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

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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.
Opinion Pieces

Digital Participation | Information Literacy
---------------------|---------------------
*Widening access (to all ages/groups)       *High level concepts and perceptions influencing practice
*Civic role and responsibilities          *Staff & student engagement and development
*Community engagement                      *Effective development and use of infrastructure
*Networks (human and digital)             
*Technological affordances                  
*Government policy                          

Curriculum & Course Design | Learning Environment
---------------------------|---------------------
*Constructive alignment     *Physical and digital
*Curriculum representations, course management, pedagogical innovation  *Pedagogical and social
*Recruitment and marketing  *Research and enquiry
*Reporting, data, analytics  *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

<table>
<thead>
<tr>
<th>Digital Participation</th>
<th>Greenwich Connect</th>
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<tbody>
<tr>
<td>*Civic role and responsibilities - how does access to digital resources underpin civic action?</td>
<td>*Engagement – social interaction,</td>
</tr>
<tr>
<td>*Community engagement -how can we facilitate more and better engagement between communities?</td>
<td>*Personalisation – digital identity, individual learning journeys</td>
</tr>
<tr>
<td>*Networks (human and digital) - what networks do we need foster?</td>
<td>*Connectivity – social, professional and community</td>
</tr>
<tr>
<td>*Technological affordances - what are the underlying infrastructures and connections underpinning access to all of the above?</td>
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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**

<table>
<thead>
<tr>
<th>Learning Environment</th>
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<tbody>
<tr>
<td><em>Physical and digital</em></td>
<td><em>Learning Spaces (virtual and physical),</em></td>
</tr>
<tr>
<td><em>Pedagogical and social</em></td>
<td><em>Supporting collaboration and interaction</em></td>
</tr>
<tr>
<td><em>Research and enquiry</em></td>
<td><em>Curriculum and Research</em></td>
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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**

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<th>Greenwich Connect</th>
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<td><em>Curriculum and Research</em></td>
</tr>
<tr>
<td><em>Curriculum representations, course management, pedagogical innovation</em></td>
<td><em>Professional Practice</em></td>
</tr>
<tr>
<td><em>Recruitment and marketing</em></td>
<td><em>Personalisation</em></td>
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<tr>
<td><em>Reporting, data, analytics</em></td>
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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


Author Biographies

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