

# 'Digital Literacies: A Study of Perspectives and Practices of Academic Staff'

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SEDA Small Grants Project

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## Contributions and acknowledgments

Sarra Saffron Powell and Tünde Varga-Atkins equally contributed to the design, data collection, analysis and reporting stages of this study. We would also like to acknowledge the support of our institutional [Developing Digital Literacies Working Group](#) for their peer support and to all the interview and survey respondents who generously offered their time to take part in the study. Special thanks also to our critical friends, Peter Kahn (University of Liverpool), David Baume (SEDA) and Martin Oliver (Institute of Education, University of London) who offered support and guidance. Thanks also to Anne Qualter (University of Liverpool) for her contributions to early discussions and to Nicola Quinn and Vaiva Adamonyte for their administrative support.

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## What was done?

This project explored academic staff practices in digital literacies, their perspectives of those practices and views of institutional provision within a discipline specific context. It examined individual and institutional enablers and constraints perceived by academic staff in the development of their digital literacies. To elicit data, a problem-based scenario was presented to participants to facilitate discussion of digital engagement, and visual representations were employed to aid this approach. During data analysis particular emphasis was placed on identifying incidences of critical self-reflection and to achieve this metaphors and linguistic semiotic modalities (Danesi, 1994) were explored to reveal attitudinal insights. We utilised visual representations throughout the project to elicit, explore, analyse, collaborate and communicate findings.

It is anticipated that from the project outcomes we will share our approaches through the development and dissemination of a workshop with facilitator guidance that focuses on using metaphor as a tool to promote critical reflection on the digital literacies of academic staff. It is hoped that the workshop will be of benefit to those involved in staff development locally and beyond.

## How was it done?

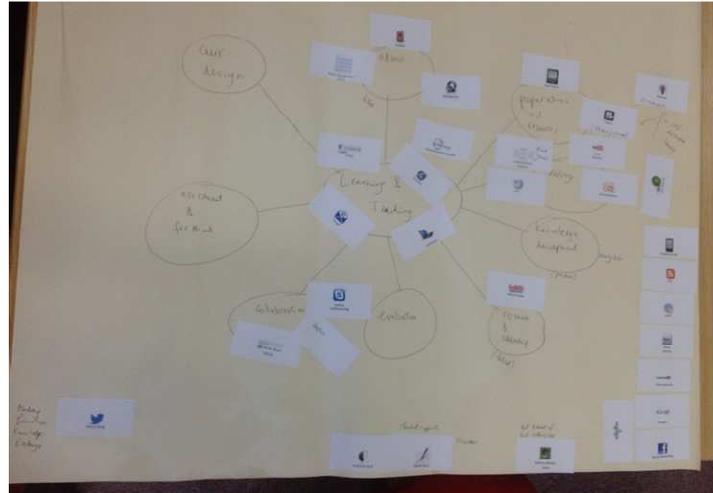
### Methodology

Loosely based on the Daisy Model (Melrose and Reid, 2000), the project combined elements of constructivist grounded theory (Charmaz, 2006) and an action-research approach (Carr and Kemmis, 1986) to conduct semi-structured interviews (n=7). These sought to explore the perspectives of and practices in digital literacies of academic staff and identify individual and institutional factors that enabled/constrained development of digital literacies in discipline specific contexts.

### Stage I Design and Piloting

The interview schedule was piloted and refined, and consisted of two parts: first, participants were required to consider a learning and teaching challenge and talk about the ways in which they would approach the problem and seek resolution; the second part employed visual modalities to elicit further data with a specific focus on digital practices. Here, participants were presented with a diagrammatic representation of areas of their professional roles (scholarship and research; collaboration; administration; curriculum development; assessment and feedback and so on) these were mapped across levels of participant engagement with technologies (unaware, aware, engaged, emergent, aware and rejected). Participants were presented with a range of stickers that represented a range of technologies which they invited to place in relevant areas of the diagram. This afforded valuable opportunity to elicit data regarding attitudes towards technologies, use and motivations for engagement (see Figure 1).

Figure 1: The visual sticker task: eliciting engagement with technologies



## Stage 2: Data collection (Interviews and Survey)

Based on findings from the interview data, we designed a 20-question survey (see Appendix A). The survey included questions on attitude towards and capabilities with technology, digital practices, perspectives on digital literacies and institutional provision (See Figure 2).

Figure 2 Mapping project aims to survey questions

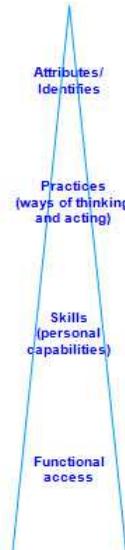
Aims	Relevant survey questions
Demographic details	Age, gender, school/dep, discipline (Q1-5)
To explore the <b>perspectives</b> of digital literacies in academic staff	Attitude to technology (Q6) Capability (Q7) Definition of DLs in discipline (Q13 and Q14) Perspectives on developing DLs with students (Q15)
To explore <b>practices</b> of digital literacies in academic staff;	Use of technologies in professional/personal life (Q8, Q9) Engagement with technologies (Contribute, Use, Know, Don't know) (Q10) Latest technology learnt (Q11) Learning technologies (Q12) Current practice in developing DLs in students (Q16)
To examine the <b>individual</b> and <b>institutional enablers and constraints</b> perceived by academic staff in their development of digital literacies	How well <b>uni</b> supports <b>Dev</b> own DLs (Q17) What could <b>uni</b> do to enable <b>Dev</b> DLs (Q18) Key recommendation on enabling <b>Dev</b> DLs (Q19)

Figure 2 maps each survey question against the project aims. The total number of complete respondents was n=107, comprising academic staff and professional services staff including staff from careers, library and Educational Development at the University of Liverpool.

### Stage 3: Data analysis

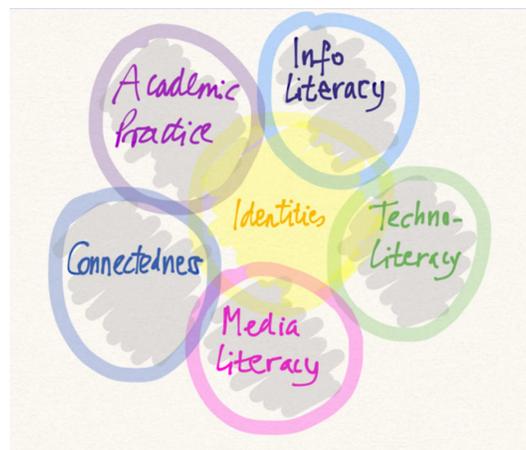
We employed a range of analytical approaches and frameworks in our data analysis. Nvivo 9 software was used to open code the interview data which, through thematic analysis, developed into selected coding.

Figure 3 JISC learning literacy development (Beetham and Sharpe, 2011, np)



We used [Beetham and Sharpe's \(2011\) framework on learning literacy development](#) (constituted of four levels, attributes and identities, situated practices, functional skills, access and, recently added, awareness; see Figure 3) to frame the later stages of coding to map how staff described their development of digital literacies and the disciplinary definitions offered in the survey. We coded each definition provided according to the level referenced. We also employed [JISC's digital literacies anatomy](#) to map the same definitions in order to identify sub-areas of development: our data required slight modifications of the category names as well as the addition of a sixth category, identities, to the original five areas (see Figure 4):

Figure 4 Digital literacies – adaption of the JISC digital literacies anatomy model



- **Information literacy:** the ability to search, access, retrieve, store and evaluate information.
- **Techno-literacy:** traditional ICT skills and the ability to critically select technologies from a range.
- **Media literacy:** the ability to present and communicate in different media, creative production.
- **Academic Practice:** capabilities linked to scholarly and academic practice, such as identifying relevant resources, studying, referencing etc.
- **Connectedness** :(renamed from techno-social practice): collaboration, participation in networks.
- **Identities** (added as sixth area): developing one's profile and identities.

### Stage 4: Action planning and reporting

In an action-planning workshop with the Digital Literacies Working Group we discussed findings, elicited peer-feedback and test-ran a workshop activity to determine the viability of metaphor as a tool for critical reflection on and around digital literacies in staff development workshops. The pilot demonstrated the feasibility of the approach: all participants were meaningfully engaged and found the metaphors a valuable and interesting vehicle for critical reflection.

### Why was it done?

The proliferation of digital technologies present a range of challenges for HE (JISC, 2011; Bawden, 2001; Maringe, 2009;). A specific challenge for educational development is embedding Digital Literacy (DL) in pedagogically sound teaching practice beyond the activities of a university's core enthusiasts (Beetham *et al*, 2009;. Gourlay, 2011; NUS, 2010). Various studies, such as the SLiDA project (JISC, 2011), demonstrate that focusing on graduate attributes is an effective means of developing DL for students. With undertaking this Small Grants project, our ultimate aim was to find ways of helping staff enhance their students' learning experience by embedding development of their digital literacies in their subject discipline. More specifically, we wanted to understand how digital practices emerge, what helps and what hinders their emergence; developing an understanding of these emerging practices in tandem with resources, strategies and tools which then can be used in an educational development practice with staff was one of the intended outcomes.

Last, but not least, a shared personal motivation was to develop our own capacities as researchers and reflect on our own understandings of and engagement with digital literacies.

## What effect did it have? (What effect is it having?)

Table I, below, groups effects according to whether they are outcomes for our own institution or for the educational development community (via SEDA), other national HEI communities (JISC, HEA) or for our own practices as individual researchers.

**Table I Research project outcomes on Digital Literacies: A Study of Perspectives and Practices of Academic Staff (University of Liverpool)**

Project outcomes	Institutional	Educational Development practice (SEDA)	National HEI communities (JISC, HEA etc.)	Individual researcher
Collation of local evidence on staff perceptions, practices and provision of digital literacies to influence institutional policy and strategy.	x		x	x
Promotion of the digital literacies agenda within the institution.	x			
Action-plan for capacity building and institutional embedding of digital literacies.	x	x		
Enhance understanding and conceptualisation of what digital literacies are. (Findings to be shared with the wider community: the collected 63 disciplinary definitions can be re-used as workshop resources).	x	x	x	x
Propose extensions to the JISC framework on learning literacy development (attributes, practices, skills and access).		x	x	x
Make available workshop resource and guidance that uses metaphor as a tool to interrogate staff's understanding about digital literacies and promote critical reflection.	x	x	x	x
Sustainability of research methods for eliciting staff perceptions of digital literacies (re-usable).	x	x	x	x
Development of Infographics as a way of synthesising and communicating research findings.	x	x		
Collaboration between the two researchers strengthens inter-departmental work on embedding digital literacies as well enhancing research capacity.	x	x		x

## How are people hearing about it?

Locally, findings were presented to our institutional Developing Digital Literacies Working Group in July 2013 and will feed into committee level reporting in the Autumn 2013 session of the Technology-Enhanced Learning Working Group.

