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Literacy, Literacies, and the Digital in Higher Education

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Abstract:

This paper is a critical review of some recent literature around the 'literacies of the digital' in Schools and Higher Education. It discusses the question: 'what does the conjoining of the terms "digital" and "literacy" add to our understanding of teaching and learning in higher education'? It explores the continuing role of critical literacy in relation to the idea that digital literacies are transformative for pedagogy in this sector.

Introduction – terminology and the expanding concepts of 'literacy' and 'the digital'

'Digital' is the latest descriptive term used in education to express the incorporation into its activities of new information and communications media. It succeeds 'computer' (-based, -assisted, -mediated), 'online', 'networked', 'web-based', and the now ubiquitous 'e-'. Whilst there may not be much to be gained from analysing the specific connotations of these terms (although there have been fashions in educational technology for doing this) it is worth noting that there has been an escalation in the scale and implied significance of the entities they qualify. Where 'computer-based' was once used mainly to characterise certain kinds of teaching materials, 'digital' is now rhetorically constitutive of whole institutions ('the digital university', Hazemi, Hailes & Wilbur 1998), and indeed of entire eras (a 'digital world', Collis 1996; 'the digital age', Borgman 2008).

Despite a growing tendency in general discussion for the term 'literacy' to be used synonymously with 'competence' or 'ability' (as in 'musical literacy', 'scientific literacy', 'emotional literacy' etc.), in everyday contexts it is still largely taken to mean the ability to read and write in a predominantly print context (forms, notices, newspapers etc.). Adults who are not literate in this fundamental sense are often considered unable to function as fully autonomous social beings. The association of literacy with social capital is central to the everyday meaning of the term, as Martin puts it: '...the idea of literacy expresses one of the fundamental characteristics of participation in society' (Martin 2008: 155). Literacy education has traditionally been concerned with developing the skills in reading and writing that enable such participation, either in young children, where it is considered to be part of general cognitive and cultural development, or in unschooled adults for whom it is associated with job prospects, social mobility and personal achievement (Street 1995:17). Hence the persistent popular perception of literacy as a singular ability and individual attribute that confers social 'normality' on its owner. And hence, also, a disposition in the educational technology literature to present 'digital literacy' as a requirement for survival in the technological age (e.g. Eshet-Alkalai 2004, quoted in Bawden 2008:27).

Literacy in association with new technology in education has been similarly marked by terminological shifts: 'electronic literacy' (Warschauer 1998), 'silicon literacy' (Snyder 2002), 'e-literacy' (Martin 2003), 'techno-literacy' (Lankshear, Snyder & Green 2000). Most recently the literature has converged on 'digital' (Lankshear & Knobel (eds) 2008, Gillen & Barton 2010, Martin & Madigan 2006),

which is actually a predecessor term in this field (e.g. Gilster 1997). The focus of the discussion below, however, is not so much the way the medium is labelled (although I will be discussing some of the cultural distinctions implied by this), but the way literacy itself is being reconceptualised through its harnessing to digital communication in higher education. In this review I will examine some of the recent literature around literacy and literacies in digital contexts of education and ask what the conjoining of these expanded conceptualisations of literacy and the digital contributes to our understanding of teaching and learning in the university. In particular I will explore the notion that digital literacy/literacies are transformational for higher education, and relate this enquiry to the view that one of the key benefits that the academy delivers to society in general is the promotion of practices that are 'critical' whatever the medium of communication.

