D4 Strategic Project:
Developing Staff Digital Literacies.

External Scoping Report

TALI Strategic Project

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Contents

Glossary

ALT	Association of Learning Technology is a registered charity and is the UK's leading membership organisation in the learning technology field.
CMALT	Chartered Member of Association of Learning Technology
CELT	Centre for Excellence in Learning and Teaching
EAM	Electronic Assessment Management
EMA	Electronic Management of Assessment
FE	Further Education
HE	Higher Education
HEA	Higher Education Academy
HEI	Higher Education Institute
Jisc	Jisc is a registered charity whose remit is champion the use of digital technologies in UK HEIs. Formerly referred to Joint Information Systems Committee
MOOC	Massive Open Online Course
ocTEL	Open course in Technology Enhanced Learning
OER	Open Educational Resource
REAP	Re-Engineering Assessment in Practice
RLUK	Research Libraries UK
RUGIT	Russell Group Universities Information Technology
SCONUL	Society of College, National and University Libraries
SITS	Student Information Tracking System
TALI	Teaching and Learning Institute (at the University of Huddersfield)
TEL	Technology Enhanced Learning
UCISA	Universities and Colleges Information Systems Association
VLE	Virtual Learning Environment

Executive Summary

This is the first stage of a TALI Strategic Project on Academic Staff Digital Literacies. The report scopes the grey and peer reviewed literature and provides a landscape review of some of the major developments focussing particularly on approaches supported by the major sector bodies (JISC, HEA and ALT).

The report comes to the following conclusions:

- The term digital capability appears to have growing use by sector bodies (e.g. Jisc and UCISA) replacing digital literacy and digital fluency. We support this because it may be more acceptable to academic staff because it may appear less pejorative. In addition it should be noted that both terms are highly temporally contingent in this is a fast moving area.
- Staff digital literacies are deeply embedded in their local discipline context.
- Whilst there are many projects that focus on students' digital literacy the literature on staff is much less prevalent.
- Of the few projects that focus on staff digital literacies these tend to lack any empirical base in relation to efficacy or impact.
- Digitally confident practitioners display a range of attributes related to confidence, willingness to explore, resilience to failure and that it is these attributes that characterise them rather than their technical skills.
- Approaches to achieving sustained change in relation to development of digital confident practitioners are more likely to be achieved by focussing on 'hearts and minds' where staff have agency and ownership, and feel empowered to make changes rather than audits or appraisals.
- A particular 'hearts and mind' approach that has had some use across several HEIs is the course redesign model called 'Carpe Deum' (Salmon & Wright 2014).
- In addition Appreciative Inquiry as a model for supporting change processes which has been advocated by Jisc (Gray and Ferrell nd).

Introduction

> *Digital literacy now lies at the heart of a successful university; it enables universities to operate as successful businesses in globally networked research, teaching and learning environments. The academic marketplace is highly competitive for students, staff and funding; keeping pace with technologies and digital fluencies simply makes business sense (Jisc, 2012, para 3)*

This report is the first stage of the 2014-2015 Strategic Project exploring Developing Staff Digital Literacies. The report focusses on the development of academic staff's digital literacy rather than those of students. The report scopes some of the most important developments reported in the literature on digital literacies from the lead organisations in UK Higher Education sector i.e. Jisc and the HEA, as well as identifying the most significant peer reviewed journals.

Developing the digital literacy of staff and students is an area of interest and many HEIs have projects/strategies directed to this end. In deciding what to include and to omit from the report we

have focussed on national studies and those supported by sector wide bodies such as JISC, HEA and ALT. We have searched peer reviewed journals too although the topic is under researched and where literature is present it is most often written about students' literacies rather than staff.

The report is structured in five sections. It starts by exploring at the concept of digital literacy; the second section introduces some models of digital literacies, the third section identifies national organisations and their response to digital literacies, the fourth section provides examples of institutional strategies and approaches for developing digital literacies of academics and the final section explores measuring digital literacies. These sections of the report provide brief summary of the resources. The length of the report has limited the depth and critical engagement; rather we attempt to layout the landscape of the literature. However we draw the reader's attention to the final section the *Discussion and Conclusion* were we analyse and summarise our findings.

Conceptualising Digital Literacy, Digital Fluency, Digital Skills, Digital Capabilities

Terms which surround the adoption of digital practices are evolving. Jisc's definition of digital literacies is widely adopted: *"those capabilities which fit an individual for living, learning and working in a digital society" (Jisc, 2014a).* Jisc advise that it is important not to see digital literacies as a tick-box set of skills that can be acquired, so advise against the use the term 'digital skills':

> *Digital literacy looks beyond functional IT skills to describe a richer set of digital behaviours, practices and identities. What it means to be digitally literate changes over time and across contexts, so digital literacies are essentially a set of academic and professional situated practices supported by diverse and changing technologies (Jisc, 2014a).*

The nature of digital literacies as being temporal, contingent and socially located is noted by Gillen and Barton: "*we propose as a definition of digital literacies: the constantly changing practices through which people make traceable meanings using digital technologies" (2010, p.9).*