Some of the project outputs and outcomes are on-going and we anticipate disseminating full findings in a paper, 'Diagrams to discourse and discourse to diagrams: uses of visual representation in qualitative research to support staff development of digital literacies' at the SEDA conference in November 2013.

This report will also be available on Slideshare.net linked from a blog in the [DigiLearn Website](#). We will disseminate further through twitter and are considering a SEDA magazine article and journal publication.

## What has been learnt?

From both research processes and findings we have extended and refined current definitions of digital literacies and critical reflection:

### Digital Literacies

The relationship between functional competence (*externus*) and capability (*internus*) is highlighted in current definitions of digital literacies and is illustrated by Baume (2012, np) in his notion of an individual as “digitally fluent”. The graduate attributes for digital literacies at Oxford Brookes University is defined as the “functional access, skills and practices necessary to become a confident, agile adopter of a range of technologies for personal, academic and professional use”; however, our findings suggest that digital literacies, when viewed through a lens of critical reflection, have both epistemological impact and an ontological element. Whilst acknowledging the significance of functional skills, practices and attributes, we extend the current definition to include the following:

A digitally literate individual is able cognitively contribute to and extend knowledge in digital contexts and understands the impact of the digital on knowledge itself as well as upon new ways of knowing.

### Critical Reflection

The complexity and ambiguity of reflective thinking as a professional practice is widely recognised as problematic and results in a range of competing, often conflicting, definitions. However, our research shows that it is the complexities and tensions inherent to reflective thinking that makes it an ideal lens through which to explore the parallel complexities and tensions inherent to living and working in a digital age. These complexities pertain to both digital practices and perspectives of those digital practices. Drawing from a range of theorists (particularly Mezirow, 1997 and Cowan, 2006) we will take reflective practice(s) to mean the following:

A deliberate metacognitive practice that involves and results in heightened thinking about an external problem, process, procedure, activity (or combination of these) that has a perceivable impact on internal meanings, ways of knowing and construction of knowledge. Put simply, reflective practice has to do with development of identities and the ways in which external reality impacts and shapes interiority: it is considered metacognitively in order to achieve mindfulness of how perception and understanding of reality has changed as a result of reflective activities. We would argue that reflective practice is an epistemological process that whilst deliberate can also be intuitive and offers considerable leverage not only for change in a super-complex world, but for meaningful advancement of individuals’ self-efficacies.

## What have we learnt: Academic Staff Interview Analysis

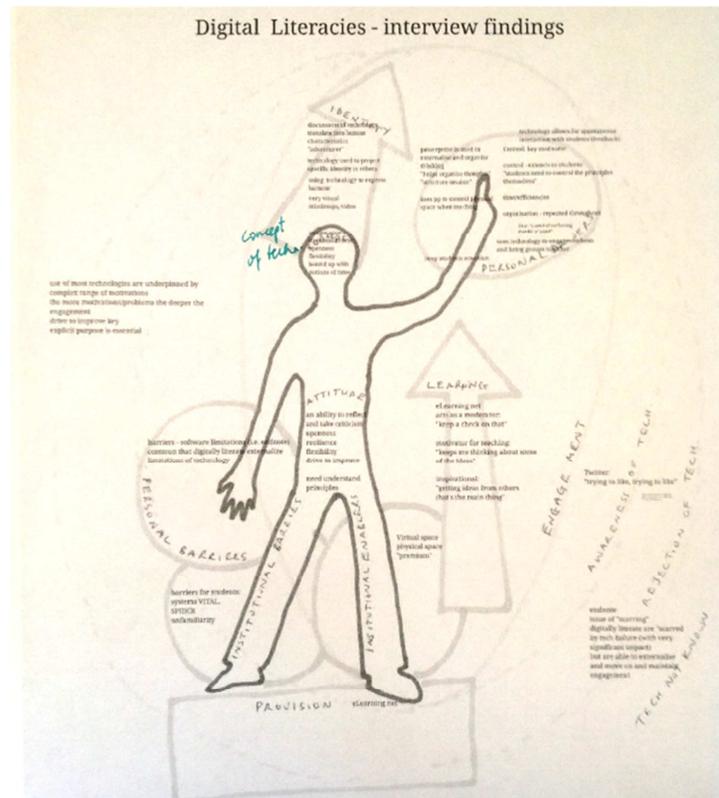
Utilising a themed analysis approach to coding data, we observed that participants (all bar one who may not have needed to use metaphor as they possessed a unique discipline-orientated capacity to critically reflect and problem solve) frequently used metaphor and metaphorical turns of phrase to describe their experiences, perceptions and conceptions of their own and others' digital literacies. Throughout analysis, it was observed that disciplinarity impacted significantly on conceptions of digital literacies: indeed, from preliminary findings we are confident to argue that disciplines not only shape conceptions of digital literacies but that conceptions of digital literacies also significantly impact disciplines. It was noted, also, that notions of identity are closely bound up with the digital and many participants described their engagement with technologies in terms of human characteristics. One participant used technologies to project a specific, distinct identity to students in teaching contexts: here, they used humorous selections of YouTube videos of "boring material" to counter associations of themselves as, "...some old fart in a leather suit – not a leather suit – a tweed suit with leather patches."

The modalities of the participants dominated their expressions: all expect one were predominately visual in modalities and used associated turns of phrase, and several were also clearly kinaesthetic indicating that digital engagement is something they see and do. One participant not only used extensive and detailed spatial metaphors (Kranenburg and Kelly, 2012) in describing their use and perspectives of technologies but also used technology to impact upon the physical space in which they taught (they cited use of PowerPoint and a pointing device to literally move from the stage on which they lectured to literally "get on the students' level").

Overall, findings suggested that there are 'essential necessary conditions' (this is discussed further below) that need to be aligned in order for individuals to engage reflectively and meaningfully with technologies in ways that both positively affected their self-identities and efficacies as well as their capacity to engage with and generate new forms of knowledge. Most notably, across all responses, these were identified as: openness, playfulness, curiosity, a perception that technology could not be 'broken', a 'sense of adventure', sensitivity regarding time efficiencies, a strong need to be in control of working environments, innovative intent and an understanding that technologies may have significant limitations. Most notably, we identified that the most quoted factor for engagement was purpose: in other words, a need for overcoming a particular problem or challenge was prerequisite for all in engaging with technologies. It was also evident that the more problems or purposes there was for engagement then the deeper and more reflective the engagement was.

Beyond this, participants' profiles varied considerably and rather than draw on similarities across data we found it was more beneficial to develop representations of individual profiles. We found that that visual modalities, unbound by the linearity of text (Land, 2011), are especially suited to explore both self-perception and practices, whilst depicting the multimodal, multi-directional complexities of those practices. Accordingly, we developed a range of infographics to communicate our findings (see Figure 5).

Figure 5: Representation of findings with infographics on academic participant engagement with technologies



The infographics (Figure 5) represents an individual staff member’s profile in a succinct manner, representing key factors that influenced development of their digital literacies including personal/institutional drivers and barriers, concept of technology and learning, identity and attitudes to technology. From our findings, we were able to map zones of engagement from awareness through to rejection, as well as personal and professional spheres.

### What have we learnt: Academic Staff Digital Literacies Survey

On the basis of 107 University of Liverpool survey respondents, we can establish that most academic staff have a purposeful and critical stance in their technology use (see Appendix A for the survey instrument, and Appendix B for detailed survey findings). Their technology use is predominantly situated within their discipline.

We can report that the use of social media (social networking, Twitter etc.) has entered university teaching and learning practice, signalled by about 50% of staff engagement, confirming national studies carried out by JISC (e.g. [ETNA survey](#), 2012). This emerging trend is important to consider in designing relevant CPD opportunities on social media for staff.

Figure 6 The digital capabilities needed for discipline X: (left) for staff, (right) for students graduating into the discipline (Source: DL staff survey, University of Liverpool, 2013)

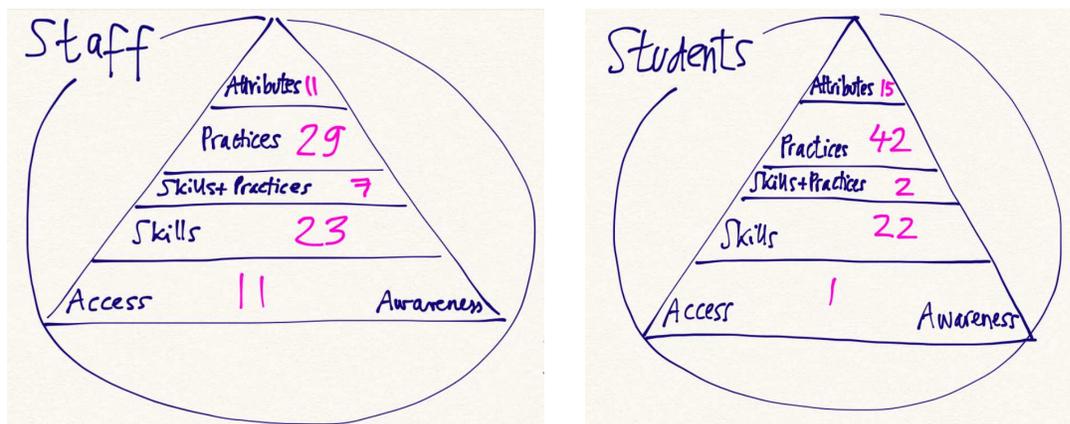


Figure 6 shows that staff view digital literacies *beyond* functional skill-sets (such as using spread sheets): this is further confirmed by the 63 disciplinary definitions collected in the survey, since these map across *each* of the four levels (access/awareness, skills, practices and attributes) (Figure 6 and Appendix B). In staff perceptions, there is a clear emphasis on students developing digital practices (as opposed to functional skills: 42 cited practices, and only 22 skills, **Error! Reference source not found.**). This has implications for course design, and points to the need to develop digital capabilities in a disciplinary practice context. Staff perceive the importance of attributes such as open-mindedness and confidence as essential for digital literacies development in students, and so we suggest introducing critical reflection as a means through which such attributes can be nurtured in students.