From Literacy to Literacies

In 'Digital Literacies: Concepts, Policies and Practice' (Lankshear & Knobel eds. 2008) the editors begin their introduction by restating the case developed in earlier work (Lankshear & Knobel 2003:4-22) for using the plural form 'literacies' to express an expanded concept of literacy that emphasises the diversity of social and cultural practices that are covered by the term. Lankshear and Knobel, and other theorists of the sociocultural 'turn' in literacy studies (see Gee 2000) have long argued that literacy at whatever level involves complex social practices that go beyond the communicative competences of individuals. Barton & Hamilton (2001), for example, draw on Scribner & Cole (1981), and Street (1984), to define literacy as 'general cultural ways of utilising written language which people draw upon in their lives' (2001:7). The implications of this perspective for educational contexts are summarised by Street:

'...the literacy demands of the curriculum [involve] a variety of communicative practices, including genres, fields, and disciplines. From a student point of view a dominant feature of academic literacy practices is the requirement to switch practices between one setting and another, to deploy a repertoire of linguistic practices appropriate to each setting, and to handle the social meanings and identities that each evokes.' (Street 2004: 15).

Scholars of 'multiliteracies' and the 'new communications order' (see: Gee et al 1996; The New London Group 1996, Cope & Kalantzis (ed) 2000, Snyder 2001, Kress 2003) further argue that contexts of communication practice in the modern world are now so diverse, and the media of communication so multimodal, that it is not useful to think of literacy education solely in terms of developing generic competences that can be transferred from context to context. Rather, education needs to fit people for apprenticeship to multiple meaning-making communities, wherein texts are mediated in different ways, requiring them to apply a variety of specific competences to a variety of communicative purposes. Consequently, what Lankshear and Knobel and their contributors refer to as 'digital literacies' are not simply the skills involved in using digital communication, but the diverse ways of making meaning that involve 'digital encodification', and the 'enculturations that lead to becoming proficient in them' (Lankshear & Knobel 2008: 5-7).

Digital literacy and literacies

With the conjoined terms 'digital literacy/literacies', Lankshear & Knobel and others (Martin & Grudziecki 2007: Bawden 2008, Gillen & Barton 2010) open our thinking to an expanded concept of literacy, but they also risk eliding the differences, both technical and cultural, amongst the different communities that are involved in establishing particular communication practices as literacy in specific educational contexts. Martin & Grudziecki's definition of digital literacy as 'the awareness, attitude and ability of individuals' to use digital tools for communication, expression and social action in specific life situations (2007:250-253), for example, explicitly conflates a number of 'literacies of the digital', including ICT literacy, technology literacy, information literacy, media literacy, visual literacy, communications literacy. But the focus on literacy as a convergence of competences in the individual learner has the effect of obscuring the roles of the communities of practice that specialise in these different perspectives.

ICT (Information and communications technology) literacy, for example, is a development from the teaching of basic computer skills by IT professionals. It has led to the creation of skills accreditation schemes such as the European Computer Driver's Licence (ECDL Foundation 2010), as well as the more 'reflective' approaches to the evaluation of ICT in use that Martin & Grudziecki describe (op cit:251). Applying computer skills to the internet as a resource for learning and research leads to the involvement of the library community and others concerned with the management of information in academic and professional practice. Out of this have come competence frameworks and other means of regulating and assessing the knowledge and competences involved in information literacy (e.g.: the Society of College, National and University Libraries 'Seven Pillars' (SCONUL) model 2003, and the Scottish National Literacy Framework - Irving & Crawford 2007).

Media Literacy, perhaps the most expansive and interesting concept for educators at this moment in time (for reasons that will be developed below), emerged from teaching about mass media by communications specialists within the schools curriculum. Early approaches to media literacy emphasised the interpretation of media practices rather than the productive use of media themselves and this influenced the development of the uniquely critical perspective that these communities have brought to the digital literacies debate (see below). However, research focused on the development of active user communities on the internet has subsequently led to the development of a more productive orientation to media literacy (e.g. Buckingham 2008: 85). Foregrounded amongst the characteristics of '21st century literacy' proposed by the New Media Consortium in the USA were productive dimensions such as: creative fluency, new grammars of construction, use of media to evoke emotional response (The New Media Consortium 2005). These critical and creative dimensions of media literacy have most impact on practice in schools, rather than in further or higher education, but, as discussed below, there are indications that perspectives on digital literacy developed in the schools sector are beginning in to be applied to education in general, with uncertain consequences for cultures of literacy in those communities.

