

ORIGINAL RESEARCH ARTICLE

Developing the digital literacies of academic staff: an institutional approach

Barbara Newland* and Fiona Handley

Centre for Learning and Teaching, University of Brighton, Brighton, United Kingdom

(Received 3 March 2016; final version received 19 July 2016)

Institutional engagement with digital literacies at the University of Brighton has been promoted through the creation of a Digital Literacies Framework (DLF) aimed at academic staff. The DLF consists of 38 literacies divided into four categories that align to the following key areas of academic work:

- Learning and teaching
- Research
- Communication and collaboration
- Administration

For each literacy, there is an explanation of what the literacy is, why it is important and how to gain it, with links to resources and training opportunities. After an initial pilot, the DLF website was launched in the summer of 2014. This paper discusses the strategic context and policy development of the DLF, its initial conception and subsequent development based on a pilot phase, feedback and evaluation. It critically analyses two of the ways that engagement with the DLF have been promoted: (1) formal professional development schemes and (2) the use of a ‘School-based’ approach. It examines the successes and challenges of the University of Brighton’s scheme and makes some suggestions for subsequent steps including taking a course-level approach.

Keywords: e-Learning; staff development; digital competency; digital leadership

Introduction

Institutional engagement with digital literacies for academics at the University of Brighton is being promoted through a Digital Literacies Framework (DLF). The DLF can provide the foundation to enable digital transformation, which is part of the University of Brighton’s strategic plan (University of Brighton 2012). Its full implementation could provide an effective and efficient learning, teaching and working experience for students, academics and administrators.

Digital literacy is defined as ‘those capabilities which fit an individual for living, learning and working in a digital society’ (Jisc 2012a). Our framework of digital literacies emerged from SCONUL’s work in information literacies (SCONUL 2011) and computer literacy and skills (Cawden 2008). The concept was most recently

*Corresponding author. Email: B.A.Newland@brighton.ac.uk

Responsible Editor: Amanda Jefferies, University of Hertfordshire, United Kingdom.

framed in discussions around the tensions between literacy and skills (Goodfellow and Lea 2013) and so-called digital natives (Thomas 2011). The rejection of both presumptions about technology skills in user groups and technology as ‘a neutral tool’ (Selwyn 2011, p. 17) have reconceptualised digital literacy, like other literacies, as a social and cultural practice. This ‘critical’ approach to digital literacy focuses on ‘how meaning is constructed, by whom and for what purposes’ (Hinrichsen and Coombs 2014, p. 4) and the challenges of ‘attempting to retro-fit new socio-cultural practices into conceptions of “literacy”’ (Belshaw 2011, p. 221). In practice, critical digital literacy involves individuals making informed decisions about what technologies to use in the light of their needs and their disciplinary practices.

Within the United Kingdom, the concept of digital literacy became more concrete in Jisc’s Developing Digital Literacies Programme which ran from 2011 to 2013 (Jisc 2014). Jisc defined digital literacy as ‘those capabilities which fit an individual for living, learning and working in a digital society’ (Jisc 2012a). The Jisc programme funded a range of digital literacy projects across the United Kingdom (Jisc 2012b), and research was undertaken to explore the topics and skills that might be applicable to digital literacies in higher education (HE), with Sharpe and Beetham’s Digital Literacy Framework being particularly influential (Sharpe and Beetham 2012).

Methods

It was within this context of digital literacies development that the University of Brighton began to explore its own approach to digital literacy. The Centre for Learning and Teaching (CLT) in consultation with Information Services (IS, which provides computing, library and media services) began considering the benefits an institution-wide approach to digital literacy would have, how it would relate to University strategy, who to target it at and what form it would take. In 2012, the CLT developed a draft digital literacies policy that was approved by the e-Learning Development Group, which then recommended it to the University’s Learning and Teaching Committee in early 2013. The policy stated that ‘everyone would be expected to have the core level of digital literacies for their learning, teaching, research and administrative work at the University’.

Following this, in 2013, the CLT made a successful bid for consultancy from the Leadership Foundation for UK HE together with its partners Jisc, the Association for Learning Technology, the National Union of Students and the Higher Education Academy (HEA). The consultancy took place over a 2-month period ending in June 2013 and helped develop the initiative. It was decided to initially focus on academic staff with the aim of engaging administrative staff and students at a later date. The rationale for this was the need to improve the level of digital literacy amongst some academic staff and the requirement for substantial resources to roll out the DLF to students.

