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Beyond competence: digital literacies as knowledge practices, and implications for learner development

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Background

Our interest in studying digital literacies arises from what we perceive as a failure to develop students' capacities to learn deeply in a technology-rich environment. The trends towards networked communities and digital citizenship, as well as workplace changes including distributed/collaborative work patterns and an (arguably) higher value being placed on 'knowledge' work, all make digital capabilities central to what higher education can offer. While we see efforts being made to support learners' ICT skills – or at least bring these up to a minimum standard of competence – these are rarely integrated with the development of other capabilities critical to higher learning.

E-learning is often celebrated for its potential to extend participation. As we are increasingly saturated in opportunities for acquiring knowledge (Downes 2005, Walton *et al.* 2007, Anderson 2008), informal networked learning has achieved a new prominence in educational discourse, to the extent that it has almost become the measure by which formal learning is judged. In practice, however, we see digital opportunities being disproportionately taken up, and benefited from, by those with existing educational capital (see for example NIACE 2008).

Too often, also, e-learning is used as a shorthand for the management of learning by digital means, rather than the exploration of disciplinary knowledge and knowledge practices in a new digital context.

A more competence-based curriculum is becoming the norm, a development which has arguably been accelerated by the standardisation of qualifications in a global (digital) learning market. And yet, we see evidence that effective learners in digital – as in other – contexts have not been motivated by competence-based approaches to learning.

We are excited by the current theoretical interest in digital literacies, and yet our motivation remains a pragmatic one: to investigate how learners are developing literacies for learning and meeting their learning goals, at a time when valued knowledge is predominantly communicated in digital forms. We continue to be involved in translating relevant research into effective interventions at curriculum and institutional levels.

Methods

The research we are drawing on for this paper was conducted during a JISC-funded study, Learning Literacies for a Digital Age (LLiDA www.academy.gcal.ac.uk/llida/). The methods are reported in detail elsewhere, and involved:

- a review of literatures at the intersection of learning, e-learning, literacy, and 'the digital'
- a review of relevant competence frameworks (UK, European, and English-speaking education systems)
- analysis of 40+ practical examples of digital literacy support and provision from UK HEIs
- analysis of data from 16 institutional audits of digital literacy practice, including 60 institutional strategic documents

From the literature review: digital literacies as knowledge practices

In our review of theoretical work we find a broad concurrence with Brian Street's formulation of literacies as 'social practices of using codes for making and exchanging meanings'. We understand 'social practices' to signify not only that the relevant activities involve other people, but that they are situated in specific social and cultural contexts, from which they derive their meaning and on which they are significantly dependent for their performance. Also, we understand 'making and exchanging meanings' to indicate informational / communicational activities that have value beyond the immediate context. The word 'knowledge' can be used to denote this value – and has historically been used to assert the cultural value of meaning-making practices acquired through formal education and training.

What does a definition of literacies as situated knowledge practices imply for the development of digital literacies by learners, and can we find evidence of this in the relevant literatures?

First, we would expect literacies to be *foundational* capabilities such as reading, writing or numeracy, on which more particular life skills depend. Literacies (and their lack) must have a lifelong, lifewide impact: they are practices without which a learner is impoverished in relation to culturally valued knowledge. On these grounds, it makes sense to talk about literacy, or literacies, of the digital. Governments around the world have begun to acknowledge an entitlement to digital capability alongside the entitlement to read-write literacy and numeracy for their citizens.

Second, we would expect there to be a need for *extended practice*. Literacies must be acquired through continued development and refinement in different contexts. We would also expect to see personal styles and preferences emerging, just as with writing, musical and artistic capabilities, and mathematical expression. On these grounds, too, digital practices qualify.

Third, we would expect the practice that emerges in a situation to be an interaction between personal capabilities or dispositions, and the *environments* supporting action. This is emerging evidence, which we discuss more fully in the next section, that transferring digital capabilities from one environment to another is more problematic for learners than has been acknowledged. Tacit situational knowledge seems to play a vital role in competent performance, though this is complicated by the fact that digital technologies provide a 'virtual' situation which is often more readily generalised than most 'realworld' contexts for action.

Finally, we would expect literacies to be continually evolving in response to changes in the technical, epistemological and cultural order. Changes associated with the 'digital' age include: a transfer of attention from print to screen; a multiplicity of available media and the rise of hyperlinked and hybrid media; blurring of boundaries between information and communication; ubiquitous access to the world wide web; networked societies and interest groups; the offloading of cognitive tasks onto the network itself (e.g. search engines, web 2.0 services). And there is indeed evidence, for example, of profound changes the way in which writing is typically constructed (Cushman 2004), and of graphical and video media being used to find and share high-value knowledge (JISC/British Library 2008). In every discipline and profession, computer-based analytical tools are changing how knowledge is generated, shared and described. As we will discuss below, these practices are not closely identified with a particular age group (the 'google generation') as often asserted, but with extended access to digital tools and environments.

