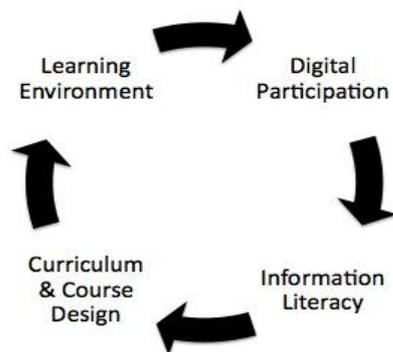


Figure 1: Key constructs and interrelations in the Digital University

The logic of our model starts with the macro concept of **Digital Participation** which provides the wider societal backdrop to university educational development. **Information Literacy** enables digital participation and in educational institutions is supported by **Learning Environments** which are themselves constantly evolving. These elements in turn have significant implications for **Curriculum and Course Design**. We see strategic, institution-wide, educational development as the primary organizational channel to unite the elements of our conceptualisation.

The matrix in figure two develops the four categories in our model to identify the key dimensions of our concept of the digital university. If applied to a university seeking to modernize itself, these four dimensions can channel key activities such as: synthesising the relevant pedagogical literature; analysing particular institutional settings; and identifying plausible lines of action for change.

Digital Participation	Information Literacy
<ul style="list-style-type: none"> *Widening access (to all ages/groups) *Civic role and responsibilities *Community engagement *Networks (human and digital) *Technological affordances *Government policy 	<ul style="list-style-type: none"> *High level concepts and perceptions influencing practice *Staff & student engagement and development *Effective development and use of infrastructure
Curriculum & Course Design	Learning Environment
<ul style="list-style-type: none"> *Constructive alignment *Curriculum representations, course management, pedagogical innovation *Recruitment and marketing *Reporting, data, analytics 	<ul style="list-style-type: none"> *Physical and digital *Pedagogical and social *Research and enquiry *Staff and Resources

Figure 2: Conceptual matrix of the Digital University (MacNeill & Johnston 2012)

We will not go on to highlight how a university, such as the University of Greenwich, planning strategic change based on a central notion of being more digitally engaged, the use of this matrix could allow for the development of a more holistic strategic framework, with multiple points of direct engagement for staff and students.

Shaping the Direction of Greenwich

In terms of Greenwich’s current strategic activities, constructs in our matrix are mapped to the core elements of the overarching Greenwich Connect strategy as outlined in the draft Vision for Greenwich in a Digital Age paper (Educational Development Unit 2012).

Digital Participation

Digital Participation	Greenwich Connect
<ul style="list-style-type: none"> *Civic role and responsibilities - how does access to digital resources underpin civic action? *Community engagement -how can we facilitate more and better engagement between communities? *Networks (human and digital) - what networks do we need foster? *Technological affordances - what are the underlying infrastructures and connections underpinning access to all of the above? 	<ul style="list-style-type: none"> *Engagement – social interaction, *Personalisation – digital identity, individual learning journeys *Connectivity – social, professional and community

Digital participation is a broad social construct with varied implications for educators.

It ties in with the key concepts of Greenwich Connect, which looks to create greater use of, and collaboration between networks of students and staff both internally within the institution and with the wider community and alumni.

Expanding the notion and infrastructure of the learning environment is central to fulfilling potential of these networks to create opportunities for greater digital inclusion for individuals (students and staff) and the institution as a whole.

Learning Environment

Learning Environment	Greenwich Connect
*Physical and digital	*Learning Spaces (virtual and physical), *Supporting collaboration and interaction
*Pedagogical and social	
*Research and enquiry	*Curriculum and Research

Again we can see where Greenwich is beginning to address the key components outlined in the matrix. There is recognition of the need for an underpinning infrastructure that is flexible enough to allow increased integration of: social media; increased use of multimedia content and which encourages greater collaboration and recognition of interactive content creation and sharing. This strategy anticipates pedagogical and social changes. These need to be enacted in powerful learning environments via student patterns of learning and staff approaches to teaching. Vermunt et al (2007, 87) refer to this as 'process-orientated teaching' as it is targeted at the 'processes of knowledge construction and utilization'.