A more nuanced picture of the nature of these 'literacies' and their cultural determinants in the UK higher educational context emerges from recent research conducted by Beetham et al (2009, 2010). In a study consisting of 44 'snapshots' of practice in the provision of teaching and learning support in UK universities and

colleges, these researchers arrive at a broad distinction between ‘ICT/Information literacies’, in which the practice communities include staff in central IT services, study skills units and libraries, as well as academic staff, and ‘academic literacies’, by which they mean academic practices and study skills, for which the practice community is mainly academic staff, tutors, module leaders etc. (Beetham et al 2009:43). Further distinctions made amongst curriculum subject areas suggest that strategic interest in ICT and information literacies is most developed in applied subjects such as Health and Social Care, and Teacher Education (p.42). Media literacy is almost absent from these findings (p.43), and the researchers conclude that in higher education communities it still has a limited and specialist meaning and that the discourse of critique of media production practices ‘has not entered into service provision’ in this sector (p.50). Finally, a telling finding of this study, from the point of view of cultural determinants of the meaning of literacy in educational contexts, is that institutional strategic approaches very rarely address students themselves as responsible actors in the development of these competences (p.46), although they are clearly engaged in a variety of literacy practices, digital and otherwise, as members of both subject-based and informal college communities.

Digital literacies in research and practice

Beetham et al.’s findings resonate with Lankshear and Knobel’s own concerns about the extent to which an expanded sociocultural concept of digital literacy does inform practice. The study is grounded in an extensive literature review which demonstrates the scope of research that could be relevant to ‘learning literacies’ (practices that make for effective learning) in the digital context, encompassing not only work that has an explicit relation to literacy but also some which is related only by being part of the same ‘social turn’ in pedagogy (situated knowledge, learning to learn, self-efficacy etc.). But the very breadth of this background blurs the meaning of ‘literacy’ as applied to social practice. Lankshear & Knobel’s own more focused (if less thorough) investigation of literature, concentrates on the use of the pluralised form ‘digital literacies’ (Lankshear & Knobel op cit:1). At the time ‘Digital Literacies: Concepts, Policies and Practices’ was being compiled (2007), and despite their own earlier publications introducing ‘new literacies’ to the classroom (Lankshear & Knobel 2003, 2006, Knobel & Lankshear 2007), use of the plural form was still marginal in the technology-related literature (op.cit. p.1). They note that they could find only one book on Amazon with ‘digital literacies’ in the title (Martin & Madigan’s 2006 collection), although the form was more common in English-language journal articles and blogs (op.cit:1). Since then, a further two books with these terms in the title have appeared: Carrington & Robinson 2009, and Burn 2009. Google Books now also finds McWilliam et al 2008, and many more collections that include chapters on digital literacies. Lankshear & Knobel’s own book series ‘New Literacies and Digital Epistemologies’, edited with Michael Peters and published by Peter Lang, now provides another seven titles incorporating *literacies* coupled with other terms, such as ‘new’, ‘recreational’, ‘media’, even ‘shimmering’. It would appear that the language of a sociocultural framing of digital literacy is gradually being adopted, most noticeably in the school sector, which is the location of the majority of these accounts.

The higher education sector has, of course, long had its own version of the individual competency perspective on literacy, evidenced by a number of books and