So we see situated knowledge practices as extending beyond technical competence, such as the ability to form letters in writing, or use a keyboard. Knowledge practices are meaningful and generative of meaning: they depend on the learner's previous experiences (Goodyear and Ellis, 2008), on dispositions such as confidence, self-efficacy and motivation (Candy, 1991), and on qualities of the environment where that practice takes place, including of course the available digital technologies (Engestrom, 1999). We already inhabit technical, social, economic, cultural and



educational contexts in which digital forms of knowledge predominate. It make sense to ask how literacy practice and provision should adapt to fit graduates for living and working in such contexts.

From the literature review: limits to 'native' knowledge

Many theorists argue that learners are responding to the new technical and social opportunities with little help from the formal education system. Redecker (2009) describes online social networking as a paradigm of active learning in communities; Siemens (2006) finds evidence of deep networking and knowledge building in learners' informal practices; Jenkins (2006) refers to participative practices such as those identified with so-called 'digital natives' as a new model for learning, which formal education must run to catch up with. An earlier study, *Literacies for Learning in Further Education* (Ivanic et al. 2007) looked at the literacy practices of learners' everyday lives, and concluded that these already showed features of Jenkins' 'participative practices', such as multi-modality, sharing, agentic (purposeful) information behaviours, sense-making and creativity.

However, other research has highlighted the difficulties of transposing practices from social contexts into formal learning (Cranmer 2006, Facer and Selwyn 2010). Some aspects of learners' everyday practices with technology are in fact at odds with the practices valued in traditional academic teaching and assessment, as we argued in an earlier seminar (Beetham 2009). For example, academics report that learners struggle particularly with tasks of judgement and evaluation, including situations when they are required to take up a stance in relation to knowledge, and with issues of originality in representing their ideas. These have always been difficult issues for students, but they are now being posed in a context where identities are being constantly re-negotiated online, where new ideas become instantly available in multiple fragments and copies and re-inscriptions of themselves, and where 'the wisdom of the crowd' dominates how opinion is expressed (Surowiecki, 2004).

It is important not to exaggerate the dichotomies. Academic cultures of making meaning are already deeply (enthusiastically) inscribed with technology, and most of the social technologies of the internet age originated in academic research communities. Yet these origins may hold a clue to some of the difficulties that students face. Tools of the internet age were shaped by the collaborative knowledge-building needs of researchers, whose stance towards knowledge is highly specialised and attained through a fairly long apprenticeship. That the tools are now familiar to learners from other contexts of use does not give them magical access to the relevant knowledge practices.

At a more pragmatic level, we now have considerable research evidence that learners ICT skills are less advanced than educators tend to think (Nicholas et al. 2008) and that the characterisation of young people as 'digital natives' hides many contradictions in their experiences (Luckin et al. 2009). Whilst new forms of media are clearly significant in shaping their thinking and knowledge practice, learners' engagement with digital media is complex and differentiated (Bennet et al 2008, Hargittai 2009). Importantly, in relation to our discussion of research practice, creative knowledge building and sharing, such as the originating of blogs and wikis, tagging, meme-ing, reviewing, recommending and repurposing, remain minority activities to which most learners are introduced by educators (Selwyn 2009).

The JISC 'learners experiences of e-learning' studies confirmed that we make assumptions about learners' facility with technology at our peril:

- learners can be extremely confident about their internet use while lacking evaluative and critical capabilities, and research skills of any sophistication
- even learners with their own laptop, smartphone and other devices often have little idea how to use them to support their learning, and have rarely explored beyond their basic functionality
- some learners with high levels of academic success are making active choices not to use ICT for some learning tasks (Hardy et al 2009)



- tutor guidance remains a critical determinant of the technology-based learning practices adopted by learners (confirming Goodfellow and Lea's paper to this ESRC LiDU seminar series, October 2009).

The reliance on tutors highlights a critical weakness in the discourse of 'digital natives'. Individual academics may or may not be enthusiasts for using wikis, social bookmarking, serious gaming, collaborative knowledge building etc to support exploration of disciplinary knowledge, but in the absence of that enthusiasm, learners are not acquiring these practices in the course of their informal digital participation.