The results of other Jisc (2012b) projects showed some diversity in the ways that universities encouraged staff to engage with digital literacies, for example, through lists of discipline-specific literacies (University of Bath 2012) or workshop toolkits (Hinrichsen and Coombs 2014; University of Greenwich 2013). Other frameworks, such as De Montfort University’s self-evaluation framework, were being developed for use outside universities (Hall, Atkins, and Fraser 2014). The decision to use a framework approach was partly the result of Jisc’s focus at the time on frameworks

(Sharpe and Beetham 2012) and to categorise literacies under the areas of activity undertaken by the academic staff. A framework also clearly communicated to staff as to what they were expected to know. In line with a ‘critical’ approach to digital literacy and Jisc’s work, the University’s definition was identified as:

Being digitally literate ‘means competence and confidence with current technology and the ability to keep up to date by evaluating the appropriateness of new technology and acquiring new skills as necessary. For students it is a graduate attribute. For staff it is professional development. For teaching, it is the effective and efficient use of digital technologies in blended learning and not just knowledge of existence of technologies’.

An initial list of literacies was drawn up based on the SCONUL classifications. Each digital literacy was classified as either ‘core’ or ‘further’ and was organised into four categories:

- Learning and teaching
- Research
- Communication and collaboration
- Administration

Core literacies included any literacy that academics need to meet existing University policies. For example, as the University has an e-only Submission policy for text-based assignments, ‘e-Submission’ was a core literacy.

By the autumn of 2013, the initiative was sufficiently developed to be piloted in two Schools that had been identified by the senior management for participation. The pilot was in two phases and focused on finalising the core digital literacies, informing the development of the implementation plan and identifying resource requirements for the roll out. The final list of 38 core and further digital literacies was approved in February 2014 with minor changes approved in July 2014 (Appendix 1), of which 29 are core literacies and 9 are further literacies.

Development of the initiative

The initiative was developed in two main ways – policy development and implementation, and the design and development of the DLF website.

Policy development and implementation

The policy development took place within a strategic environment of increasing awareness of the technological changes in the HE environment and the implications of these for teaching and research (Friesen, Gourlay, and Oliver 2013; Haythornthwaite 2013). In particular, the University Strategic Plan 2012–2015 (University of Brighton 2012) stated a commitment to ‘digital transformation’. Several initiatives and policies relating to IT infrastructure and blended learning were created.

The digital literacies policy was developed by a Steering Group led by the CLT in co-ordination with the senior management from IS. One of the strengths of the Steering Group was that its membership was drawn from different services at a senior level, which meant that the policy was well supported as it went through the

committee process. Brown (2013) identifies this approach of cross-team working at the middle management level as being more successful than either top-down or bottom-up approaches in instigating institutional change in technology practice. The staged approach to the policy approval over several months meant that it was considered several times at the committee level and allowed a secure basis for support.

The Steering Group was supported by an Implementation Group, chaired by the CLT and consisting of CLT academic staff (including a Senior Lecturer on a 2-year contract to work in this area), Learning Technology Advisers (LTAs), Information Advisers (IAs) and Information Officers (IOs). They played a major role in the design and development of the Framework.

In January 2013, the Learning and Teaching Committee agreed that

- All individuals should identify their own levels of digital literacy and be responsible for achieving the appropriate level.
- Academics should be responsible for developing a blended learning curriculum with authentic use of digital technologies.
- Heads of School should have an overview of the digital literacies in their School.

The policy also contained statements relating to Human Resources and Brighton Students' Union having an overview of the digital literacy needs of the administrative staff and the students, respectively, with the intention of implementing the DLF among them at a later date. The implementation plan focused on rolling out the Framework to academic staff in a variety of ways: at an individual level, through formal professional development; via School-level engagement, staff development review and staff induction. Formal professional development and school-level engagement will be examined here.

Design and development of the DLF website

The design of the DLF was informed by sector-wide initiatives in digital literacy, the findings of the consultancy and the available capacity within the University. An early version of the Framework was presented to the eLearning Development Group and the Learning and Teaching Committee in summer 2013, with the school pilots then helping to finalise this model.