An alternative term of *Digital Fluency* has been proposed. Baume, writing in the context of the HEA Professional Standards framework, defines digital fluency in terms of identity and beliefs "I am digitally fluent when I confidently, critically, skilfully and appropriately select and use digital technologies to achieve my goals" (2012, p. 1). There may be value in using the term fluency over literacy, because the notion of literacy is more normative: to be illiterate is clearly a very damning label and one that many people, especially academics, would find insulting. Similarly Saffron-Powell and Varga-Atkins (2013) investigate staff digital literacy in an HEA funded project. Their definition drew on Baume's notion of digitally fluidity and is expressed as "*A digitally literate individual is able to 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" (p.11).*

The term Digital Capabilities has come to prominence recently see Beetham (2015) and appears to have currency with national bodies such as UCISA (2015)

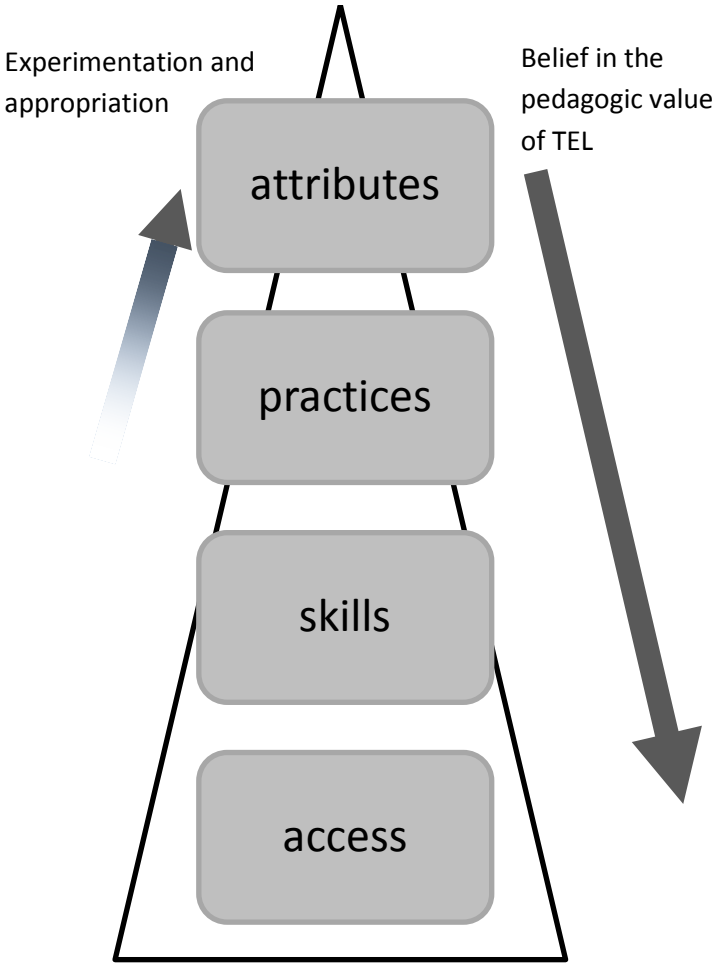
Jisc (2011) and Belshaw (2011) both deconstruct digital literacies into constituent elements which help to define the way that the term is understood in the curriculum. These are summarised in Appendix A and would be particularly useful if focussing on aspects of curriculum design, but less appropriate for people and their attitudes, practices and skills.

To summarise, digital literacy/fluency/capability is about more than just skills and involves practices and identities. It is a term that is evolving and is context specific, depending on cultural norms and individual predispositions. Hence we conclude that the term digital capability or fluency has greater potential rather than digital literacy, because they may be seen as less pejorative by academic colleagues and thus open up more constructive ways of conceiving of the issue and we recommend that the use of digital capability to reflect its adoption by other sector bodies, such as Jisc and UCISA. However for the purpose of this report we have used the terms digital literacy/fluency/capability interchangeably and have tended to favour digital literacy, because it was the term that the project started out with.

Models used in terms of Developing Academic Staff Digital Literacy

Digital Practitioner Framework

The most influential model for students' digital literacies is Sharpe and Beetham's (2010) pyramid model. Bennett (2014) applied this model to academic staff to model the access skills, practices and attributes of a digitally confident practitioner, see Figure 1.



I am confident in my attitude to TEL; willing to experiment with technology and how it can be used in teaching and learning; able to balance risks of change with its potential; convinced by the potential of technology to enhance and transform learning; willing to invest time in exploring and evaluating TEL.
I design learning activities to suit my students' needs using TEL as appropriate. **I facilitate** learning using appropriate technological tools. **I explore** the capabilities of technology. **I behave** ethically in contexts where the digital media is blurring boundaries. **I evaluate** my practices. **I reflect** on innovations in my practice. **I experiment** with tools in my practice.
I can: use TEL tools to suit my needs; manage the blurring of boundaries between private and work time.
I have access to: networked devices and applications. media devices. people who can support me in using technology. a network of people with ideas for using technology.