Findings from competence frameworks: limits to competence

Our review found three broad areas of competence that are actively supported in UK higher education: academic practice/learning literacy, information and media literacies, and ICT skills/technoliteracy. We have provided examples of these in our 'frameworks' document, available with this paper. Central service staff charged with supporting these areas have their own well established (but separate) cultures, frameworks and forums for sharing professional know-how. What they tend to share is a professional ethos that focuses on learners as individuals, with their own distinctive capabilities, preferences and needs.

A systemic problem revealed by the frameworks study - and confirmed by our review of practice - is that support based around individual competence tends to be segregated both from other areas of competence development and from the work of subject curricula. This means that students' digital and learning literacies are not being addressed as they engage in meaningful academic tasks, and there is none of the extended practice we know is necessary to develop situated knowledge practices or to negotiate new stances and identities in relation to knowledge.

A second problem is that, despite the theoretical commitments of the support staff – which are often sophisticated – the way in which learners access their support is all too often based around an implicit model of competence and deficit. Partly because of the standardisation agenda, and partly because a recognition of the foundational nature of these capabilities leads to a discourse of entitlement, there is also a tendency to reify the support offered in the form of competence frameworks such as the SCONUL 7 Pillars of Information Literacy, or in standardised curricula such as the ECDL. While they have certainly supported the entitlement agenda, and helped to embed the relevant capabilities into institutional provision, competence frameworks can act against two of the requirements we have identified for effective provision, namely to continually rethink knowledge practices in light of changing social and technological environments, and to embed that rethinking in specific disciplinary and professional contexts of practice.

While there has been some interesting background work – the UN '2000+' project offers a vision of multiple and critical literacies of technology, rather than a single standard of competence (see Kahn and Kellner 2005) – current frameworks for embedding digital capability into the curriculum are missing the idea of a *situated* and *critical* technology use. It is precisely these aspects of technology use which elevate it from a – rapidly obsolescent – set of technical skills to a lifelong knowledge practice. Rather than the latest virtual environments and features, we would like to see a focus on managing digital identities, developing online communities, appropriating and repurposing technologies for personal and social goals (including learning goals), and developing a critical relationship with the technologies designed for our use.

The part of our competence 'spectrum' where we found the fewest competence definitions to draw upon was media literacy, though this is an area where exciting theoretical work is being done. We situated media at the intersection of academic and technical literacy, as concerned with the forms – technical as well as cultural – in which academic meaning is communicated. In doing this we had to surface and work against an ongoing assumption that textual forms will always predominate.



Theorists such as Buckingham (2006) and Kress (2003) have argued the need for learners to become proficient at creative self expression, and critical argumentation, in a range of media. This presents many challenges, not least in relation to assessment. Different disciplines demand proficiency in different (combinations of) media, and create/share meaning in different ways: literate learners need to both inhabit and critique these modes. Perhaps not surprisingly, our review of practice also found very little evidence of support for critical aspects of reading different media or for creative practices of media production, except in highly specialist courses.

Finally, we noted that competence frameworks are rarely developmental. In no sense do they provide a blueprint for the kind of authentic tasks that enable learners to develop and refine their practice: rather they act as a checklist against which a 'designed curriculum' might be assessed. Given the evidence from our own review of practice that competence-based provision is unpopular with students, a generic, competence-based curriculum would not be the answer. But we are concerned that there is so little collective understanding of how learners *progress* towards digital literacy, and where in the learning experience this progression is best recognised and supported. Through what kinds of learning task and extended practice do learners most effectively develop the identities, stances, strategies and capabilities we have been discussing?

Findings from review of practice: beyond competence

Our research review confirmed that learners can become more critical, evaluative, self-aware, self-confident and capable in the use of technologies. They can also develop a wider and more effective range of strategies for their own learning, and stances within disciplinary or professional contexts of knowledge practice. Our review of practice found that the two modes of development are rarely addressed in tandem, that is learners rarely have opportunities to develop knowledge practices in which the impact and meaning of digital technologies are fully comprehended.

As a case study, librarians have a long tradition of supporting literacies and working with academic departments. Indeed, where librarians have championed the digital aspects of information literacy, this is often regarded as having 'solved' the problem of the digital in learning. Information literacy, however, can be rather narrowly conceived, and the relevant competence framework predates the web 2.0 developments that have brought collaborative knowledge building and sharing to the fore¹. It is noticeable in our study that use of the term 'digital literacies' is strongly associated with the web 2.0 timespan and with departments supporting web 2.0 learning developments, while 'information literacies' is used almost exclusively to refer to digital (content) resources. So while librarians can be regarded as pioneers in articulating the impact of digital technologies on their area of expertise, this task must be taken up by others involved in learning, and particularly by subject specialists.