courses teaching so-called 'generic' academic writing skills to university students across the English-speaking world. It has also experienced its own sociocultural turn, with the emergence of discipline-specific conceptualisations of what academic writing means in different subject communities (Hyland 2000, Rai 2004, Devereaux 2007). The latter has been further developed as a social practice model of literacy in academic contexts, by scholars and practitioners of an 'academic literacies' perspective, who have challenged the 'deficit model' of the unsuccessful student writer by revealing the often unrecognised complexities of practice involved in the production and assessment of apparently straightforward academic genres such as essays and reports (see Lillis & Scott 2007 for an overview). However, applying the Google Books test, we find only six books on higher education with 'Academic Literacies' in the title, against 38 with 'Academic Literacy'. Also, despite a large literature on various pedagogical issues to do with the use of new media in teaching and learning in Higher Education, there are only two titles to be found which specifically address *digital* literacy, and both of these turn out to focus more on technologies than on literacy. A search for books specifically aimed at higher education with 'Digital Literacies' in the title doesn't find any. In fact, even if we expand the search to titles containing various conjunctions of *literacies* and *higher education* or *university*, with any term synonymous in this context with *digital* (e.g.: *elearning*, *ICT*, *technology*, *electronic* etc.) we find only our own (Goodfellow and Lea 2007) 'literacies perspective' on elearning in the university. This is not to suggest that there is no interest at all in sociocultural approaches to literacy and technologies amongst researchers and practitioners in HE. There are a number of research articles and book chapters by other authors that engage with social practice aspects of academic literacy in contexts of technology in higher education: e.g. McKenna & McAvinia 2007; Ingraham et al 2007; Painter et al, Attar 2007. However, it does suggest that higher education research and practice has been slow to engage with the cultural impact of the new communications order on its literacy practices. Moreover, expanding the concept of literacy to refer to communication in general may have begun to blur the distinctions between practice in the school and post-school sectors, so that discussion of literacies of the digital that are rooted in schools is now assumed to be applicable across sectors. It is significant, for example, that a research briefing on digital literacies from the ESRC Teaching and Learning Research Programme does not hesitate to relate its analysis to 'all levels' of the education system and of society (Gillen & Barton 2010:2,9).

Literacies of the digital in teaching and learning in FE and HE

Beetham et al (2009) explicitly avoided the term 'digital literacies' in order to allow them to find what they call 'major continuities in what makes for effective learning' arising from non-digital as well as digital practice in higher education (op.cit:8). Their study brings out the crucial community and institutional dimension of literacy practice in digital contexts in a way that many earlier studies focusing on individual competences have not, but, as they have acknowledged, it does not address learning from the learners' perspective. The importance of this perspective can be seen in relation to the discourses of media literacy that are currently challenging practice in the schools sector and elsewhere (Lankshear et al 2000, Lankshear & Knobel 2003, Marsh 2007, Lemke & van Helden 2009, Buckingham 2008). These authors tend to frame the informal media practices of learners, especially young learners, as oppositional to conventional academic study in schools, and to argue that the

increasing social importance of these informal activities is causing learners to lose confidence in the officially sanctioned literacies of the classroom. In some hands, the argument is developed as a critique of education systems in general. Kress (2003, 2010), for example, argues that new media practices are producing a 'profound shift' (2010) in education in a social as well as a pedagogical sense, a shift which is not better understood simply by expanding the language-based concept of literacy to encompass communication involving new semiotic modes. A discourse of struggle around these 'new literacies' is thus developing which constructs the school system as conservative and repressive, and as restricting the emancipatory potential of new technological forms of communication for young learners (e.g. Lankshear & Knobel 2003; Lemke & van Helden 2009). Conflicts over schools' attempts to balance benign and harmful effects of internet access by, in some cases, restricting pupils' use of 'recreational' media-based environments in favour of 'educational' print-based ones bring the workings of radical discourses of learning into sharp contrast with the public obligations of the education system.

Ivanič et al (Ivanič et al 2009; Satchwell & Ivanič 2007), on the other hand, have looked at the relation of informal and formal literacy practices in their study of literacies for learning in four Further Education colleges, and found the straightforward opposition of new media versus traditional print too be overly simplistic. This study did not set out with specific reference to digital contexts, its aim was to identify ways in which people can bring literacy practices from one context into another to act as resources for learning in the new context (Satchwell & Ivanič 2007:303). In the process they found that the 'preferred' (i.e. derived from everyday life) practices of many students were '..collaborative, multimodal, generative, non-linear, using multimedia, and determined by their own choice' (Ivanič et al 2009: 711). But any distinction between the literacies of the 'academic' and 'vernacular' domains based only on the mode of communication is undermined by the complexities of the practices observed. The writing-based academic practices of the colleges: working alone, producing text in linear format, using referencing and bibliographies, applying deadlines and word limits etc., may be aspects of '..the preoccupation within educational institutions with assessment and accreditation..' (Ivanič et al 2009: 711), but even within activities that are dominated by the use of digital applications (e.g. Powerpoint) the same students still produced 'substantial amounts of text, and wrote scripts or copious notes for themselves' (op. cit).