The content of the DLF website was then developed through assigning literacies to members of the Implementation Group to whom they were most relevant, with a fairly equal distribution between LTAs, IAs, IOs and the CLT. The content for each literacy began with a brief overview, before being divided into sections for particular skills, each containing 'What' 'Why' and 'How' headings. The emphasis was on explaining what a literacy was and why it was important, with the aim of helping users make the decision about whether they needed to find out more about the skills associated with it. It was decided that the 'How' subsection should be a portal to information on digital skills rather than containing any information itself. This meant that existing resources on CLT, IS and external websites did not have to be replicated. It also allowed the opportunity of linking the Framework more systematically to external resources, and this contributed to the approval of the purchase of Lynda.com, the online training resource, in 2014.

The Framework was developed in WordPress as the University was in the process of changing its own web platform, and WordPress allows a wide range of functionality and engaging layouts. A key development was the creation of an interactive digital literacies logo (Figures 1 and 2) with a distinctive design that reflected discussions about how people would want to find out about the digital literacies. Both this and the website were designed by one LTA in consultation with the rest of the team, and resulted in a coherent DLF 'brand' which has been used in promoting the Framework.

While briefing notes were supplied to the authors, inevitably there was variability across the different entries. An editor drawn from the team then reviewed the content to improve consistency of vocabulary and tone, check for overlaps and omissions and edit the content. The literacies can be accessed either through tabs on the webpage, through a clickable version of the logo, via an index or through searching.

A greater challenge was presented in the creation of four quizzes, one each for the four DL categories, which were developed alongside the main website content. These were intended to be a way of encouraging engagement with the Framework. Technological constraints meant that they had to be placed outside of the website using the testing tool in the University's virtual learning environment (VLE), Blackboard. The quiz questions tested basic information by asking questions such as 'Which of these statements is true about the university's VLE? (1) it runs on the Blackboard platform, (2) it runs on the Moodle platform, (3) it runs on Turnitin, (4) it runs on studentfolio'. It was in creating the quizzes that the nuances of right or wrong answers became apparent, which helped in refining the main web text.

The DLF website www.studentfolio.brighton.ac.uk/diglits/ was launched on 1 July 2014¹.

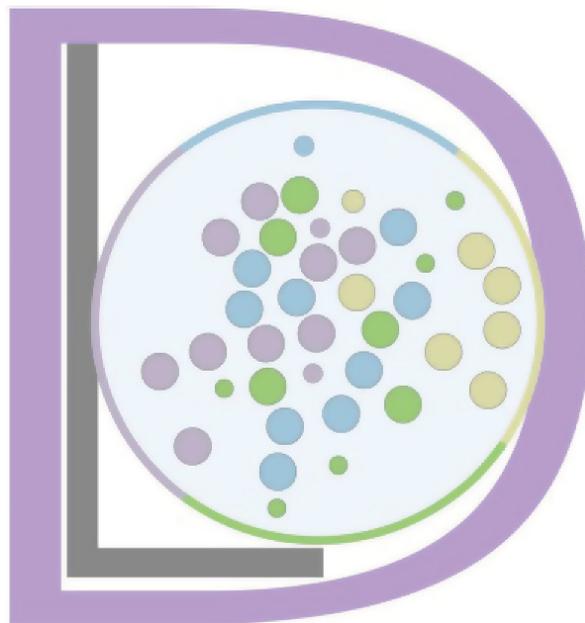


Figure 1. The Digital Literacies Framework logo.



Figure 2. Detail of the interactive version of the logo.

Embedding within formal professional development schemes

During the period of the development of the web interface, the DLF was integrated into the University of Brighton's Professional Recognition and Development (PRD) scheme and Postgraduate Certificate (PGCert) in Learning and Teaching in Higher Education. Both of these schemes are accredited by the HEA's UK Professional Standards Framework (UKPSF), which is 'a nationally recognised framework for benchmarking success within HE teaching and learning support' (HEA 2011). The HEA believes that the UKPSF is 'essential to driving improvement in, and raising the profile of learning and teaching in HE'. The UKPSF outlines the 'dimensions of professional practice with HE teaching and learning support as

- areas of activity undertaken by teachers and support staff,
- core knowledge needed to carry out those activities at the appropriate level and
- professional values that individuals performing these activities should exemplify'.