Figure 1: *The Digital Practitioner Framework, DPF (Bennett, 2014 p. 8)*

The top level of the pyramid models the attributes of the confident digital practitioner and has similarities to Saffron-Powell and Varga-Atkins' discussion of the necessary conditions for engagement in digital literacy development:

> *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 (2013, p.13).*

DigLit Framework

Hall, Atkins and Fraser (2014) have devised an approach to teachers' digital literacy that they termed the 'DigLit Framework'. The approach takes a critical approach rooted in co-operative pedagogical practice. In drawing up their framework they considered that social support for teacher agency was fundamental. They argue for use of self or peer evaluation. Their approach offers an alternative to managerial strategies for digital literacy which they argue commodity and alienate teachers. They argue that practising is not enough and the skills need to be successfully integrated into teaching. They devised a framework related to:

- Current use of technology to support teaching and learning
- Confidence in use of technology
- Experience of the DigiLit framework and
- Engagement with professional development opportunities. (p.6)

Their framework in 4 levels:

- Entry
- Core
- Developer and
- Pioneer (pp.11-12).

The dimensions of the skills are:

- Finding, evaluating and organising
- Creating and sharing
- Communication and collaboration
- Esafety and online identity (p.11).

National Initiatives in the Development of Digital Literacy

This section focusses on national initiatives which have explored the notion of digital literacies in staff (and sometimes students as well). These have usually been funded by one the national bodies that promote use of learning technologies, such as Jisc and ALT or have a national remit e.g. HEA.

Developing Digital Literacies Infokit (Jisc, 2014a) is an online resource containing information and practical ideas to develop many aspects of digital literacies. The site has four key areas of resources, each for use in practice for different contexts or groups of individuals: curriculum change, support for staff, support for students, and support for researchers. The section on support for staff area provides a rich set of recommendations grouped around the following heading:

- Focus on the curriculum;
- Use of frameworks or models as tools for engagement;
- Provide timely information, guidance and support;

- Develop partnerships, networks and communities of practice;
- Embed digital literacies in CPD and staff development programmes;
- Focus on digital identity and reputation.

The 'Digital Practitioner' Project **(Jisc 2014b)** This was a large scale survey to understand the behaviours of FE lecturers and how their practices affect students' learning. A key finding was that technology use in learning is fragmented and supports highly individual patterns of use. They found that practitioner use of technology in increasingly driven by their use and experience of personal technologies and curiosity in terms of potential use. They also found that a level of confidence in confronting technology to use in teaching was more important than level of knowledge about individual products.

The conclusion to this project recommends that teachers need to talk to each other beyond the staff room about their practice and be encouraged to initiate personal reflection for their inner dialogue. They suggest that e-learning strategy should focus on developing staff rather than developing institutional infrastructure. They also conclude that staff agility is a critical skill, developed out of experience. Insight rather than foresight is essential to this agility.

The Digital Student (Jisc, 2014c) is another Jisc-funded project which is in progress and is involves a number of other partners (UCISA, SCONUL, RLUK and RUGIT) to investigate the expectations incoming students have of technology provision in further and higher education. It has less direct relevance because of its focus on student rather than staff. Phase 1 of the project has already taken place, and a series of consultation events are lined up for early 2015. However findings that are of particular importance to our project are that students expect "teaching staff with the ICT skills to operate effectively in a digital environment" (Beetham & White, 2013, p.4), and that they expect technology to be incorporated into teaching and learning in ways that are relevant to their academic success rather than that they do not have a direct impact on the students' assessment.

Digital Literacies as a Postgraduate Attribute (Jisc, 2013a) is a Jisc funded project led by the Institute of Education (IOE), University of London which focussed on understanding the digital literacies of its post graduate students. It concluded that digital literacy cannot be understood just in terms of individuals and skills but needs to take into account the contextual and cultural nature of the practices (who is doing what and where). The project suggests that there is a need to understand digital literacies holistically rather than focusing on any one element in isolation and emphasised that digital literacy changes over time and can be forgotten. For this reason digital literacy should not be seen as a one-off achievement, but as something that is constantly enacted. The project reported that students use a wide array of technologies for their studies, including many that are not institutionally supported and that students had a sense that some technologies were for a specific part of their life only (study, work, entertainment) while others

crossed these areas. Many students found that the vast array of resources on and around the VLE and online library resulted in 'information overload'. The project found that technology is seen as 'doing things' to students, not all of which are positive. Students adopt some technologies in order to act more effectively or efficiently but other technologies can also make students feel powerless or alienated, or even controlled, therefore students sometimes opt out of technologies that they feel are controlled by the institution in order to use ones that they feel in control.

The Association for Learning Technology (ALT)

ALT conducted a survey of uptake of Learning Technology across HE, FE and schools sectors. The findings provide a broad overview to the issues of institutional adoption of learning technologies. The study identifies the need for clearly articulated strategic direction to support lecturers innovating, and the need to work in partnership with students (Laurillard & Deepwell, 2014). The report is useful in that it documents the landscape in a descriptive way but it is not very specific or tailored to any particular context.

The report provides a summary of barriers to innovation with learning technology including lack of staff time and support; lack of support at senior level; lack of leadership in effective use of technology; lack of incentives; and lack of funding for technology. It suggests the actions to encourage effective innovation in learning technology should include: supporting teachers as collaborative innovative action researchers; encouraging and supporting teaching innovation; building in time for continuing teacher development; leaders at all levels to take a strategic approach; developing sustainable, education-oriented IT infrastructure; recognising and rewarding innovation in education technology; and engaging students in active participation.