Ivanič et al base their investigations on a specific subset of the literature of the new literacy studies, which is concerned with the textuality and situatedness of literacy practices, and on the work of the multiliteracies authors (New London Group, 1996, Cope and Kalantzis 1999) which introduced new thinking about learning with media in schools. Their conclusions align with these authors on the role of design in learning, suggesting that 'explicit attention to and awareness of the 'design' aspects of learning can lead to changes in practice which benefit learners' (p.716). Design in terms of formal learning implies activity which is also purposeful in terms of other domains of life, not only in the academic sense of demonstrating knowledge. As the learning contexts in further education tend to be dominated by vocational and occupational subject areas, this argues for a level of interpenetration of literacy practices between home and work and between formal and informal educational sectors, and raises important questions for those contexts of higher education in which the same cross-sectoral processes are at work.

Lea & Jones (2011) address this issue, among others, in their study of students' study practices involving digital technologies at three higher education institutions. Awareness of prevailing discourses of media literacy, including the trope of the 'digital native', and the recurrence of 'literacy crisis' rhetoric, which predict the decline of traditional academic activities such as essay-writing in favour of online recreational activity, led them to conduct in-depth observations and interviews with students in their places of study in order to find out whether the students themselves were enacting such changes. Their findings confirm that digital activities have penetrated university study, both in the hands of the learners and of many of the teachers and in general institutional practice. But they also unearthed some more fundamental realities to do with the learners' identities and their relation to the institution. For example, they found that student participants were adept at drawing on complex, hybrid, textual genres, using a range of technologies and applications and integrating these into both their assessed and un-assessed work. Lea and Jones argue that is a more complex task than what was required of students in the pre-digital era. They also suggest that these activities are tending to give a greater emphasis to reading in a variety of mediated contexts, an area they consider to be under-researched. Crucially they found that the drivers for accessing and using resources were validation – implicit or explicit - from tutors, or course guidance, even if students decided to access that resource through their own choice of technology. Participants described how their searches for resources were guided primarily by what they thought their tutor would be looking for in their assignment and also by their own concerns about reliability, validity and authority.

Lea & Jones draw on some of the foundational literature used by Ivanič et al, and also on work in the academic literacies field, in particular the few studies that have applied this perspective to online learning (e.g. Goodfellow 2005; Lea, 2007). All three of the studies discussed above thus speak in different ways to a core issue raised by the application of an expanded, or sociocultural, conceptualisation of literacy to new media practices in higher education. That is the question whether these media are necessarily transformative of pedagogy in these sectors. The argument of Lankshear & Knobel and other radicals critiquing school education is that they are, but what is transformative for school learning may not be so for more academic contexts. Institutional and disciplinary values shaping digital practice in the university, for example, continue to promote orientations to knowledge that rest on critical analysis rather than creative design, even whilst criteria for evaluating critique in students' work remain very general (Elander et al 2006). Again, whilst 'critical evaluation' figures prominently in the curriculum of information literacy it does so for the most part as an abstract and interpretive skill divorced from any particular rhetorical and productive purpose, for example: 'determining how credible information is' (Fieldhouse & Nicholas 2008:55). As Beetham et al found (2009:18) students are generally considered to lack criticality, but the appropriate forms of criticality in contexts of digital communication in the university are still elusive. What authors such as Buckingham (2008) and Bawden (2008) identify as the critical focus of media literacy is the role of commercial forces in 'pushing' media messages at the user (e.g.: Robinson & Bawden 2001). They stress the importance of media education in addressing the need for learners to understand their own positions as reader/user of these messages, in the context of a systematic understanding of how media work (p.86). But, as Beetham et al (op. cit) have shown, this is 'not part of the discourse' of

higher education. The emphasis that Buckingham (op.cit), Lemke (2005) and others put on the productive dimension of critical media literacy may pose a challenge to the role of the more traditional 'objective' forms of critique that are usually developed in higher education contexts through written argument.