The UKPSF includes 'the use and value of appropriate learning technologies' as the fourth aspect of its core knowledge. The PGCert and PRD drew on and extended this commitment. Academics applying for professional recognition on the PRD scheme are required to include a declaration that they have attained the core digital literacies as identified in the University of Brighton's DLF. Attainment means understanding what each core digital literacy is, why they would use it and whether it is appropriate for them to use it. Applicants are also required to state how and why they have implemented blended learning in their teaching. The PGCert is a taught course and following best practice engagement with the DLF is embedded within its curriculum (Beetham, McGill, and Littlejohn 2009), for example, through assessment subjects related to blended learning, or submission via digital media such as video.

The Schools approach

The Framework was developed to be institution wide and is consequently quite generic. The Steering Group recognised that this approach was very 'top-down' and

may have resulted in a lack of commitment, as there was little opportunity to modify it for specific individual or team needs (Senge 2006, p. 198–204). One way around this was to give Schools some flexibility by allowing them to identify their own discipline-specific literacies related to the core literacies and to create their own bespoke packages of staff development. Further to this, a school-based model had been successful elsewhere (Sharpe, Benfield, and Francis 2006), and the school level also aligned with the amount of support that was available from IS and the CLT to run professional development sessions.

The approach was developed through the pilot with two Schools. In the first phase of the pilot one member of staff in each School was nominated by their Head of School to lead the School's involvement. An initial meeting was held to enable the nominated individual to gain an understanding of the DLF and for representatives of the Implementation Group to understand the School's requirements. By working with the Schools in this way, a clearer idea of how engagement in the second phase could be promoted was developed. It was clear that the Schools were keen to embrace the possibility of taking some ownership of the Framework by modifying it and engaging with it for their own needs. Following these meetings, there were short 1-hour interactive awareness-raising sessions followed by a workshop in each School on the DLF, attended by approximately 40 staff in each School. Staff were presented with an overview of the DLF and explored some of the quizzes. They had the opportunity to give feedback on some of the literacies they wanted to pursue both to the members of the Implementation Group and to the School contact. The feedback from these sessions informed the decisions about which literacies should be core or further, and resulted in the recommendation that attaining the digital literacy included the 'What' and 'Why' but not the 'How'.

In phase 2 of the pilot in the autumn of 2014, Schools were encouraged to extend their engagement to suit their own needs by being offered the opportunity of creating their own 10-hour 'package' of support from CLT and IS. The Schools could choose the digital literacies for their package as well as the format and timing of the support. These formats included sessions such as focusing on particular literacies, general sessions where staff developers could quickly work through literacies as requested by staff, and open sessions where staff could attend to work through the Framework with minimal support. The rationale for this approach was to align the attainment of digital literacies with the School's interests and requirements to ensure a good level of engagement.

Results of the Schools Pilot

At the end of 2014, alongside the ongoing evaluation of the use of the Framework website through looking at analytics and a survey of workshop attendees, Phase 2 of the Schools pilot was evaluated. This evaluation was planned to look at the effectiveness of the dissemination of information about the Framework, the extent of identification of school-specific literacies and how the '10-hour package' was being used. This was undertaken through examining responses from the Schools, semi-structured interviews with each of the School contacts and an analysis of informal feedback received verbally and sent via email to the members of the Implementation Group.

In terms of dissemination, the initial School workshops were linked to School meetings and were therefore well attended, with around 60 people in total across the

two Schools. However, despite this promising start, the Schools approach did not proceed as envisaged. Despite the consultation with Schools around the concept of the DLF and its implementation plan, neither of the Schools proposed any school-specific digital literacy and none requested School-level staff development as part of the 10-hour package. The evaluation therefore shifted to looking at the reasons why this may have occurred, and to suggesting alternative approaches based on this evidence.

In practice, interest in the scheme immediately moved from School level to course (i.e. degree programmes such as BA History) level. Only one School-level session and one course-based session took place during the period of the pilot although interest was expressed by four others (three course based, one school based). One of the challenges was finding a date, within the duration of the pilot (3 months), when a large proportion of the course team could attend, with two sessions cancelled because of this.