That digital literacies manifest across varied developmental strata is not a surprising finding for those conversant with this agenda, however, these disciplinary definitions provide opportunity to raise our institution's profile of digital literacies, as they are accessible and sense-making to staff. Survey respondents felt that improvement to the university infrastructure (hardware and software), and being provided time to develop their own digital literacies, coupled with CPD opportunities were key enablers for individual development. Mapping the above disciplinary definitions has enabled us to start identifying the kinds of CPD opportunities that staff may find beneficial in their development of digital literacies (e.g. media literacy, identity development and so on).

Findings have also helped identify groups of staff where institutional development could have the most effect and impact. These include academic staff members who are not yet involved in developing the digital literacies of their students and those who perceive that their digital (in)capability as barriers to embedding digital literacies in curricula. Conversely, findings show that there are innovative initiatives enable and prepare students for the digital world, and these should be explored and approaches harnessed in future developments.

## Extension of frameworks and models on digital literacies

As described above, findings have led us to propose extensions to the learning literacy framework (Beetham and Sharpe 2011, np) which describes four stages of development, from access/awareness, through functional skills, situated practices to attributes and identities. The model combines these levels in a triangle with the visual, hierarchical structure implying that the development of the higher levels cannot happen without the presence of the layers below, suggesting that, for instance, practices cannot develop without the prerequisite skills or access to technologies.

Figure 7 Bennett's extension to the Literacy Development framework (Beetham and Sharpe) (2012, p.185)

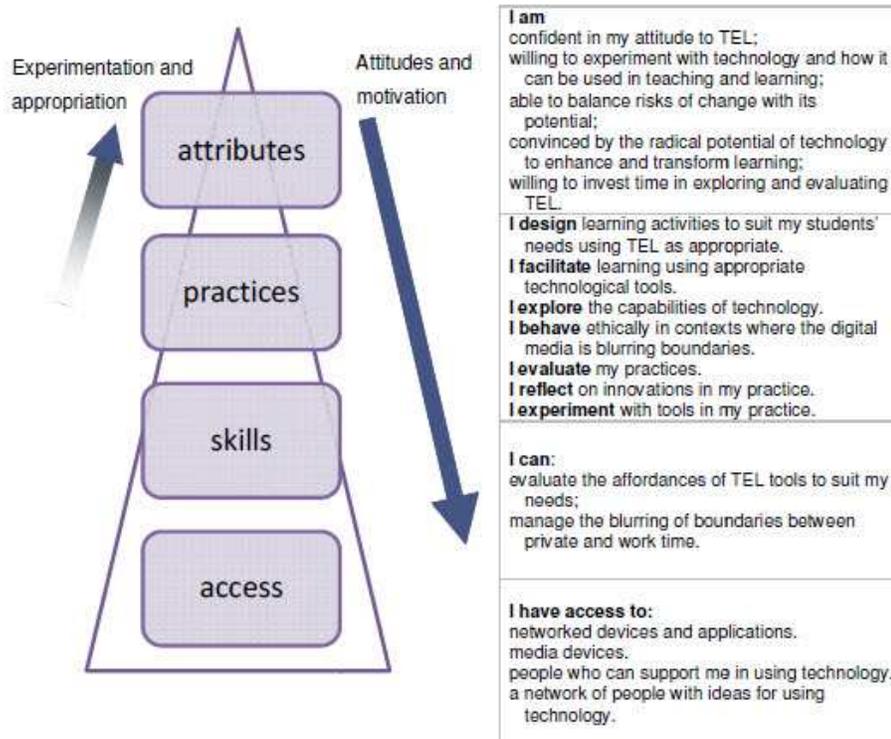


Figure 10.1 The Digital Practitioner Framework (Repeated from Figure 9.5)

Using this framework, Bennett (2012) found that traversing from one layer to another can occur in either direction (bottom-up, as well as top-down), such as when experimentation in situated practices stimulates individuals to seek to develop skills (Figure 7). Findings confirm that development can be instigated from any level but also that critical reflection is an essential factor to individual' engagement at any level within the framework. To represent our findings, we propose additional elements to be added to the JISC original diagram (see Figure 8).

Figure 8 Further development of the JISC developing digital literacies framework (Beetham and Sharpe 2011, np)

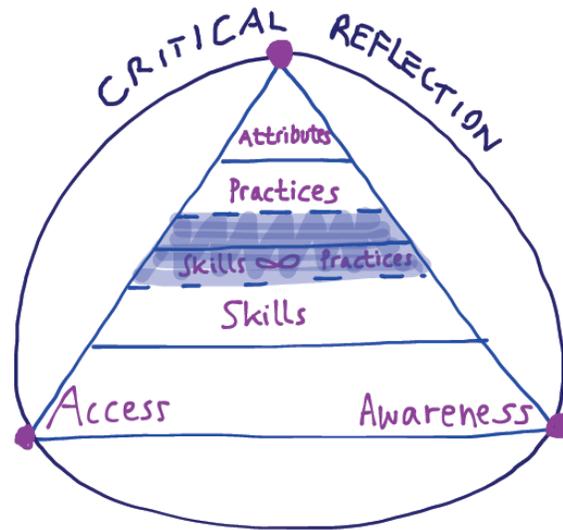


Figure 8 shows this extended representation which adds a circle of critical reflection around the triangle connecting three points along the route: attributes, access and awareness. It suggests that digital development and engagement are more likely to arise when these three factors *simultaneously* occur. For instance, in the critical reflection on digital literacies, shifts in practices and skills appear to take place when staff displayed certain *attributes* ('open-minded'-ness or 'losing your fear'), which generated *awareness* regarding limitations and opportunities of technologies and to which they had *access*. The three joined up points connected by the same line aim to express this simultaneity of necessary conditions.

Another observation, made from respondents' definitions of digital literacies, is a liminal layer between situated practices and skills. These two layers are depicted as two distinct levels in the original framework. Examples from the survey data indicate that respondents formulate aspects of digital literacies which are not clearly categorizable at either level, but somewhere in-between, in a boundary space between functional *skills* and emerging *practices* (indicated as the shaded area Skills & Practices Figure 8).

## Where might it lead? What next?

In our institutional context, we hope that the project will lead to:

- a staff development workshop on 'Using metaphor as a tool to critical reflect on developing Digital Literacies';
- Presentation of our findings at our institutional eLearning Network meeting;
- Identification and design of training sessions on social media for staff;
- Engagement of staff who are not yet involved in any digital literacy development in their current practice;
- Engendering confidence of those who think their (in)capability is a barrier to digital literacy development;
- Continue to embed digital literacies specifically as situated practices in the disciplines (as part of our wider curriculum development roles) ;
- Utilising the *Guide to Implementing the UKPSF in the Digital University* (Baume, Beetham and Hartley 2012) in our institutional PGCert programme;
- Work with the library on developing definitions, to be used as workshop resource for staff and help extend understanding about digital literacies.

We hope that for the benefit of the wider SEDA and HEI communities, the project will lead to the publication of an academic journal article on 'Metaphors, modalities and critical reflection in digital literacies'. Outputs such as the workshop resource guidance document is already available as part of this report.

As a result of this SEDA funded project, we suggest further research into the relationships between metaphor, critical reflection and digital literacies.

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## Appendix A Digital Literacies, a staff survey on perceptions, practices and provision

### Introduction

This survey is part of a research study aiming to explore academic staff's perceptions, practices and provision regarding digital literacies / capabilities. The study is funded by SEDA (Staff Educational Development Association).

Your responses will provide valuable insight in to this strategic area both across the UK and at our institution. All responses are entirely anonymous and we receive them without any names attached. Ethical approval has been granted for this research. We hope to use these findings to produce a research report as well as a guidance document for staff.

The survey has 5 demographic, 11 rating and 3 open-ended questions, and should take you 10-15 minutes to complete.

For any more information about the Digital Literacies Programme at the University of Liverpool, please contact Tunde Varga-Atkins (tva@liv.ac.uk) or Sarra Powell (sarrasaf@liv.ac.uk).

Acknowledgements to Christos Petichakis and David Baume; we have reused and adapted some of their survey questions.

### About You

1. Which School/Institute are you based in? [list of Schools provided]
2. What is your current discipline?
3. What is your age? [categories provided]
4. Are you: Male/Female
5. Where did you hear about the survey?
  - via PGCert (Postgraduate Certificate in Learning and Teaching)
  - via eLearning network (University)
  - via a colleague on the Digital Literacies Working Group
  - via CPS (Certificate for Professional Studies)
  - via Teaching and Scholarship network
  - via XJTLU (China Campus)
  - Other, please specify

6. Choose the statement that best describes your attitude to technology

- I don't like using technology at all.
- I use technology but only if I have to.
- I use technology when I have a specific purpose.
- I am a digital enthusiast: I use technology whenever I can.
- Other, please specify

7. Overall, how would you rate your capabilities with technology and digital tools?

- Not capable.
- Quite capable.
- Capable.
- Very capable.

Please add further comments explaining your choice (optional)

### Using technologies/digital tools in your professional and personal practice

8. Which of the following technologies have you used in your PROFESSIONAL (teaching, research, admin) practice or your PERSONAL life? Please distinguish between the professional and personal; tick any, if you use them, leave unticked if not.