Critical literacy and digital literacies

Critique in academic contexts has long been associated with the practices of formal academic writing, especially with the evaluation of arguments and claims put forward by professed authorities in various fields. Indeed it has been viewed, historically, as an important function of higher education within the wider social sphere to introduce and preserve principles of critique in public debate on all issues of common concern, as a means of educating public opinion and holding authority to account (Giroux 2006). But within the conventional practices of academic literacy education, critique has often been diluted into a less radical form of 'critical thinking' which focuses primarily on the form of an academic argument, satisfied simply by maintaining a disinterested stance and presenting evidence for more than one point of view. This 'soft' interpretation of the critical principle may actually be disempowering for students who wish to engage with 'matters of consequence' (Sweet & Swanson 2000:p.52) which are inherently imbued with political, cultural and individual significance.

New literacy theorists have engaged with these matters explicitly, as Street makes clear in his account of the 'ideological' role of literacy (Street 2003), in which the communication practices of a community are always seen to embed relations of social power amongst its members, and the question can always be asked 'whose literacies are dominant and whose are marginalized or resistant?' (op cit: *no page*). It is a premise of critical theory in general, and critical pedagogy in particular that the awareness engendered through an explicit and comprehensible analysis of power relations is convertible into action aimed at individual and social transformation (Shor & Pari 1999, Kellner & Share 2007). Thus Fairclough, for example, shows how 'taken-for-granted' language often contains implicit assumptions about the 'natural' order of things that serve to perpetuate this order in the interest of socially dominant groups, and uses this insight as the basis for a pedagogy of Critical Language Awareness (Fairclough 1999).

With relation to digital technologies in education the analysis of the direction of domination is itself a matter of contention. Explorations by scholars in the field of composition studies, particularly those involved in the early stages of the introduction of computers to the writing classroom (see Moran 2003), viewed writing technologies as having the potential to emancipate students from the domination of traditional academic practice. Practitioners such as LeCourt (1998) sought to use technology to help students 'develop an understanding of how their textual practice participates in ideological reproduction' (op.cit: 292). In this approach new media for writing, including hypertext and electronic discussion media, could be used to disrupt and make subject to analysis the traditional conventions of academic writing, particularly the essay, and the power relations that sustained this as a form of knowledge production in the classroom.

But this optimism about the inherent capacity of digital communication to nourish critical social awareness has faded somewhat in the face of the rapid growth of digital popular culture media which allied itself to commercial and political interests that were themselves ideologically dominant (Lemke 2005). Critical literacy has instead developed a perspective that subjects technology itself to a critical lens (Selfe 1999, Bolter & Grusin 1999, Warnick 2002). This approach challenges unproblematised assumptions about the benefits of digital communication, and in the process reveals the interests that narratives such as ‘the digital citizen’ serve (Warnick op cit:116). It is this kind of critical perspective that informs much of our own work exploring the impact of elearning and technology-driven discourses of educational transformation on literacy practices in the university (Goodfellow & Lea 2007, Lea & Goodfellow 2009). This perspective highlights the manner in which the Academy’s production of digital and multimedia texts is rooted in practices to which reading and writing have long been fundamental.

Summary and Conclusions

In this discussion of literature around literacy, literacies, and the digital in higher education, rather than simply report what appear to be directions in research I have sought to turn a critical lens onto the discourses of educational communities of which I regard myself as a member. By doing this I am trying to exemplify as well as argue the case for ‘academic’ critical literacy as an essential complement to digital media practices in our colleges and universities, with the particular task of relating the discourses of academic and digital literacies to current policies and pedagogies in higher education. How, for example, is the public good of disinterested scholarship to co-exist with the contemporary focus on education for ‘employability’ and a so-called ‘seismic shift’ in pedagogy predicated on digital literacy (Gillen & Barton 2010)?