The reasons for this shift of focus to course level became clearer in the interviews with the School contacts. These highlighted the gap between the oversight of staff development at the School level and the lack of mechanisms to identify gaps in staff development (e.g. to suggest school-specific literacies), organise staff development sessions or report on progress. In contrast, course-level processes, such as annual review and revalidation, have a well-embedded system of reporting and monitoring, and make an explicit link between course development and staff development.

This was supported through feedback from one course which had been approached to host a session, declined and then got back in contact to ask for support after the course had been through a periodic review. The staff survey on the use of the DLF website also asked for ideas to encourage the staff to engage, the 10 responses grouped around focusing on the benefits, in taking a course-based approach, and making it compulsory through using processes such as annual staff development reviews and course periodic reviews.

As a result of the evaluation, the initiative is currently focusing on working with course teams rather than with Schools. An important consideration when deciding to move to working with course teams was resourcing. One reason why it was decided to work at the School level was a concern about the amount of support that might be required from IS if the scheme was promoted at the course level. The modest demand that the pilot generated as well as the commitment to the purchase of Lynda.com in February 2014 made the course level roll out more feasible. The online training supplied by Lynda.com means that fewer face-to-face training sessions are necessary. Furthermore, it was also decided to investigate ways of incorporating engagement with the Framework into quality assurance processes to ensure follow-up by course teams.

There was no evidence that there was anything in the content or organisation of the 10-hour packages that meant they were not taken up by Schools, and indeed, similar kinds of sessions were requested by course teams during the pilot and thereafter. However, the most popular sessions requested were either general introductions to the DLF or sessions where particular literacies were explored in depth, way beyond the requirements of the DLF.

Other than the changes that were made as a result of the evaluation, the initiative was also modified following feedback from the Learning and Teaching Committee. In particular, the Committee felt that the staff needed to have a clearer indication of whether they were digitally literate or not. As a result, in the autumn of 2014, the

Implementation Group added indicators in the form of a checklist for each digital literacy, so that the users could check off a series of statements. If they checked them all off, they could consider themselves literate in that area. Each contributor to the DLF website suggested three or four statements for each literacy, with the emphasis on having confidence or competence in a particular literacy, rather than having a particular skill, for example, 'I can name 3 benefits that using mobile technologies can bring to teaching'. This was a very revealing exercise, as it demonstrated the challenges of defining digital literacy for the institution.

Discussion

The development and introduction of the DLF has met with both successes and challenges. The initial development of the policies relating to digital literacies went smoothly because they clearly aligned with the University's strategic commitment to digital transformation, drew on teams from across the University and had the backing of senior management through the committee process. The design and development of the DLF website was successful in terms of cross service team working, in creating a visually engaging brand for the project, creating a useable resource and developing an institutional statement on digital literacy. The creation of the quizzes and the indicators was challenging because it forced the team to consider how the commitment to an individual's reflection on their digital literacy transferred to what being digital literate meant for each individual literacy.

The DLF was promoted in several ways through formal professional development and the School-based approach. The professional development scheme approach was successful through the incorporation of engagement with the DLF into the PRD scheme and PGCert. This was a straightforward way to increase academic staff digital literacy with a particular focus on learning and teaching. The second approach through Schools was initially successful in the level of interest in the general sessions. However, the low levels of engagement with the concept of the 10-hour package were a surprise. It had been expected that the Schools would be keen to engage as they had been consulted over the implementation plan and could choose the literacies to align with their needs as well as the format and timing of the support. The reasons are at individual, school and institutional levels. Individual academics perceived the DLF as another item on the long list of things they need to do, but not a high priority. In Schools, the responsibility for implementing the DLF was given by the Head of School to academics who did not have a level of seniority required to influence colleagues. Therefore, there was no impetus for Schools to take ownership of their own version of the DLF by adding discipline-specific digital literacies. Institutionally, changes in senior management, including the retirement of one of the original champions of the initiative, meant that accountability for the project and its role in supporting the strategic commitment of digital transformation became less clear. An important consideration is that while some course teams were keen to engage and demonstrated a good alignment between the development of academic staff digital literacies and course development in areas such as blended learning, course leaders will generally stick to a needs-based or 'problem-centred' model of staff development (Harrison 2005, cited in McCaffery 2010, p. 204), which is symptomatic of institutions with unpredictable environments and resource constraints. In contrast, the DLF, being quite generic and with no alignment to an urgent institutional strategy is the kind of initiative associated with stable institutional environments with robust staff develop-

ment. This suggests that either digital literacies must become of greater institutional importance or a much wider cultural change within Universities needs to take place.