For more expanded comments, use the 'Any other comments' space provided at the end of the survey

	Professional	Personal
Email lists or bulletins	<input type="checkbox"/>	<input type="checkbox"/>
Virtual Learning Environments (eg VITAL/Blackboard, Moodle)	<input type="checkbox"/>	<input type="checkbox"/>
Blogging (eg Wordpress, Blogger)	<input type="checkbox"/>	<input type="checkbox"/>
Microblogging (eg Twitter)	<input type="checkbox"/>	<input type="checkbox"/>
Social networking (eg Facebook, Academia.edu, LinkedIn etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Presentation sharing (eg SlideShare, Prezi, Scribd)	<input type="checkbox"/>	<input type="checkbox"/>
Multimedia (image, audio or video) creation and editing (eg Camtasia, Audacity etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Image, audio and video sharing (eg Youtube, Spotify, Flickr, Pinterest)	<input type="checkbox"/>	<input type="checkbox"/>
Mobile apps (eg EverNote and millions of others)	<input type="checkbox"/>	<input type="checkbox"/>
Collaborative authoring (eg Google docs, Dropbox, wikis)	<input type="checkbox"/>	<input type="checkbox"/>
Video conferencing (eg Adobe connect, Skype)	<input type="checkbox"/>	<input type="checkbox"/>
Project Management tools (eg Ms Outlook, Basecamp, Doodle)	<input type="checkbox"/>	<input type="checkbox"/>
Social bookmarking and tagging (Delicious, Diigo, CiteULike, Mendeley)	<input type="checkbox"/>	<input type="checkbox"/>
Curation tools of social media (eg Scoop.it, paper.li, tumblr)	<input type="checkbox"/>	<input type="checkbox"/>

9. Add any other technology that is missing from the list (e.g. discipline-specific software) that you use

10. How would you describe your engagement with the technologies listed?  
For more expanded comments, use the 'Any other comments' space provided at the end of the survey

	I CONTRIBUTE (read and write)	I USE it (mainly read)	I KNOW it exists but don't use it	I DON'T KNOW it
Email lists or bulletins	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Virtual Learning Environments (eg VITAL/Blackboard, Moodle)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blogging (eg Wordpress, Blogger)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microblogging (eg Twitter)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social networking (eg Facebook, Academia.edu, LinkedIn etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presentation sharing (eg SlideShare, Prezi, Scribd)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multimedia (image, audio or video) creation and editing (eg Camtasia, Audacity etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Image, audio and video sharing (eg Youtube, Spotify, Flickr, Pinterest)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mobile apps (eg EverNote and millions of others)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collaborative authoring (eg Google docs, Dropbox, wikis)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Video conferencing (eg Adobe connect, Skype)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project Management tools (eg Ms Outlook, Basecamp, Doodle)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social bookmarking and tagging (Delicious, Diigo, CiteULike, Mendeley)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Curation tools of social media (eg Scoop.it, paper.li, tumblr)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. What was the latest technology you started using? Please also state for what purpose.  
Select one category then also type the tool name in the box below.

- Email lists or bulletins
- Blogging (eg Wordpress, Blogger)
- Microblogging (eg Twitter)
- Social networking (Facebook, Academia.edu, LinkedIn etc.)
- Collaborative authoring (eg Google docs, Dropbox, wikis)
- Video conferencing (eg Adobe connect, Skype)
- Multimedia (image, audio or video) creation and editing (Camtasia, Audacity etc.)
- Image, audio and video sharing (eg Youtube, Spotify, Flickr, Pinterest)
- Project Management tools (eg Ms Outlook, Basecamp, Doodle)
- Social bookmarking and tagging (Delicious, Diigo, CiteULike, Mendeley)
- Presentation sharing (SlideShare, Prezi, Scribd)
- Curation tools of social media (Scoop.it, paper.li, tumblr)
- Mobile apps (eg EverNote and millions of others)
- Virtual Learning Environments (VITAL/Blackboard, Moodle)

What was the trigger for your starting to use this tool (please name the tool), and for what purpose? [text entry box]

12. How do you go about learning to use a digital tool / technology? Please rank the options in an order of likelihood. Give 1 point for the most likely method first, then 2, 3 and finally 4 for the least likely method. Rank the items below, using numeric values starting with 1.

Work it out myself by trial and error.

I consult colleagues or friends.

I look for instructions or guidance on the internet.

I contact professional networks (e.g. via email bulletins, forums) for advice.

### Developing digital literacies of students (in your discipline)

13. What comes to mind when you think of digital literacies or digital capabilities that are needed to be a successful X?

For X - please insert your discipline e.g. historian, engineer, health professional, lawyer linguist, sociologist, chemist etc.

14. What digital literacies (skills/capabilities, practices, attributes) are important for your STUDENTS to develop to become a successful X [your discipline], if any?  
If it helps you, think, who is a NOT digitally capable X [insert your discipline]?

15. What is your perspective to developing digital literacies of students? Please rate each statement.

	Strongly disagree	Disagree	Agree	Strongly agree
I see developing digital literacies of students as my role.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see the relevance of developing students' digital literacies in my discipline (or professional context).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I have the capabilities to develop my students' digital literacies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not having all the digital capabilities myself shouldn't prevent me from developing students' digital capabilities in my discipline.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. In what ways are you involved in developing students' digital literacies? Tick as many as relevant.

- I model the use of technologies in my teaching.
- I engage students in learning tasks that have a digital aspect.
- I engage students in assessment tasks that have a digital aspect.
- I run separate digital skills workshops/sessions/tasks for students.
- I invite other colleagues (in or outside the Department, externals) to run digital skills workshops/sessions/tasks for students.
- I am not involved in developing students' digital literacies in my discipline.
- I am not yet involved but would be interested in getting involved.

Please give detail on one example (or add to the list if required) [text entry box]

## Institutional provision

17. How well do you feel the University supports you in developing your own digital literacies? Please rate each statement.

Feel free to expand on your choice under 'Question 20. Any other comments'

	Strongly disagree	Disagree	Agree	Strongly agree
I feel supported by the university technology infrastructure in being able to develop my digital capabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel supported by the training and CPD (continuing professional development) opportunities in being able to develop my digital capabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know where to turn to if I needed support in developing my digital capabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. What would you suggest the University does to enable you to develop your own or your students' digital capabilities? Tick up to 3 options that you feel are the most enabling ones.

- being given time to engage and develop digital literacies
- improving technology infrastructure (e.g. access to hardware and software in teaching rooms, extending range of software available etc.)
- being given time to engage in module/programme design that embed digital literacies
- reward digital literacy innovation in teaching (through PDR and promotion)
- offer CPD opportunities to develop my own digital literacies
- being able to work with peers to work out what digital literacies are and how to embed them in to the curriculum
- support from Professional Services (e.g. library, educational development, careers etc.)
- support from Professional Services (e.g. other)
- improving communication about what digital literacies are
- Other, please specify

19. What ONE KEY thing would you suggest the University does to enable you to develop your own or your students' digital capabilities?

20. Any other comments regarding the development of digital literacies

Thank you for completing the survey.  
For more information about the Developing Digital Literacies Programme,  
please see our

[DigiLearn](#) website and [DigiLearnBlog](#).

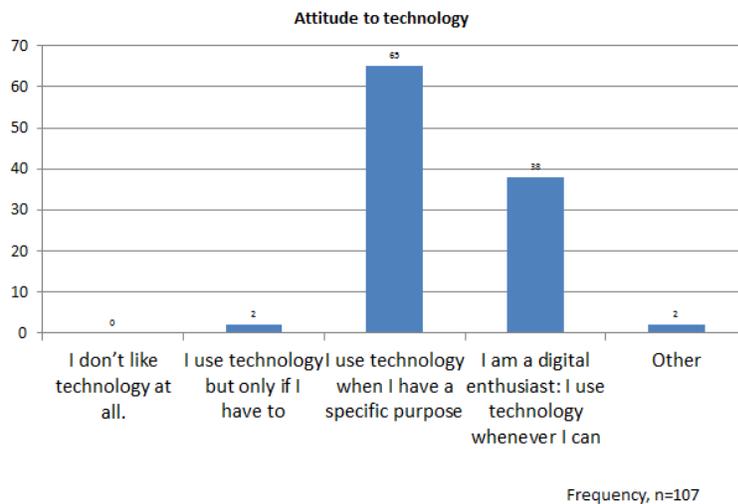


## Appendix B Staff Digital Literacies -- Survey highlights

### About the survey

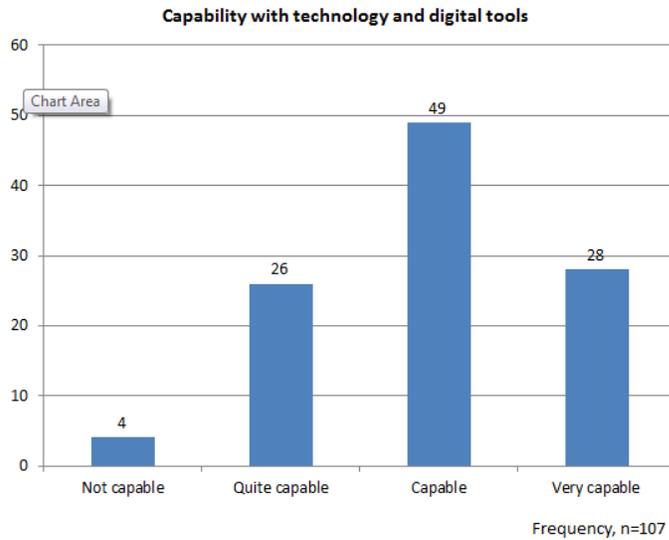
The digital literacies academic staff survey was circulated by the members of the Digital Literacies Working Group at the University of Liverpool and via the e-learning network of the University in May 2013.