Beginning with the question: ‘what does the conjoining of expanded concepts of literacies and the digital, as “digital literacies” add to our understanding of teaching and learning?’ I argued that, when applied to higher education it has revealed a tendency to sideline much of the cultural content of a social literacies framing. Although digital literacies are presented as indicative of educational and social capital in a technologised world, in practice the term tends to refer to the competences of individual learners, rather than to literacy practices that serve the interests of specific communities, such as the IT, library, Study Skills, and academic disciplinary communities. This is in contrast to the way ‘media literacies’ is being used in schools education, where it has become a rallying-ground for a variety of radical discourses of teaching and learning based around the popular-culture identifications of youthful users themselves. It is not the case, of course, that such radical discourses are totally absent in higher education, there is an emergent literature around informal learning communities focused on developments in user control of digital resources and communications (e.g. Seely Brown and Adler 2008), but this has yet to become mainstream in the higher education literature in the UK, or to be subject to a literacy-theoretic critique.

This analysis also addresses the question whether the emerging literacies of the digital are transformational for higher education in the way they are considered to be for schools, where digital literacy has become the locus of a struggle between ideas of ‘education’ and ‘creativity’. In fact the focus on individual competences, at the

expense of cultural practices, is in line with policies that reconceive higher education in terms of its occupational, economic and 'private' purposes (see Calhoun 2006). In this sense they are transformational, as they move pedagogy away from a conventional focus on disciplinary knowledge expressed as 'academic' writing (albeit shaped and differentiated by disciplinary discourse - see Ballard & Clanchey 1988), and from the ethos of debate and principled scepticism, towards a more contingent culture of participation in digitally-mediated professional, occupational, and lifelong learning communities.

Finally, the relation of this transformed pedagogy of digital literacies to the wider significance of critique in the public sphere remains an open, but central, question. Beetham et al (2010) urge the development of academic literacies that 'define and assert the special relationship of scholars and researchers to knowledge in Society' in order to meet the challenges of digital literacies that are developing in professional and informal practice. This, in my view, means stressing the critical nature of these practices, but the relation between critique and socially constructed knowledge, is fundamentally constructed through writing. How, for example, do scholars disseminate new disciplinary concepts that challenge existing interests, other than in writing? Kolb is one scholar who has explored argumentation in non-linear, hypertextual, and visual forms (Kolb 2008), but without yet finding more than 'the chance' of the development of new modes of complex debate (op cit: section 6). Research that explicitly addresses the interface between academic literacies and technologies remains sparse (for example: Goodfellow 2004, 2005, Goodfellow & Lea 2007, Lea 2004, 2007, Crook 2005). In the work there is, critical literacy remains largely in the domain of research rather than practice. How, for example, does Merton's principle of 'organised scepticism' around disciplinary claims (Merton 1968/1942 quoted in Calhoun op cit:32) manifest itself in the ways in which students are being taught to use digital communications in their subjects?

As a step towards bringing together the explicitly critical research framing of a new literacies perspective, with the transformational pedagogy of the digital literacies community, a series of seminars supported by the ESRC aimed to promote new research into digital and networked literacy practices in the various sectors of post-school education, including Further Education, Higher Education, and the public, corporate and professional education sectors. As a way of avoiding terminological preconceptions this series adopted the title 'Literacy in the Digital University' (<http://lidu.open.ac.uk>). Contributors to these seminars include the authors discussed in the section on digital literacies in research and practice (above). Papers and reports from the seminar discussions can be accessed at the series website and its accompanying blog. A key task for these seminars is the reconciliation of new discourses of the digital with the continuing development of critical pedagogical and social practice in the academy and the public sphere.

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