One important finding from the evaluation was that where there was a requirement to engage with the Framework as a result of a quality assurance process, it was more likely to be pursued by course teams. Exploring ways of incorporating engagement with the DLF into processes such as course approval and revalidation will become increasingly important, particularly as the development of digital literacy is starting to be seen as a quality assurance issue, with the Quality Assurance Agency using it as one theme in 2015–2016 (QAA 2015). This points to a more regulatory stance on digital literacy, with the focus being on the incorporation of digital literacies into the curriculum.

Conclusion and next steps

The Framework approach to developing digital literacies at the University of Brighton has been successful in policy development and professional development through the PGCert and PRD schemes. The School approach has not progressed as expected, with the focus shifting to course-level engagement with the Framework. While it is positive that the DLF is being used, albeit in a different way to what was intended, there has been a lack of systematic institution-wide engagement with digital literacies.

Furthermore, there is an increasing emphasis on the importance of digital literacy that is being driven from various sectors. The National Media Council identifies the lack of digital literacy as impeding technology adoption in HE (Johnson *et al.* 2014, 2016), and UCISA's research (2015) on digital capabilities resonates with our findings. It identifies competing strategic initiatives, institutional culture, lack of money and departmental culture as the key barriers to change. What is clear is that at the University of Brighton, there is not going to be one simple solution to increasing staff digital literacy. We have already seen how course teams are using the DLF in unexpected ways, and that successful routes include incorporating digital literacy into formal staff development and quality assurance processes. While one approach to institution-wide change did not develop as anticipated, the increasing external pressure to develop staff digital literacy, especially with increasing expectations around student digital literacy, means that future rollouts will have more chance of success.

Note

1. A refreshed version of the Framework was launched in July 2016. See <http://blogs.brighton.ac.uk/digitalalliteracies/>

References

- Beetham, H., McGill, L. & Littlejohn, A. (2009) *Thriving in the 21st Century: Learning Literacies for the Digital Age (Llida Project)*, [online] Available at: <http://www.webarchive.org.uk/wayback/archive/20140615060659/http://www.jisc.ac.uk/media/documents/projects/llidareportjune2009.pdf>
- Belshaw, D. (2011) *What Is Digital Literacy? A Pragmatic Investigation*, [online] Available at: <http://neverendingthesis.com/doug-belshaw-edd-thesis-final.pdf>
- Brown, S. (2013) 'Large-scale innovation and change in UK higher education', *Research in Learning Technology*, vol. 21, 22316, doi: <http://dx.doi.org/10.3402/rlt.v21i0.22316>