Figure 9 Attitude of staff to technology (Source: DL staff survey, University of Liverpool, 2013)



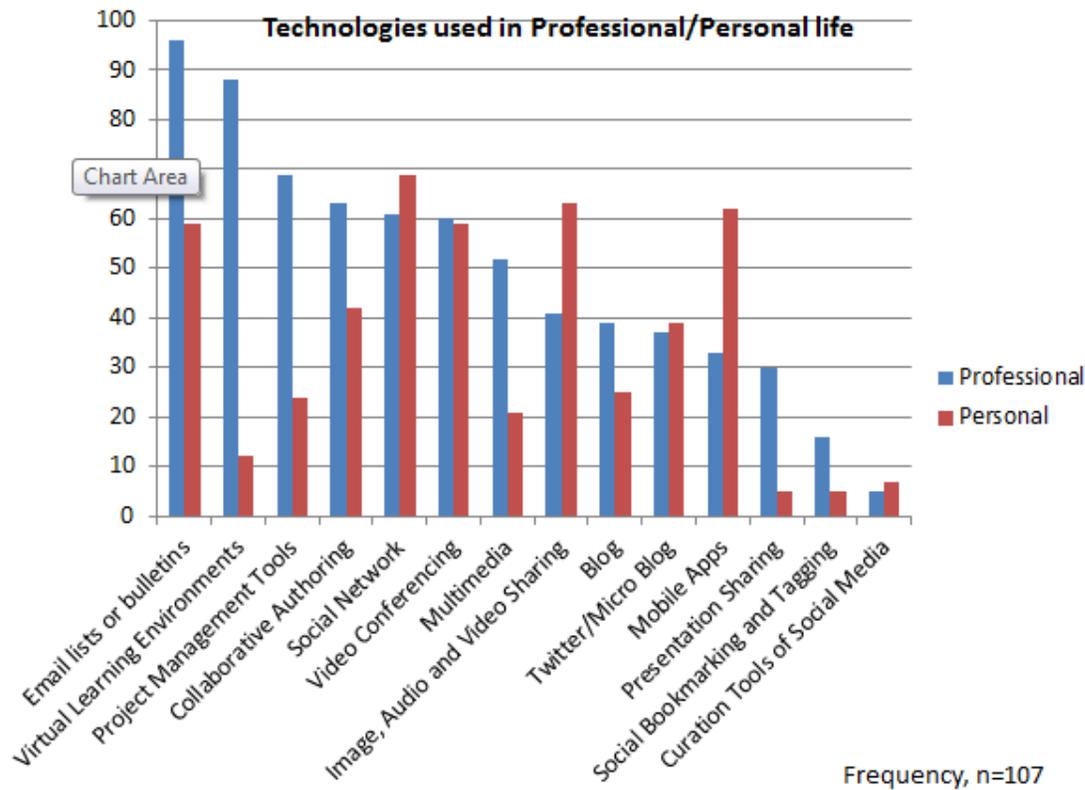
With 61% (n=107) of staff using technology in an instrumental and context-specific manner, the critical choice of appropriate technologies and critical reflection in academic practices is foregrounded in staff perceptions of digital literacies. It is also the case that about a third of our sample (36%) claimed enthusiasm for digital technologies (the likely members of our e-learning network). Although the two attitudes (using technology for a specific purpose vs enthusiast) can overlap as one staff member commented: “I am a digital enthusiast, and I enjoy imagining the possibilities technology affords, but I only use technology for specific purposes”, implying that even when a digital enthusiast, the critical selection of using technologies is key.

Figure 10 Capability with technology (Source: DL staff survey, University of Liverpool, 2013)



Almost two-thirds of respondents (Figure 10, n=107) stated that they were capable or very capable using technology. We are encouraged by various other surveys to consider the subjectivity of questions as to capability, as respondents can tend to either over- or under-rate their capabilities. This was confirmed through our interview findings. Self-rating is relative and can also be complex: respondents may be comparing themselves against different groups and depending on these groups their own rating could differ, e.g. one may rate oneself less capable compared to other staff members or some staff within one's own department, but can also rate themselves as highly capable compared with the majority in their department.

Figure 11 Technologies used in Professional / Personal spheres (Source: DL staff survey, University of Liverpool, 2013)

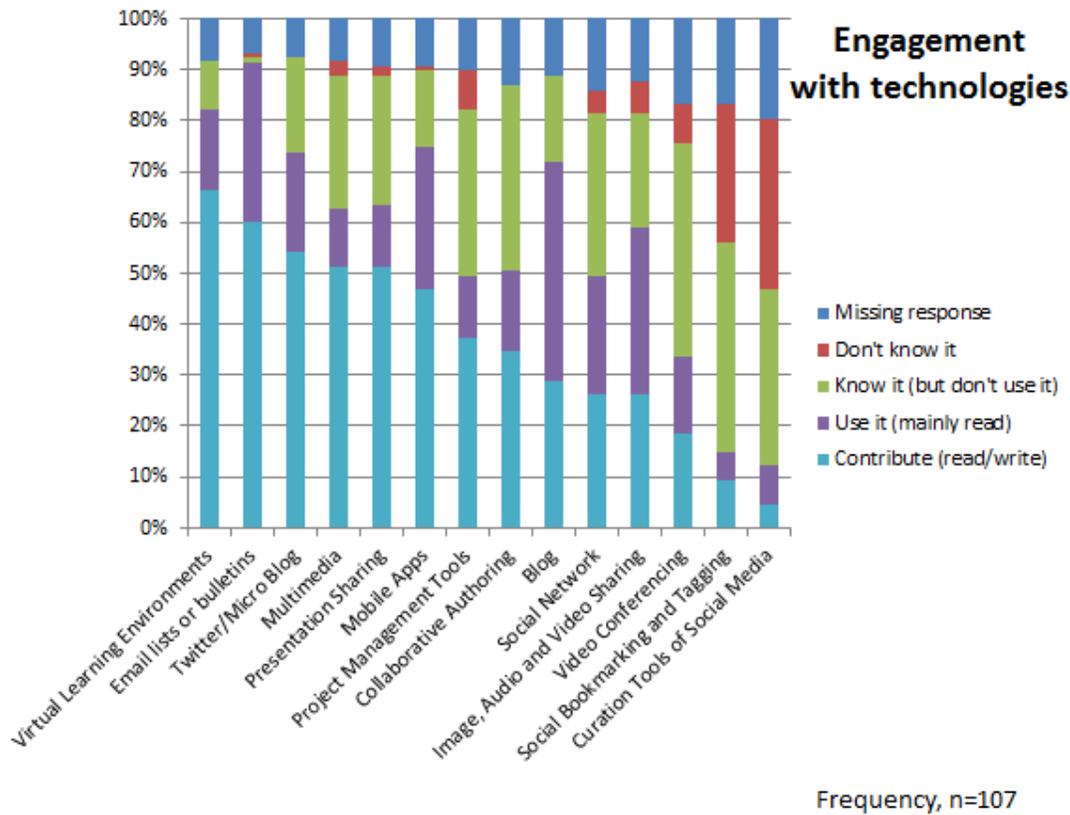


Respondents were asked to select the technologies they used in their professional and personal spheres. Figure 11 illustrates responses in decreasing frequency of the technologies according to their professional practice (n=107). It is not surprising that the most, professionally, used technologies are emails, the virtual learning environment and project management tools such as Outlook. It is interesting to note, that these are closely followed by the use of collaborative authoring (n=63, 59%), social networking (n=61, 57%), video conferencing (n=60, 56%) and multimedia (n=52, 49%). This high use of social networking seems to also emerge from a recent Scottish JISC RSC study, the 2012 ETNA ([Enhanced Training Needs Analysis](#)), survey which established the mainstream use of social media by college academics by their use of YouTube, Facebook and Twitter in enhancing the quality of learning experience. In our study, curation, social bookmarking and presentation sharing tools are the least used technologies in academic practice. The use of social bookmarking has also limited in other studies (Bennett 2012). The fact that over half of the staff do use multimedia or share images/media/audio in their personal lives, but fewer than one-third use presentation sharing in professional contexts, suggest other reasons than lack of skills and may have more to do with academic ownership and/or practices around sharing.

Respondents were also asked to indicate other technologies that they use professionally and which were not listed. These tools included either discipline-specific tools (e.g. music notation tools for musicologists, MatLab for mathematicians), general technologies for teaching and

learning (such as PollEverywhere for classroom polling or webPA for peer assessment), or web/information searching tools or scholarly tools (RefWorks, Endnote, Google Scholar).

Figure 12 Engagement with technologies (contribute, use, know, don't know, missing) (Source: DL staff survey, University of Liverpool, 2013)



Respondents were also asked to indicate their level of engagement with professionally used technologies. We were interested whether staff were using technologies as producers (e.g. contribute to blogs, share images or author collaboratively) or ‘consumers’ (e.g. reading blogs but not contributing), aware of technologies but not yet using them or not aware of technologies. These four levels of engagement arose from our interview findings. Figure 12 ordered responses in decreasing order of frequency as far as the highest level of engagement, contribution, was concerned. The high use of Twitter (above 50%) seems to confirm the JISC ETNA (2012) survey finding that social media is entering the higher education area. Although the number of staff actively contributing to blogs is not high, when merged those who either contributed or used (in this case, read) blogs, over 70% staff engage with blogs in their academic practice as scholars or teachers.

**Table 2 The latest adopted technology (Source: DL staff survey, University of Liverpool, 2013)**

Social networking, e.g. Linked in or Academia.edu	7
Microblogging = Twitter	7
Video conferencing	5
Mobile apps e.g. acquiring a smartphone	5
Collaborative authoring e.g. GoogleDocs, wikis	4
Image, audio and video sharing	3
Presentation sharing e.g. Prezi	3
Blogging e.g. host website, marketing what we do	3
Email lists or bulletins e.g. to join a special interest group	3
Curation tools of social media	2
Multimedia (image, audio or video) creation & editing	2
<b>TOTAL</b>	<b>44</b>

This emerging trend of using social media in higher education is confirmed by the fact that social networking and microblogging (Twitter) were indicated most frequently as the latest adopted technologies by respondents (Table 2), followed by video conferencing, collaborative authoring, blogs and curation tools (examples of these would be Pinterest, Scoop.it or Storify.com).

When asked about their motivations for adopting these technologies, respondents indicated these were mainly professional aims. Experimentation was motivated by specific professional contexts or purposes. Comments on Twitter adoption referred to academics using Twitter for information sharing as well as extending the campus experience to include guest specialists within curriculum. Social media or video conferencing were also used to extend the reach to those students not on campus (e.g. pre-entry students). Some respondents were motivated by peers or by curiosity. Other cited personal reasons for technology adoption such as keeping in touch with family and friends.

**Table 3 How do staff learn to use technologies (Source: DL staff survey, University of Liverpool, 2013) (Mean rank results: rank between 1-4 where 1 was most used method)**

I work it out myself by trial and error	1.52
I look for instructions or guidance on the internet	2.28
I consult colleagues or friends	2.35
I contact professional networks (e.g. via email bulletins, forums) for advice.	3.83

Rank 1-4, where 1 is most used method.