Another recent initiative by ALT aimed at developing digital literacies of anyone working in teaching and learning is the Open Course in Technology Enhanced Learning (ocTEL). The ocTEL course is run as a Massive Open Online Course (MOOC) format, so open to all and free. The course was non-credit bearing, though in the second cohort people could earn badges, which could then be used towards their CMALT accreditation. The course has run twice, in early 2013 for the first time and again in 2014. Sue Folley supported 30 University of Huddersfield staff through the course during the first cohort, who had volunteered to take part, as well as being a support tutor for the course as a whole for both cohorts.

The Higher Education Academy

Digital literacies in the disciplines (DLD) was an HEA initiative which focussed on digital literacies in different subject disciplines within the HE sector. The project promoted online learning by funding the development of online interactive resources. There were eight projects funded from different institutions. Many of the projects involved creating online learning resources (often OERs) using packages such as Xerte. There were no conclusions or findings reported, and many of the links to the project pages just linked back to individual's profile pages.

Saffron-Powell and Varga-Atkins (2013) report for the HEA. Their research was conducted using interviews with academics to explore their attitudes to adopting digital tools using a problem based scenario and an institutional-wide survey. They identified that the discipline context was critical in shaping lecturers understanding of digital literacies (p.12). They also identified that staff had a purposeful and critical stance towards technology. They suggest that the power of critical reflection to support staff in developing the attributes level of the pyramid and added an outer circle to the pyramid diagram to reflect this see figure 2. In addition they identified a softening of the boundary between skills and practices that they call a liminal boundary to reflect that digital literacies are not easily categorisable as being at one level or the other see Figure 2:

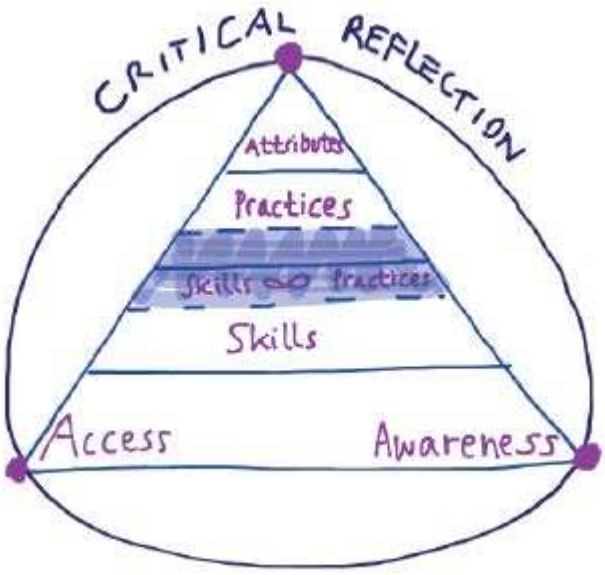


Figure 2: Further development of JISC digital literacies framework (Saffron-Powell and Varga Atkins 2013, p.17)

UCISA Survey of Technology Enhanced Learning

This large scale study provides a snap shot of practices related to the uptake of TEL across the whole HEI sector in the UK. It has been carried out seven times in the last thirteen years allowing for longitudinal comparison. It identifies the main barriers to adoption of TEL by academics as lack of time, lack of academic staff knowledge, lack of money, followed by institutional/department culture (2014, p.2). Staff development remains one of the key priorities across the sector identified in the survey (2014, p. 4). The most interesting questions from the study that relate this this project are Q1.1, 1.2, 1.3, 1.4 which relate to the factors that encourage adoption of TEL and Q5.1 on the barriers to adoption (Walker, Voce ,Nicholls, Swift, Ahmed, Horrigan & Vincent, 2014)

Institutional Strategies for Developing Academic Staff's Digital Literacy

This section of the report identifies strategies in use in HEIs. Those which have had the most national prominence for their approach are the ones included here. They fall into seven categories: curriculum design, academic champions, centralised staff development, informal approaches, on-demand resources, student champions and the appreciative inquiry approach.

It is recognised in the literature and in the amount of attention being given by bodies such as HEA, Jisc and QAA that this in an important topic for HEIs to tackle (Saffron-Powell & Varga-Atkins 2014; Jisc 2014a; NUS n.d; QAA 2014). There is expectation that graduates should be digital literate and be able to function and effectively contribute to the networked, technologically dependant, and complex world of work (Littlejohn et al, 2012; NUS n.d.). In order to achieve that our academic staff should be effectively modelling and demonstrating how learn with digital tools, as tutor guidance has been proved to be a critical determinant of the technology-based learning practices adopted by students (Margaryan et al, 2011).

Curriculum Design

Benefits: These approaches are often institutionally supported and usually part of a collaboratively design process with parties from across the University (e.g. librarians, learning technologist and course teams). Thus it leads to a consistent and collaborative approach.

Limitations: Possibly seen as rigid and not taking individual contexts into consideration; could be a tick box exercise; often will feel forced upon rather than getting buy-in from individuals; digital literacy is a constantly changing and developing area, so it would need to be revisited and updated regularly to be of practical use.