- Cawden, D. (2008) 'Origins and concepts of digital literacy', in *Digital Literacies: Concepts, Policies, Practices*, eds C. Lankshear & M. Knobel, Peter Lang, New York, pp. 17–32.
- Friessen, N., Gourlay, L. & Oliver, M. (2014) 'Editorial: scholarship and literacies in a digital age', *Research in Learning Technology*, vol. 21, 23834, doi: <http://dx.doi.org/10.3402/rlt.v21.23834>
- Goodfellow, R. & Lea, M. R. (eds) (2013) *Literacy in the Digital University: Critical Perspectives on Learning, Scholarship, and Technology*, Routledge, London.
- Hall, R., Atkins, L. & Fraser, J. (2014) 'Defining a self-evaluation digital literacy framework for secondary educators: the Digilit Leicester project', *Research in Learning Technology*, vol. 22, 21440, doi: <http://dx.doi.org/10.3402/rlt.v22.21440>
- Harrison, R. (2005) *Learning and Development*. 4th edn, Chartered Institute of Personnel and Development, London.
- Haythornthwaite, C. (2013) 'Emergent practices for literacy, e-learners, and the digital university', in *Literacy in the Digital University: Critical Perspectives on Learning, Scholarship and Technology*, eds R. Goodfellow & M. R. Lea, Routledge, London, pp. 56–66.
- HEA. (2011) 'UK professional standards framework', [online] Available at: <https://www.heacademy.ac.uk/recognition-accreditation/uk-professional-standards-framework-ukpsf>
- Hinrichsen, J. & Coombs, A. (2014) 'The five resources of critical digital literacy: a framework for curriculum integration', *Research in Learning Technology*, vol. 21, 21334, doi: <http://dx.doi.org/10.3402/rlt.v21.21334>
- Jisc. (2012a) 'Developing digital literacies', [online] Available at: <http://web.archive.org/web/20141011143516/http://www.jiscinfonet.ac.uk/infokits/digital-literacies/>
- Jisc. (2012b) 'Developing digital literacies programme: summary of project baseline reports', [online] Available at: <http://www.webarchive.org.uk/wayback/archive/20140614144932/http://www.jisc.ac.uk/whatwedo/programmes/elearning/developingdigitalliteracies/Developingdigitalliteraciesprog.aspx>
- Jisc. (2014) 'Building digital capability: building capability for new digital leadership, pedagogy and efficiency', [online] Available at: <https://www.jisc.ac.uk/rd/projects/building-digital-capability>
- Johnson, L., et al., (2014) *NMC Horizon Report: 2014 Higher Education Edition*, The New Media Consortium, Austin, TX.
- Johnson, L., et al., (2016) *NMC Horizon Report: 2016 Higher Education Edition*, The New Media Consortium, Austin, TX.
- McCaffery, P. (2010) *The Higher Education Manager's Handbook: Effective Leadership and Management in Universities and Colleges*, 2nd edn, 1st edn 2004, Routledge, Abingdon.
- QAA. (2015) *Higher Education Themes 2015–16*, Quality Assurance Agency, Gloucester.
- SCONUL. (2011) '7 Pillars of information literacy through a digital literacy "lens"', [online] Available at: <http://www.sconul.ac.uk/publication/digital-literacy-lens-on-the-sconul-seven-pillars-of-information-literacy>
- Selwyn, N. (2011) *Education and Technology: Key Issues and Debates*, Continuum, London.
- Senge, P. M. (2006) *The Fifth Discipline: The Art and Practice of the Learning Organization*, 2nd edn, 1st edn 1990, Random House, London.
- Sharpe, R. & Beetham, H. (2010) 'Understanding students' uses of technology for learning: towards creative appropriation' in *Rethinking Learning for a Digital Age: How Learners are Shaping their Experiences*, eds R. Sharpe, H. Beetham & S. De Freitas, Routledge, Abingdon, pp. 85–99.
- Sharpe, R., Benfield, G. & Francis, R. (2006) 'Implementing a university e-learning strategy: levers for change within academic schools', *ALT-J Research in Learning Technology*, vol. 14, no. 2, pp. 135–151.
- Thomas, M. (ed) (2011) *Deconstructing Digital Natives: Young People, Technology and the New Literacies*, Routledge, Abingdon.
- UCISA. (2015) *Digital Capabilities Report 2014*, UCISA, Oxford.
- University of Bath. (2012) 'Professionalism in the digital environment', [online] Available at: <https://digilitpride.wordpress.com/digital-literacy-statements/>
- University of Brighton. (2012) *University of Brighton Strategic Plan 2012–2015*, University of Brighton, Brighton.
- University of Greenwich. (2013) *The 5 resources model of critical digital literacy: exploring digital literacies workshop pack*, [online] Available at: <https://sites.google.com/site/dlframework/toolsandsupport/exploringdl>

Appendix 1

Digital Literacies as approved in July 2014

Learning and Teaching

Core

- Detecting plagiarism
- e-Marking and e-Feedback
- e-Submission
- Finding and creating resources
- Implementing blended learning effectively
- Minimum usage – studentcentral

Further

- Programming

Research

Core

- Evaluating information
- Keeping legal
- Keeping up to date
- Managing information
- Open access publishing
- Planning a research project
- Publishing your work
- Referencing
- Understanding copyright

Further

- Collecting and analysing data

Communication and Collaboration

Core

- Blogging
- E-mailing
- Managing digital identity
- Presenting
- Texting
- Using discussion forums
- Using mobile technologies in lectures
- Using social networks
- Using wikis

Further

- Tweeting
- Using mobile technologies in field work/work placements

Administration

Core

- Managing digital media – images, video audio
- Managing time
- Protecting your data
- Using spreadsheets
- Word processing

Further

- Knowing your digital environment
- Managing budgets
- Managing tasks
- Managing projects
- Understanding data analytics