Perhaps not surprisingly, staff are learning new technologies by trial and error, followed by looking for instructions and guidance on the internet. One interview respondent coined this process as ‘Trial and Google’, which seems an apt description. The role of close peers is important.

### Disciplinary definitions of digital literacies

Given these above insights as to what technologies academic staff are currently using in their practice, we also wanted to find out their perceptions about what digital literacies were, and draw out the discipline-specific nature of these perceptions. This section will summarise highlights from these findings based on 63 responses given.

**Figure 13 The digital capabilities needed for discipline X : (left) for staff, (right) for students graduating into the discipline (Source: DL staff survey, University of Liverpool, 2013)**

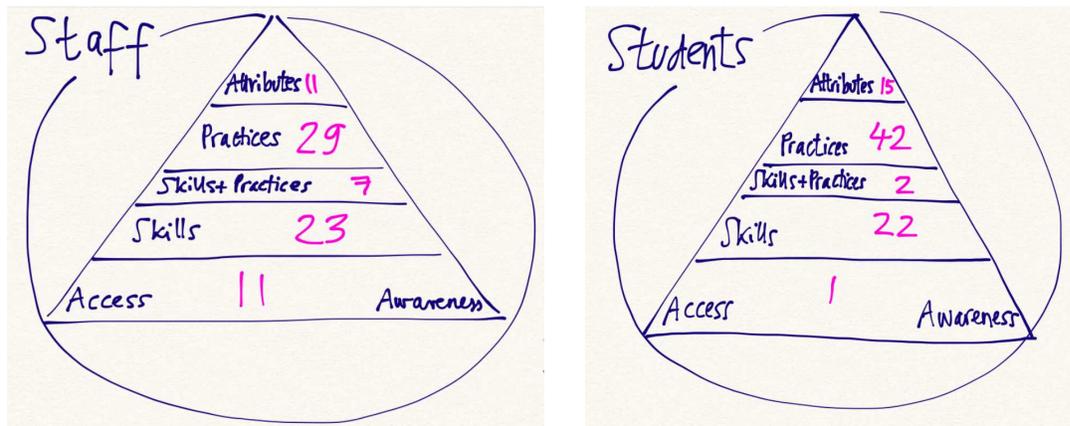


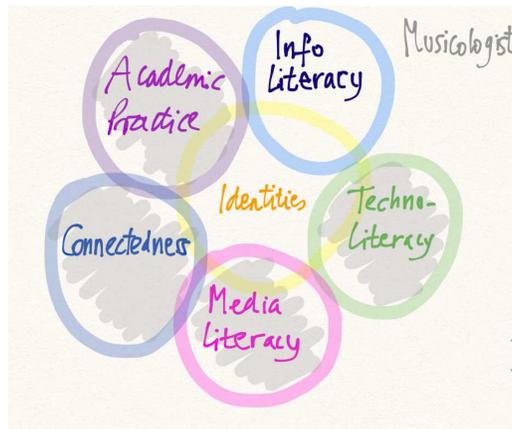
Figure 13 shows the result of our analysis: each response was coded for the levels against the JISC learning literacy framework (Beetham and Sharpe 2011, np); with many responses referring to more than one levels (these elements are represented as pink numbers in Figure 13). Respondents were asked to provide capabilities needed for staff in the given discipline as well as the kinds of capabilities they felt their students should develop. Eleven responses equated digital literacies with

attributes, including ‘confidence to investigate technologies’, or practices (29), such as ‘finding and accessing suitable digital scientific literature’ through to access/awareness: (11) ‘being aware of the implications of technologies’. Interestingly, staff perceived developing disciplinary practices, underpinned by digital capabilities, more important than functional skills development (42 cites on practices as compared with 22 which are skills-based). Overall, these definitions suggest that academic staff conceptualise digital literacies much more widely than functional digital skill-sets, and expect students to develop practices that draw on functional capabilities. This coincides with our interview findings during which participants also formulated definitions of digitally literate academics, which moved well beyond functional skill-sets.

We were also interested in a more detailed picture of academic staff’s definitions and mapped them against the six areas of information literacy, techno-literacy (ICT), media literacy, connectedness (collaboration and networking), academic practice and identities (see the *Extension of frameworks and models* in the What has been Learnt? section on extending the JISC model). For instance, one participant defined the digital capabilities needed for a musicologist as:

“Firstly, there are all sorts of requirements for academics generally (email, lists, scholarly databases, Blackboard/Moodle, Doodle, etc.). Then, there are a variety of needs across the discipline; most musicologists will use Naxos, Spotify, and other listening tools, and most will either use or have access to someone who uses Sibelius, for example. Then there are field specific tools; for me, those are things I study, such as YouTube videos, smartphone apps, and videogames.” (Staff survey, Q13, musicologist)

**Figure 14 Mapping the definitions offered: what sub-areas of digital literacies are needed for a musicologist**  
 (Source: DL staff survey, University of Liverpool, 2013)



The above definition cites four elements (shaded circles on Figure 14) of academic practice such as the use of scholarly databases, or techno-literacy (ICT skills for the use of subject-specific software, in this case notation software), media literacy (production of and working with different media) and email lists for connectedness (for keeping up to date with the discipline).

Figure 15 Mapping the definitions offered: what sub-areas of digital literacies are needed for discipline X: (left) staff, (right) students (Source: DL staff survey, University of Liverpool, 2013)

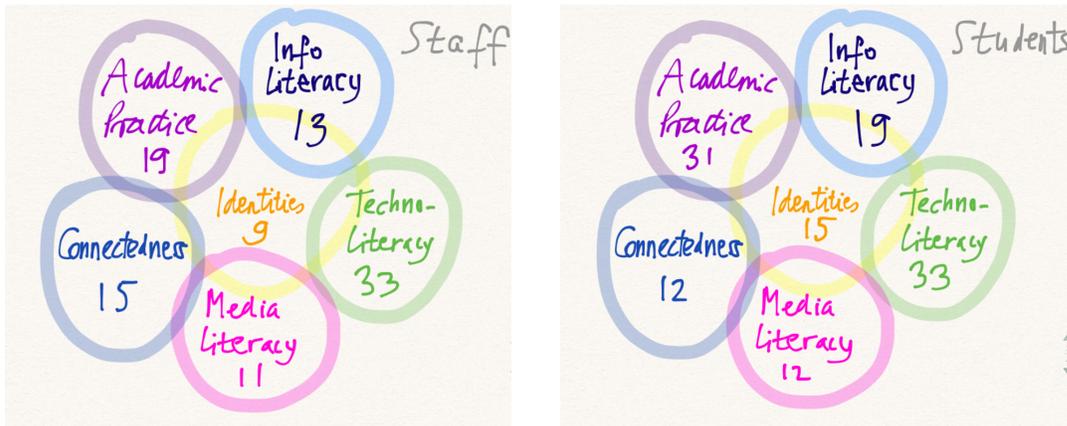


Figure 15 summarises this mapping for all definitions given. The most cited elements within digital literacies referred to the development of ICT skills (techno-literacy, 33) some of which were general technologies and some were discipline-specific, followed by technologies used for academic practice (e.g. referencing or searching scholarly resources, 19) but all areas were cited through to using technologies/social media to raise one's profile and develop academic and graduate identities.

This significance of these data for the educational development community is not necessarily new as compared with the findings from other work arising from JISC Digital Literacies Programme, namely that the development of these is best done in situated practices with implications for course and programme design in HEIs.

Figure 16 Involvement in developing students' digital literacies (Source: DL staff survey, University of Liverpool, 2013)

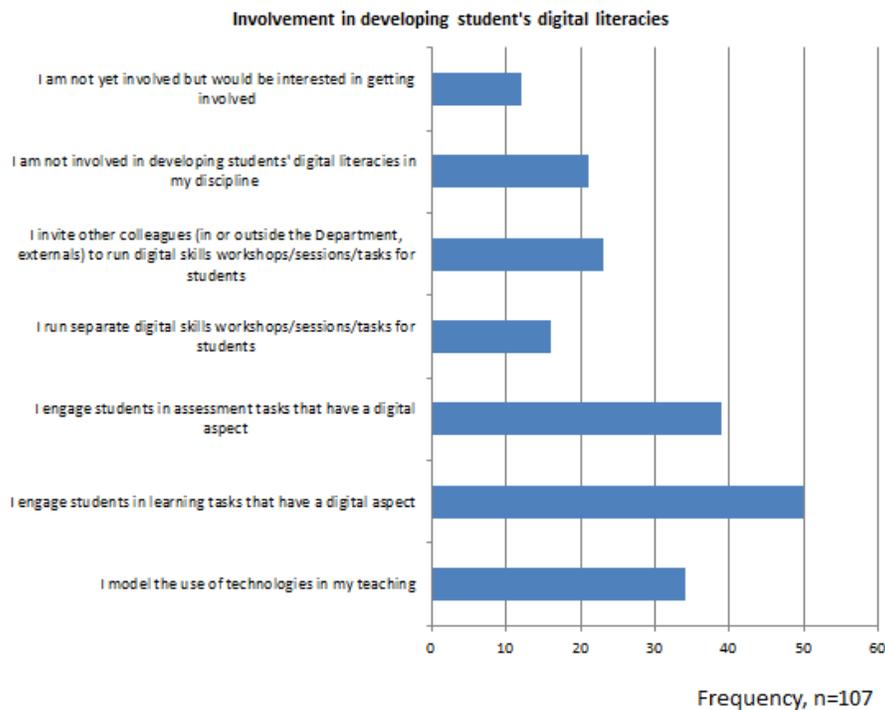
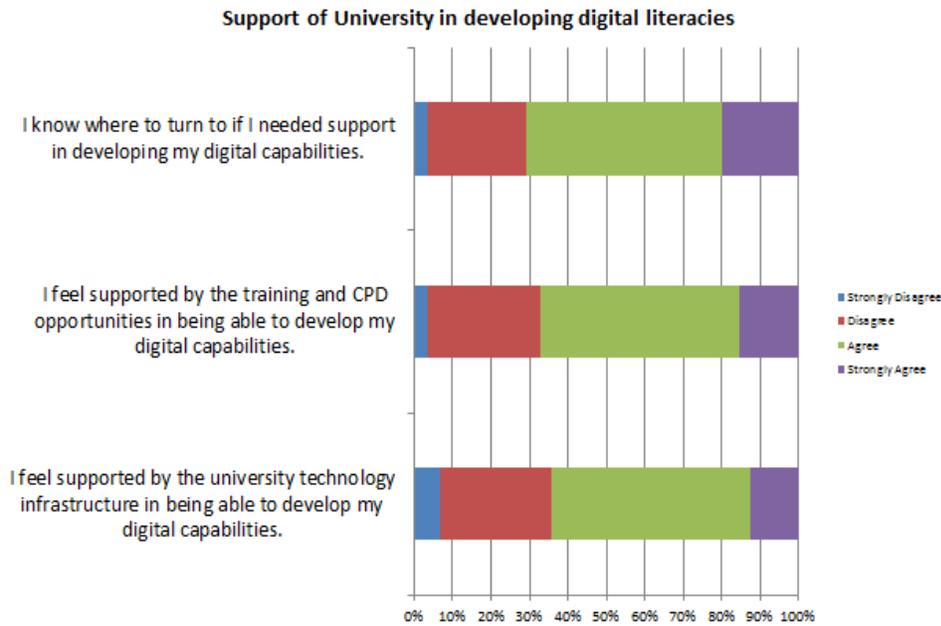