Case studies using this method:

Carpe Diem Course Redesign (University of Leicester, 2011) The Carpe Diem approach was originally developed by Gilly Salmon and is a creative, hands-on learning design process for academic course teams. The process is carried out by holding a two-day workshop involving various stakeholders to redesign courses utilising the affordances of learning technologies. The method was widely used and adopted and adapted by various other organisations, and the resources and templates were available as OERs for others to use (Salmon & Wright, 2014).

The University of Bath carried out the Pride Project (2012) which aimed to equip their staff and students with appropriate skills, tools and the language to articulate digital literacies. They created a framework of statements which were discipline specific to evaluate digital skills, competencies and attributes. The project also created some case studies and tools and resources for digital literacies as OERs. The digital literacy statements are based on the Beetham and Sharpe (2011) framework. The project also shares the plans for workshops that help staff think about the digital literacy of students in their disciplines.

Cardiff University created a digital literacy framework as part of a Jisc funded project which ran 2011-2013. The project was called ‘digidol’ and was led by Janet Finlay. The aim was to establish an institution-wide approach for contextualising and embedding Digital Literacy into the curriculum and therefore aimed to develop all staff and students. The framework is based on the digital literacy framework by Beetham and Sharpe (2011). They used the term ‘learning literacies’ to cover

academic literacies, digital literacies and information literacies. The learning literacies initiative is tied into the University's Education Strategies, and the University recognises Digital Literacy as being of "*fundamental importance to developing the future capability of its work force and graduates".* They also recognised that achieving this was more about changing attitudes and beliefs rather than gaining practical skills. Although adopting a 'framework' approach, they did emphasise that they felt it was not about imposing standards but rather about getting staff to reflect on their approach and promoted sharing sessions of innovative use of technologies.

Academic Champions

Benefits: Staff often learn best from their peers, and seeing a technology being put into action by a colleague can be a powerful way to get people involved in using learning technologies and therefore becoming more digital literate. The innovators are usually happy to share what they have done with students with others and are open to discussion and learning more.

Limitations: This can be a slow approach, less widespread and strategic, and can put pressure on the 'usual suspects' to always give their time to share what they have done and to be the person that other staff go to for advice. It is often an informal, voluntary arrangement with no real recognition or reward for the 'champions' involved.

Case studies using this method:
The University of Leeds (2014) use academic champions to support other staff with using iPads. Their project entitled 'iTeach, iLearn, iPads at LUBS' has named members of staff in each of the departments in their Business School who are enthusiastic users of tablets within teaching and learning and have agreed to share their expertise and experience with others.

Localised/Centralised Support

Many HEIs have centres for teaching and learning which have a remit to support technological innovation (see List of CELTs). Less visible as a method of support are localised technology advisors.

Benefits/Limitations: the benefits of centralised support can be seen as the limitation of localised support and vice versa: centralised services can cross fertilise ideas that happen in local pockets whereas local services can be more readily accessible and understand the local context more fully. Centralised services can be more strategically focussed.

Centralised Staff Development Courses

Benefits: The training is targeted to the use of specific tools with it usually being voluntary for staff to book on as and when needed. The sessions are usually of short duration (1-3 hours) and provided a supported environment with knowledgeable trainers. It also usually provides a good opportunity to network with other colleagues trying similar methods across the University.

Limitations: As the sessions are run centrally, the examples used are usually not context/discipline specific, so could be difficult for some staff to relate to. The courses often do not run at the time of need. There is often low turnout for these courses. The courses also are often skills based, so based on developing the technologic skills rather than the pedagogic use of tools and technologies.

Despite the limitations, most institutions offer a regular programme of staff development short courses aimed at developing the skills of staff.

Informal Approaches e.g. Coffee Clubs

Benefits: informal 'sharing practice' session with excellent peer learning opportunities. Often fits in with Academic Staff other commitments as these are usually short sessions over lunch, coffee etc.

Limitations: Not hands-on training or supported with resources, follow-up support etc. Often only the keen ones turn up to sessions such as this as the novices may feel they have nothing to share or contribute so could feel intimidated.

Case studies using this method

This approach has been used on the Debut Project at Canterbury (Westerman and Barry, 2009). The project ran staff development sessions which gave lecturers a taste of a number of technology tools and then ask them to focus on a smaller number to explore in more detail. This choice enables people to feel a sense of agency.

Southampton's iPad (and alternative devices) Coffee Club: This coffee club is open to both staff and students. It is an informal event held at the same time but different days and locations across the University to encourage attendance. The aim of the Coffee Club is to provide a forum for learning and discussion of a range of learning resources available via tablet devices. The Centre for Innovation in Technology and Education (CITE) team facilitate the sessions, and encourage sharing and questions.

At the University of Huddersfield the Learning Bytes sessions and TALI's iPad (and other tablets) Coffee Club are also examples of this – these will be discussed further in the internal scoping report.

On-Demand Resources

Benefits to this method: Creating digital literacy resources is useful as staff can access them at a time and place that suits them, and they can be targeted and on-demand. These can be used in conjunction with other more strategic approaches.

Limitations to this method: This is not a strategic approach, so only those staff with a motivation to find out more, and develop themselves in this area are likely to seek out and use the resources. It is unlikely to have widespread impact. It is often difficult to disseminate and promote this type of resource.