This style of teaching and learning requires an increasingly complex mix of lecturer skills including diagnostician, challenger, monitor, evaluator and educational developer. Technology can provide a number of affordances to create the learning spaces to allow more self-regulation for students e.g. collaborative working spaces, and personal reflective spaces. However, there needs to be support from all levels of the institution to continually provide the wider environment which effectively develops the skills and knowledge to allow this type of student as self regulating researcher culture. We can begin to see how this shift could be facilitated in Greenwich through the elements of personalization, engagement, professional practices and connectivity outlined in the Greenwich Connect model.

Curriculum

Curriculum & Course Design	Greenwich Connect
*Constructive alignment *Curriculum representations, course management, pedagogical innovation *Recruitment and marketing *Reporting, data, analytics	*Curriculum and Research *Professional Practice *Personalisation

All of the diverse factors combine to define the full nature of curriculum in higher education argue for a holistic view of curriculum. Such a holistic view fits well to the aspect of participation in our matrix, since it encompasses not only actual participants, but potential participants as befits modern notions of lifelong and life-wide learning, whilst also

acknowledging the powerful social and political forces that canalize the nature and experience of higher education.

In the current economic climate with the introduction of increased tuition fees, the value and cost of a degree is being increasingly questioned both by potential students and employers. Employers are increasingly looking for cross-disciplinary skills, and students need ways to illustrate their skills beyond traditional certification. Employability, creativity and digital literacy are increasingly being recognised as key graduate attributes. The development and recognition of these competences requires not only enhanced understanding and provision of learning environments as outlined above, but also newer approaches to curriculum and course design.

This form of institutional discourse, when deployed to support development of a digital university, takes form as an argument for change in the educational/ technological profile of the institution, which needs to be linked to effective organizational change strategies in order to succeed. In this respect it can be seen as a persuasive rhetoric aimed at bringing staff and students on board. Overall, however, the discourse described represents a very powerful idea to give the university a strong market position in difficult times.

Using our matrix as an overarching framework, we propose that the following questions could be useful starting points for modernization projects, at Greenwich or any other institution.

Questions

1. That strategic and operational management of learning environment must be a function of course design/re-design and not separate specialist functions within university organizations. (We suggest that Vermunt's (2007) account of the nature of learning environment can be a useful source to inform and stimulate discussion). To what extent can all stakeholders in the ongoing re-design of all courses work to an agreed plan of curriculum renovation?
2. That education for information literacy must be entailed in the learning experiences of all students (and staff) as part of the curriculum and must be grounded in modern views of the field. Greenwich is already making significant contributions in this area through the Digital Literacies in Transition Project (part of the JISC Developing Digital Literacies Programme). How can this be built on and further developed?
3. That participation in all its variety and possibility is a much more significant matter than simple selection/recruitment of suitably qualified people to existing degree course offerings. The nature of a university's social engagement is exposed by the extent to which the full range of possible engagements and forms of participation are taken into account. For example is a given university's strategy for participation mainly driven by the human capital/economic growth rationale of higher education, or are there additional/ alternative values enacted?

References

Digital Literacies in Transition Project. Available online at: <http://dlinhe.ning.com/> (Accessed 20 August 2012).

Educational Development Unit (Bryant, P. and Walker, S.). (2012). *Greenwich Connect: a vision for the University of Greenwich in the Digital Age*, Unpublished document: University of Greenwich.

MacNeill, S. and Johnson, B. (2012). *A Conversation Around What it means to be a Digital University*. Available online at: <http://blogs.cetis.ac.uk/sheilamacneill/2012/01/26/a-converstaion-around-what-it-means-to-be-a-digital-university/>. (Accessed: 10 August 2012).

Secker, J. and Coonan, E. (2011) *A New Curriculum for Information Literacy: curriculum and supporting documents*. Available online at: http://ccfil.pbworks.com/f/ANCIL_final.pdf (Accessed: 10 August 2012).

Vermunt, J. D. (2007) The power of teaching-learning environments to influence student learning. In Entwistle, N. and Tomlinson, P. (eds.). *Student Learning and University Teaching*, Leicester: BJEP Monograph Series II,4, 73-90

Author Biographies

Sheila MacNeill is an Assistant Director at JISC CETIS, a JISC Innovation Support Centre, based at the University of Strathclyde. Sheila's work centres around technology developments in teaching and learning.

Bill Johnston is an educational developer who is an Honorary Research Fellow in Strathclyde University's Centre for Academic Practice and Learning Enhancement. Before retiring in 2010 he was a senior lecturer and Assistant Director of the Centre.