Figure 16 depicts the kinds of teaching and learning practices that staff at the University of Liverpool are involved in, based on 107 respondents. From this list, it appears that about 50 staff involves students in digital learning tasks, 39 in assessments with a digital component. Fewer staff run separate digital skills shops or invites their colleagues to do so, and 21 staff (about one-fifth) is not involved in any kinds of development of students' digital literacies. This latter figure seems quite high, given the importance of the digital literacies agenda, and this has local implications for working with this group of staff from an educational development point of view.

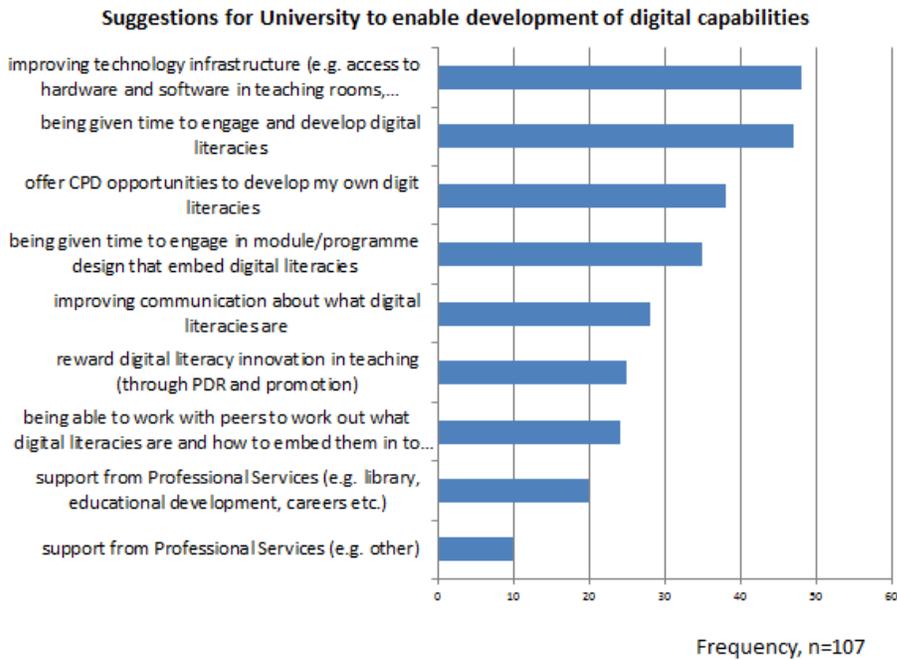
The mapping of practices into the 6 categories (Figure 15) is useful in so far as can signal areas for training and development. The JISC [ETNA survey](#) has found that there are limited opportunities for staff to learn about using social media in their teaching and learning.

Figure 17 University support for developing digital literacies (Source: DL staff survey, University of Liverpool, 2013) (left to right: from disagree to agree)



34% of staff felt that they did not have sufficient CPD opportunities for developing their digital literacies (strongly/disagree) and 36% did not know where to find support (strongly/disagree) (Figure 17). It is also worth noting over a third of staff (35%) felt that the university infrastructure was not sufficiently supportive in terms of supporting their digital practices. Although the majority of respondents felt supported by the infrastructure and institutional CPD opportunities, from our educational development point of view it is the group that has identified a need for CPD to whom it is worth paying attention.

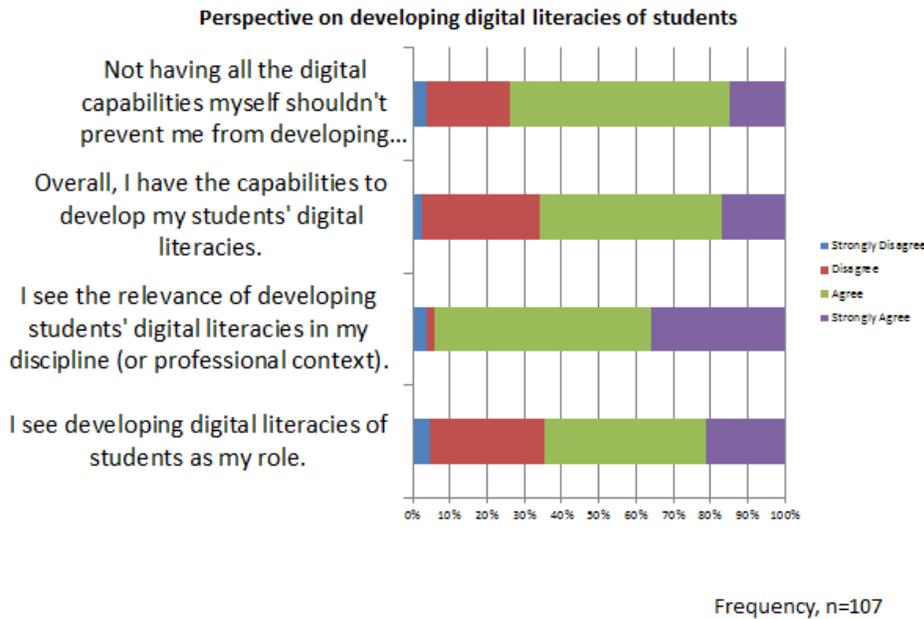
Figure 18 University support for developing digital literacies (Source: DL staff survey, University of Liverpool, 2013)



Respondents were asked to identify one key area that would enable their development of digital capabilities: infrastructural improvements (hardware, software), time provision and CPD opportunities were the top key suggestions (Figure 18). Our survey findings delineate some potential areas for these opportunities, which could usefully inform the institutional programmes of staff development and the institutional CPD framework being established at the time of writing this report.

The survey also investigated staff’s perceptions of ownership of the development of digital literacies.

Figure 19 University support for developing digital literacies (Source: DL staff survey, University of Liverpool, 2013) (left to right: from disagree to agree)



The overwhelming response from survey participants was that they saw the relevance of developing students’ digital literacies in their discipline (74%, n=107, Figure 19), however, only 54% perceived that this development was their role. Although after separating out academic and academic-related respondents, this figure was much higher: 70% of academic staff felt this development was their role, whereas only 57% of academic-related (careers, librarians etc.) did the same. As mentioned above, keeping up with the diversification of technologies in a rapid pace is a challenge (Dron 2011) when it comes to the development of digital literacies. Whether staff feel capable to develop their teaching and learning practice is important. Two-thirds (65%) of respondents felt they were capable in developing students skills. Given that the JISC DDL programme’s and Beetham’s advice to is that the development of digital literacies can take place without staff necessarily having to model literacies themselves (Helen Beetham interview, University of Liverpool Oct 2012), it was important to gauge staff perception. Respondents were asked to indicate whether they agreed with the statement that “not having all the digital capabilities themselves shouldn’t prevent me from developing digital literacies of students”. Over half of staff (56%) agreed with this statement, whereas 44% felt that they should have the necessary capabilities.

In summary, most staff feel that digital literacies have subject relevance and the majority feel their development is their role. There is still a group of academic staff who would need to be convinced in terms of ownership of this agenda (30%) as well as those who feel they need to develop capabilities or confidence in scholarly activities in a way that they would be able to embed

the developing digital literacies in curricula (44%). A sizeable minority of staff members (20%) are not currently involved in developing students' digital literacies.

### Limitations of the survey

Limitations of the survey need to be acknowledged in so far as it was relatively small scale. It is also possible that the survey may have been completed by respondents who were more naturally enthusiastic about using technologies, as it had been circulated via our e-learning network mailing list. We would recommend the repetition of the survey at a larger scale institutionally to ensure equal disciplinary representation as well as equity across individual staff member's levels of engagement with digital literacies.

### References for Appendix B

ETNA survey ([Enhanced Training Needs Analysis](#)). (2012). JISC RSC Scotland. Available from <http://www.rsc-scotland.org/?p=2945> [accessed. 19/7/2013]

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Helen Beetham Interview: Developing Digital Literacies (2012, October), Conducted by Tunde Varga-Atkins. Video production, Phil Walker, eLearning Unit. University of Liverpool. Accessible at the University of Liverpool's streaming server. <https://stream.liv.ac.uk/fgyvm3p2> [accessed. 19/7/2013]

## Appendix C Interview schedule : Teaching and Learning Practice in a Digital Age (Stage 2 interviews)

**Introduction:** purpose, confidentiality

### Part 1. Your use of technologies (sticker task)

1.1 Can you please look at the diagram and place the stickers (technologies) according to whether you are? [see Figure 5]

- Not aware (haven't heard of it)
- Aware of it but chose not to use (rejecting it)
- Using it: Personal or Professional ends (Admin , Research, Teaching)

#### Stickers

- Video conferencing (eg Adobe connect, Skype)
- Microblogging (eg Twitter)
- Social networking (Facebook, Academia.edu, LinkedIn etc.)
- Email lists or bulletins
- Virtual Learning Environments (VITAL/Blackboard, Moodle)
- Image, audio and video sharing (eg Youtube, Spotify, Flickr, Pinterest)
- Social bookmarking and tagging (Delicious, Diigo, CiteULike, Mendeley)
- Mobile apps (eg EverNote and millions of others)
- Curation tools of social media (Scoop.it, paper.li, tumblr)
- Presentation sharing (SlideShare, Prezi, Scribd)
- Multimedia (image, audio or video) creation and editing (Camtasia, Audacity etc.)
- Project Management tools (eg Ms Outlook, Basecamp, Doodle)
- Blogging (eg Wordpress, Blogger)
- Collaborative authoring (eg Google docs, Dropbox, wikis)

1.2 Can you please tell us what kinds of technologies you use, placing the stickers where appropriate (they are representative of categories of technologies) *We are not so much interested whether or how many technologies you are using but how you make decisions or reflections about your use of technologies.*

Please frame your commentary on each sticker/technology:

1. State the technology (for recorder)
2. If you use it,
  - a. In what context do you use it?

- b. What or how has motivated you to using it? (clarity of purpose)
  - c. How well is it working (in your given context)?
3. If you don't use it:
- a. Are you aware of it or not?
  - b. If aware – have you used it at all or not? If you are aware of the technology, elaborate on your use/not use of it in your own professional/teaching context.