Case studies using this method:

Sheffield Hallam University (SHU, 2014) produced a menu of teaching approaches and technologies that support them for staff to use in a self-service on-demand way. This was presented in a tabular way but links to case-studies (mainly from people within the University) were used as supporting resources. The table presented the data in an easy-to-use format with the following headings: Approaches to teaching and learning; Benefits; Indicative assessment types; Technology to support and enhance; Benefit of using technology; Further information, Examples and case studies.

The University of Huddersfield's ipark website (http://ipark.hud.ac.uk) is also an example of providing staff with on-demand self-help resources such as how-to guides and screencast guides to help develop digital literacies.

Student Champions

Benefits of this Method: Students are best placed for understanding current students' use of technologies and issues they face. The student champions learn new skills and have something to add to their CV. Students who choose this role are likely to be enthusiastic about technology and its potential role in education, and they probable welcome the chance to feedback and contribute to education methods.

Limitations to this Method: Students need to be trained up, and new students will be needed each year as current students will move on. Students would need to be paid for this role for it to work effectively. Some members of staff may not like being taught how to use technology by students, they may perceive it as an exposing process.

Case studies using this method:

Digichamps (2014) is a scheme carried out at the University of Southampton to promote the development of digital literacies for both staff and students. They have a team of Student Innovation and Digital Literacies Champions who are available to support staff and students to enhance their educational experiences and to develop their skills with digital technology. They also run a series of workshops on various digital literacies (such as managing your online identity) as well as offer individual support. They have a Facebook page, a Twitter presence and keep a blog updated with all their activities and events.

FASTECH (Jisc, 2013b) was a Jisc-funded project , part of the Assessment and Feedback Programme (2011-2014) which aimed to bring about institutional change by using technology to enhance assessment processes. The project was led by Bath Spa University and the University of Winchester. They employed Student Fellows to help develop the change process. They used student fellows to bring about bottom-up change, to engage students in a process of dialogue and influencing, and to use students' enthusiasm to test the use of technology. The Student Fellows worked as researchers in terms of running student focus groups, and technology champions in trying out and testing technologies and working with academic staff to teach them how to use them.

Oxford Brookes InStepp project involved staff identifying some "commissions" or projects that volunteer student pioneers could undertake. Examples include supporting staff to improve their use of Google apps training; running workshops on social media; and creating resources on how to create podcasts. The project reported benefits for staff in terms of them learning new skills but also for students as they learnt to apply technology more critically (Benfield, Greg, & Pavlakou 2014). They provide some powerful quotes of the benefits to staff in engaging in these commissions and the impact that it has on improving their digital literacies, and reinvigorating the curriculum. They highlight the challenges involved, in particular the need to train and support students to act in a professional way and to know how to manage the task and the challenge of working effectively given the limited semester periods. There were also tensions reported between the epioneers' role and the salaried role of the LTA . The project advocates the importance of providing ongoing support for each epioneer and the need for active staff partners.

Appreciative Inquiry Approach

Appreciative Inquiry approach advocated by Gray and Ferrell (nd) as an approach to institutional change. Appreciative Inquiry is an approach which aims to research and bring about change through a process of constructive co-inquiry. It has been used as an educational development practice with staff and students and through focussing on positive drivers for change moves away from a negative, managerial approach to change (Kadi-Hanifi, Dagman, Peters, Snell, Tutton, & Wright 2013).

Benefits: is likely to achieve sustained change due to ownership and 'buy in' from participants

Limitations: is small scale and intensive

Case Studies: Queens University and Brunel University.

Institution-wide strategies

The Jisc funded Benchmarking and Pathfinder projects which ran during 2005-8 set out to deliver institutional transformation around technology enhanced learning. The top level finding from these projects was that process of institutional change and the role of policy, middle managers and the nature of the organisation (Czerniewicz and Brown, 2009) which argues that the integration of elearning into the HEIs is complex and requires nuance to the particular setting.

A range of institutional strategies were trailed and were reported in Mayes et al. (2009). The most significant were:

- **Change Academy (Jisc, 2010)**
  The University of Hertfordshire employed a Change Academy approach to realise institutional change in this area. The project was called CABLE (Change Academy for Blended Learning Enhancement). It included staff and students from across the whole University, and involved a residential workshop for multiple stakeholders to work together to discuss potential projects for taking forward with the intended outcome of sustainable change in blended learning practice.

- **Targeting a Specific Area of Challenge** (e.g. assessment and feedback)
  There has been a particular focus on improving feedback and assessment practices supported by a Jisc funding bid. The focus on assessment and feedback has some advantages for a strategic project in that it is one of the questions in the NSS and an area that has been scored poorly by students nationally (Williams & Kane, 2009). The Jisc projects associated with Assessment and Feedback have also looked at issues of institutional embedding rather than being small scale case studies. Thus there are some overlaps between assessment practices and digital literacies, because as the Bennett (2014) found once staff have used a technology, they may find this a way to encourage their confidence and identification as digitally fluent practitioners. Further discussion of Assessment and Feedback as a strategic approach is given in Appendix C.

Benefits: institutional embedding at the core

Limitations: is more likely to achieve 'buy in' for strategies related to well understood problem areas such as assessment and feedback which scored poorly in the NSS than digital literacies which is not perceived as a problem area.