There is an extraordinary diversity in the competences mandated for consideration during the curriculum design and validation process, and it is often difficult to see how these align with the institutional missions articulated in other strategic documents, or how learners might go about integrating them into a coherent developmental pathway. 'Employability' is often the stated rationale for embedding competences into the curriculum, and is assumed to be define learners' ultimate goals and aspirations. However, we found 'employability' to be very poorly articulated². This is a shame, because a clearer focus for employability could form a starting point for key stakeholders, including subject teachers, support staff (including careers support) employers – and learners - to identify how graduate professions and employment pathways are changing with the impact of digital technologies,

¹ It is important to note that the SCONUL 7 pillars of information literacy were under review at the time of our study, and were expected to be revised to incorporate information sharing and collaborating on information activities.

² Arguably a limiting factor in the a recent major employability initiative funded by was the difficulty in forming a shared view of employability and work related learning www.gla.ac.uk/services/aulw/



and how 'academic' values such as criticality, peer review and innovation are becoming central to knowledge practice in many employment contexts. The employability agenda could also be deployed to refocus literacy provision around authentic tasks in complex social situations. Clearly there is also a need to discuss in a broad sense what graduates can bring to their communities and workplaces. We would argue that notions of digital citizenship and participation, as well as digital scholarship and professionalism, have their place here.

The great majority of our practice examples came from vocational and professional courses, and there is plenty of evidence that these are the subjects spearheading support for literacies in the curriculum. However, much excellent practice in disciplines was not visible to our study methods. Many literacies are so deeply and tacitly embedded in subject teaching that academic staff do not identify their practice as literacy-based at all. Examples might be visual literacies in art, or critical media literacies in media studies. Recognising that different subjects can contribute expertise in different literacies for learning – and different aspects of critical knowledge practice – may be a first step towards sharing good practice and offering a more coherent experience to learners.

Conclusions: developing lifelong learners

In our conclusions we argue that understanding literacies as situated knowledge practices has real implications for how we support learners' development, for example:

- providing *authentic tasks and contexts* for practice, including digitally-mediated contexts where appropriate
- making explicit *community practices of meaning-making*:
- demonstrating how digital scholarship/professionalism might be expressed in different contexts
- demonstrating how forms of academic communication are constructed and how different media are used to persuade, argue, make claims, and occupy a stance
- helping learners *manage conflict* between different meaning-making contexts and settings
- recognising and helping learners to *use and extend existing knowledge practices* as resources for learning

We also note that there is a real need to clarify and share educational approaches that support the development of critical, situated knowledge practices³.

Our study drew heavily on the experience of specialist support staff. However, there is evidence to suggest that separate competence-based provision can undermine motivation and self-efficacy (see for example Zimmerman 1989). There is a tension between an 'entitlement' to basic digital literacy – which generic, learner-centred support can foster - and support for knowledge practices that are diverse and constitutive of personal identity, including subject- and profession-based identities. If literacies are acquired through *extended practice*, this can only be achieved through authentic tasks. The focus of provision in curricula should be on developing practice through authentic academic tasks, in a range of contexts in which 'digital' aspects of the working/learning environment are naturally integrated. Most staff we spoke to would support their work being better embedded into curriculum activities, though there may be disagreement around what constitutes 'authentic' in terms of tasks and assessment. Some of these tensions are explored in our developmental framework for digital literacies (Sharpe and Beetham 2010, circulated with this paper), which is being adopted into practice at a number of trial institutions.

If institutions are to place greater value on 'literacies of the digital', and better prepare both students and their own organisational processes for future challenges, they need to be prepared to rethink their

³ See the LLiDA examples at <http://caledonianacademy.net/spaces/LLiDA/index.php?n=Main.BestPracticeExamples>



own practices. How are digital tools changing the nature of knowledge practice in specific disciplines and professions? Are core values and epistemologies changing or being expressed in new ways? How are these changes explored with learners, and how are staff committed to such exploration being rewarded by the academy?

We also see the debate around digital literacy as an opportunity for the academy to redefine and reassert its special relationship to knowledge in society. Universities have lost their unique claim on valued knowledge: with open competence definitions they are about to lose their unique claim on accreditation. They even face alternative models of scholarship and critical thinking, as the internet throws up its own public intellectuals – celebrity bloggers, champions of the digital commons, open educators, critics and geeks. What claims can universities make as sites of public knowledge and intellectual value? Developing critical literacies for the digital age may be one benefit they are still uniquely placed to deliver.

Questions we have for the seminar

What other disciplines are contributing ideas and evidence to the debate around digital literacies and learning development? What kinds of evidence do we need to enrich this model and critique this approach? Of what practical value is this to institutions and curriculum teams?

(References to be provided)