## 1.2 Digital identity

If we were to do an internet search on your name, what would we find?

## Part 2. A recent teaching & learning scenario (timeline task) – and the use of technologies

2.1 Can you please think of a recent teaching challenge or scenario and represent on a timeline from start to solution? It could be anything – something you needed to do – or a challenge you had to overcome. The scenario can be big/small and anything from curriculum design through to delivery and evaluation. We will then tease out any digital technologies in each of its steps.

Start



2.2 Can you highlight any step that **used some kind of technology in the process?** (Please highlight with a pen on the diagram.)

2.3 Can you comment on the technologies you used in a bit more detail? Were there other kinds of technologies available, or reasons, or why you chose to use technology at all?

2.4 Can you comment on your level of skill and awareness of functionality using this kind of technology?

2.5 How did you learn to use this particular technology? (trial and error, staff, training, friends, self, university provision, YouTube, etc.)

## Part 3. Perceptions of skills and capabilities needed for T&L in a digital age

3.1 Thinking of 'Teaching and Learning in a Digital Age' ...what sort of skills / capabilities do you need to be successful as a [insert discipline] lecturer?

- o Can you comment on any generic skills / capabilities?

- And any that are specific to your subject area/discipline?
- How important are these?

3.2 Is your disciplinary knowledge shaped by the Digital Age (as compared with years and years ago)? How is? Is it changing the way you go about finding out 'new' knowledge?

3.3 This is a definition by David Baume, SEDA: "*I am digitally literate when I confidently, competently and appropriately select and use digital technologies to achieve particular work and life goals.*" What is your view of it?

#### **Part 4. Digital literacies / capabilities of students**

4.1 What are the important digital skills, practices and attributes that your students need to develop to become successful musicians, health professionals etc.? Or are the digital literacies important at all? If so, in what way?

4.2 Can you give examples how they are being developed in the current curriculum? Your module? In your teaching?

#### **Part 5. Support / provision**

5.1 How do you normally learn to use new technologies? (self-taught etc. as above)

5.2 Who or what do you turn to when you are learning to use a new technology/software? (people, resources etc.)

5.3 *What supports you to engage with (new) technologies?*

5.4 *What hinders you to engage with (new) technologies?*

5.5 *More generally, can you comment on your skill levels and confidence when using new technologies?*

5.6 For some of the skills mentioned above (or capabilities), Can you comment on the provision (hardware, software) at Oulu for developing these skills? (central, local)

5.7 Can you comment on the provision at Oulu for staff development? (training, CPD etc.)

#### **Part 6. Summary**

In a few words, can you summarise in your discipline, what important skills or capabilities that teachers/lecturers need to be successful in this/our digital age?

#### **Closure and Feedback on the process?**

## Appendix D - Workshop guidance document: using metaphors for critical reflection



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### Continuing Profession Development Session

#### 'Using metaphors to promote critical reflection on digital practices and perspectives'

At the end of this session participants will be able to:

- Critique the value and application if metaphor as tool for critical self-reflection In context of digital literacy(is) (DL) practices;
- Explore their own relationship with/perspectives of DL in context of their discipline.

Part I	Focus	Suggestion/guidance
Open the session (10 mines)	Discuss potential value of metaphor as tool for critical reflection.	Use examples to illustrate. See Lackoff's 'Contemporary Theory of Metaphor' (1992) Resource A
Activity – in pairs (20 mins) Flip charts/pens	Discuss what critical reflection in participants practice and context  Pool ideas back to group.	What makes thinking reflective? What is the purpose of critical reflection? Why is it valuable?  Offer a consolidated definition of critical reflection, Resource B, (Powell and Varga-Atkins, 2013)
Activity – switch pairs (20 mins)	Discuss what a metaphor is .	What is a metaphor? Why might they be useful as a tool for critical reflection?

Flip charts/pens	Pool ideas back to group.	Offer consolidated definition of a metaphor from group.
Activity – individual (10 minutes)	Write or sketch a metaphor for discipline.  Pool ideas back to group.	Encourage participants to look for where the metaphor is meaningful and why. Where are the metaphors limitations? It is at this point of rupture that metaphor is particularly useful as tool for critical reflection.
Activity – small groups (20 mins)	Dialectic questioning: One person is the questioner that probes for limitations of metaphor in context of DL, the others support discussion and exploration through questioning.  Questioner changes throughout each have 5 minutes.  Use stickers to probe metaphor  Pool ideas back to group.	It is important for participants to understand that there are many different perspectives of DL that there are no clear/agreed definitions – for some DL is functional and skills based, for others it is epistemological. Resource C (Powell and Varga-Atkins, 2013)  Use a bell to alert of five minute intervals.  Resource D
<b>Part 2</b>		
Split into groups of 4  Flip chart paper, colour pens	Provide the statement about digital technologies and impact of social media on memory function.  Groups are divided into those two camps, those who must defend the statement	Resource E

	and those who oppose it.  Groups make posters that they have to present at the end of the session – they must use their metaphors as part of their argument.	
Presentations (10 mins per part)	Groups present posters (10 mins to present, 10 mins questions)	
Round up	Revisit key points and any interesting issues raised particularly highlighting critical reflection.	

## Resources

### Resource A: Metaphor

Lackoff, G., (1992) 'Contemporary Theory of Metaphor' in Ortony, A., (ed.) *Metaphor and Thought* (2nd edition), Cambridge University Press. <http://terpconnect.umd.edu/~israel/lakoff-ConTheorMetaphor.pdf>

### Resource B: Critical Reflection

The complexity and ambiguity of reflective thinking as a professional practice is widely recognised as problematic and results in a range of competing, often conflicting, definitions. However, our research shows that it is the complexities and tensions inherent to reflective thinking that makes it an ideal lens through which to explore the parallel complexities and tensions inherent to living and working in a digital age. These complexities pertain to both digital practices and perspectives of those digital practices. Drawing from a range of theorists (particularly Mezirow, 1997 and Cowan, 2006) we will take reflective practice(s) to mean the following:

A deliberate metacognitive practice that involves and results in heightened thinking about an external problem, process, procedure, activity (or combination of these) that has a perceivable impact on internal meanings, ways of knowing and construction of knowledge. Put simply, reflective practice has to do with development of identities and the ways in which external reality impacts and shapes interiority: it is considered metacognitively in order to achieve mindfulness of how perception and understanding of reality has changed as a result of reflective activities. We would argue that reflective practice is an epistemological process that whilst deliberate can also be intuitive and offers considerable

leverage not only for change in a super-complex world, but for meaningful advancement of individuals' self-efficacies.

(Powell and Varga-Atkins, 2013)

### Resource C: Digital Literacies

The relationship between functional competence (*externus*) and capability (*internus*) is highlighted in current definitions of digital literacies and is illustrated by Baume (2012, np) in his notion of an individual as 'digitally fluent'. The graduate attributes for digital literacy at Oxford Brookes University is defined as the 'functional access, skills and practices necessary to become a confident, agile adopter of a range of technologies for personal, academic and professional use'; however, our findings suggest that digital literacies, when viewed through a lens of critical reflection, have both epistemological impact and a ontological element. Whilst acknowledging the significance of functional skills, practices and attributes, we extend the current definition to include the following:

A digitally literate individual is able cognisantly contribute to and extend knowledge in digital contexts and understands the impact of the digital on knowledge itself as well as upon new ways of knowing.

(Powell and Varga-Atkins, 2013)

### Resource D: softwares (examples)





Google +



Prof networks



Photo sharing



YouTube  
Video sharing



Podcasts



RSS



online conferencing



Video



Slide sharing



INFOGRAPHICS



Bib/ref tools



wikis



Mailing lists



Blackboard  
VLEs



tablets



Online journals/ebooks



Kindle/ereader



Time management



Assistive tech



Organisational software

## Resource D: Epistemological (examples)



self/identity



disruption



self-knowledge



self-efficacy



epistemology



scholarship



creativity



self/others



Knowledge



concepts



construct



positionality

## Resource E

'Digital media is not a benign extension of memory – rather we have lost control, we have given memory away. The advent of Facebook was as though we had all suddenly moved to live as Truman Burbank in The Truman Show, barely noticing, although being vaguely aware, that our every digital move is tracked and not just made available to a mass prurient audience in real-time, but there to digitally haunt us. This is 'iMemory', where we have forgotten how to forget. The faded and fading past of old school friends, former lovers and all that could and should have been forgotten are made part of a living archive of Google, Flickr, YouTube and Facebook. We have a kind of double presence in the world, where the many databases of social media and search engines that we use will always hold a version of our life that it is very difficult to change or hide or erase.'

Professor Hoskins, University of Glasgow (Metro, 2013)

## References

Powell, S.; Varga-Atkins, T. (2013) 'Digital Literacies: A Study of Perspectives and Practices of Academic Staff': a project report. Written for the SEDA Small Grants Scheme. Liverpool: University of Liverpool. July. Version 1.

Metro Newspaper, (13<sup>th</sup> June, 2013) 'The memory remains... Can you remember anything you were taught in school?' <http://metro.co.uk/2013/07/11/the-memory-remains-can-you-remember-anything-you-were-taught-in-school-3873846/> [accessed 17/07/2013]