Case Studies: Jisc Assessment and Feedback Projects (Gray and Ferrell, nd)

Measuring Digital Capabilities

This section of the report considers how digital literacies/fluencies/capabilities are evaluated and measured. Three approaches are considered; base-lining, appraisals, audits.

Base-lining strategies

Assessing the current situation is useful to find out where people are up to (rather than making assumptions) as well as being able to be used to work out progress and development in this area. Base-lining can also often reveal issues and challenges previously not considered. The main limitation is that base-lining is often a very time-consuming process and involves members of staff being willing to give their time to give their opinion or complete surveys/interviews etc. The more people involved, the more expensive in terms of time and resources but the more accurate picture of the current situation will be achieved. It could be argued that spending time and money on working out the current situation could be better spent on development activities and moving people forward instead.

A case study of this approach is Plymouth University who carried out a baseline process as part of a larger Jisc-funded 'Building Capacity' project 2011-2013 (SeedPod, 2013). They aimed to baseline the practices of both staff and students. For the staff initiative they interviewed 13 members of staff whom they saw as key stakeholders, as well as held informal discussion with arrange of support staff. They summarised staff opinions on their current systems and tools and issues around digital literacies. They used the Sharpe and Beetham (2010) model as a useful framework for considering digital literacies. The base-lining report recommendations lead to the development of a new department to support the development of digital skills and practices: Academic Support, Technology and Innovation (ASTI). The project stressed the importance of Senior Management buy-in as well as recommending that Senior Management are influenced by hard evidence. Finally the project tried to tackle both strategy and tactics, as this was believed to be the key to sustainability.

Appraisals

Building digital literacy skills into appraisals is a possible strategic approach to developing the digital literacies of staff, and the route we have decided to take at Huddersfield. The advantage to this is that it ensures a consistent approach, and it includes all staff. In addition, the conversations are happening within appraisals, so take individual circumstances and contexts into consideration. The main limitation is that it is a 'stick' (rather than a 'carrot' or internal motivation) which can lead to a tick-box compliance approach, where it is not bought by the hearts and minds of those involved. The other limitation is that because it is done on an individual basis, it could be used and interpreted very different by individuals (and indeed be seen as varying levels of priority/importance by

individuals who may or may not have bought into the reasoning behind it) so although a consistent approach in principal, may be used inconsistently in practice.

Audits

Audits can be used to help baseline or decide priorities for developing the digital literacy of staff. The audits could be of varying degrees of sophistication with a direct trade-off between time put in and quality/usefulness of data coming out. Reports can be written for example to automatically detect if certain tools are being used or areas have been populated to give some basic usage statistic of the VLE. However this cannot measure whether a tools has been used successfully, appropriately or managed effectively. These would be more time consuming and would have to be looked at individually creating a very time-consuming and complex manual job. The advantages therefore are again to give a start point to measure development in this area, or could act to highlight priority areas for development. Statistics could be compared across Schools, departments or over time to show trends. The limitation being that to measure effectiveness, management and appropriate use of tools can only be done manually, so this is very labour intensive. This could be seen as checking up on staff and therefore may not be received well.

Models of institutional change

Smith (2012) which reviewed 89 articles (2000 – 2009) that described adoption and diffusion of innovative teaching and learning practices in HEIs and found that "*the change model that dominates the papers is Rogers' (2003) innovation diffusion theory*." Six lessons were derived from this systematic review for educational developers to adapt and use in their HEIs:

1. Senior staff need to support an innovation for it to spread effectively
2. Innovation is time consuming and takes time to embed
3. Staff and students must be adequately skilled to engage with the innovative practice
4. Innovations that sit well within a specific context spread better
5. Supportive networks can facilitate the diffusion of innovative practices
6. Institutional infrastructure needs to be in place to support the innovation

Smith (2012) recommends that the adoption and implementation of these six lessons should be considered based on the complexities of the institution and the role of the educational developers supporting the change processes.

Salmon (2005) developed a four quadrant model to represent implementation of an online and blended learning strategy at the University of Leicester. This framework can be employed to match an institution's internal resources (structures and skills) and the opportunities and risks created by its external environment as well as an institution's particular strengths. It also focuses on institutional development and embedding of established core technologies e.g. VLE and peripheral technologies e.g. MOOCs.

Sharpe, Benfield and Francis (2006) identify that alongside the well-established drivers for innovation (which are leadership, technology infrastructure, institutional vision and provision of resources) that there are other key drivers. These are flexibility in practices that allow schools to contextualise their plans for change, the facilitation of communities of key staff and creating opportunities for staff to voice and challenge their beliefs about e-learning.

The recent JISC report (Chatterton, 2015), *"How do you change the learning landscape?"* is based on an analysis of strategic conversations with senior managers, staff and students in 58 UK institutions. These conversations were undertaken in order to identify trends and direction of change in relation to technology-enhanced learning (TEL) and the student experience. Some significant TEL change management issues raised in the report included the need to move beyond the 'usual TEL suspects' and a recognition of the need for professional change management of academics and support staff. The report highlighted that the pace of academic staff upskilling was too slow, institutions have difficulty in knowing how best to support academics become digital practitioners, students as partners can be a force for change and the arguments" for TEL were not sufficiently persuasive to encourage change in academic practices. It emerged that good practices that resulted from TEL bottom-up initiatives were not being scaled-up centrally across UK institutions and these practices were still restricted to local pockets or niches.

The report (Chatterton, 2015) stated that it was "*not possible to point to any institution that could be described as 'successful' in scaling-up/embedding with clear measures of impact*. (p10)" It revealed that HE managers such as Deans and Heads of Departments do not prioritise TEL/digital literacies and were also not skilled to function as "change agents". Typical barriers cited in the report for staff not engaging with TEL included time/workload demands, limited digital capabilities, low digital confidence and a lack of awareness of TEL opportunities and benefits in their institutions.

"Students as partners" was recommended in the report (Chatterton, 2015) as a force for bringing about TEL change in the HE sector. There is a growing number of UK institutions where digitally capable students are working closely with academics to help shape curriculum design and delivery. The use of outsiders can get management to buy into TEL initiatives. Senior management tend to value outsiders' opinions more than insiders. Staff could bring in expert TEL outsiders who can help champion their cause.

Chatterton makes four suggestions for developing the digital literacies of academic staff:

» Develop an online Guide/Directory to PGCerts

» Explore sector interest in the "academic practice in a digital age" concept (that combines L&T skills with research skills) and if there is interest, develop a community of practice around it

» Develop national projects that PGCert students could collaborate and gain credit on

(see the above suggestion – option 3 - for collaboratively developing a good practice guide for LT&A/TEL/digital literacy strategies, as an example)

» Develop and facilitate a MOOC (Massive Open Online Community) for PGCert students and alumni (2015, p.16).

Discussion and Conclusion

Academic staff need to have a working repertoire of approaches to teaching and learning take advantage of the affordances of technologies and to prepare students for future working in the digital world. As Ertmer and Ottenbreit-Leftwich suggest: "it is no longer appropriate to suggest that teachers' low-level use of technology are adequate to meet the needs of the 21st-century learner" (2010, p.257). In order to achieve this level of digital uptake within the curriculum institutions need to develop approaches to developing their staff in this area as a matter of urgency (Salmon & Write, 2014) and it is clear that this is the case for many HEIs. However there is no simple solution to tackling the issue, and many institutions are employing a variety of approaches. These range from small pilot projects involving the implementation of a single new technology, to more widespread institutional approaches involving frameworks, appraisals, and audits. Interestingly the scope and scale of many of the projects is often limited rather than being institution wide, even for projects funded by national bodies (such as the Jisc Digital Literacy Projects).

A flexible approach to defining and supporting digital fluidity is particular important given another key finding which is the notion of digital fluencies being evolving, so defining digital literacy/fluency/capablity is difficult and whatever it may mean to be digitally literate today could be very different in a few years' time, so any approach has to be agile and flexible.

There are many initiatives which are focussed on developing students' digital literacies and embedding these skills and practices into the curriculum, seeing it at as an attribute for graduates (employability) however there appear to be limited approaches to the sustained development of academic staff's digital fluency. Instead projects tend to be small scale case studies. In addition most of the projects do not report on their efficacy or impact, so although lots of approaches are being trialled and piloted there is not much evidence of what works.

One of the main findings of this report is that it is difficult to establish institutional-wide approaches that are not too generic to be of practical use. The use of digital tools is highly context specific depending on a variety of factors including institutional priorities, differences between disciplines, management buy-in (at all levels), and individuals' attitudes and comfort levels. In addition the literature supports the notion that digital fluencies for staff are highly contextual and located with disciplines (Saffron-Powell & Varga-Atkins, 2013). Thus institutions need to provide a variety of mechanisms to provide support for staff to develop and engage with digital practices and to particularly focus on the discipline context in which staff are located.

Most developments in staff digital literacies use Sharpe and Beetham's (2010) framework for students' digital literacies as their starting point. An alternative model labels staff pioneer, developer, core and entry and has been implemented with success and recognition in one local authority with secondary teachers (Hall et al., 2014). Both these models conclude that it is vital to focus on the attitudes that accompany use of digital tools, rather than on the skills of using digital tools.

There is a danger that the use of institutional-wide approaches such as audits, appraisals and frameworks, are likely to lead to strategic compliance rather than to lead to the change in attitudes and beliefs that are necessary for successful adoption and integration in practice. Instead what is necessary for sustained change in practice is to appeal to the 'hearts and minds' and in particular to

focus on staff desire to serve their students' learning needs (Bennett, 2014) rather than their desire to become a skilled digital practitioner.

Two particular approaches that we consider to be worthy of highlighting are Appreciative Inquiry approach (page 15) or the Carpe Diem Course Redesign (page 12) because both focussed on how staff can 'own' changes in their practices and where they have agency and feel empowered to improve their teaching.

Thus the external scoping stage of this strategic project has identified that there will be significant value in exploring the Appreciative Inquiry model, because it provides an approach which is positively framed, gives agency to staff and is located in their discipline practice. As such it is likely to be a useful way to engage staff in the agenda of digital literacies/fluencies/capabilities that has potential to change attitudes and develop their digital identity.

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Appendix A – Elements of Digital Literacies

Jisc (2011) offer 7 elements of digital literacy:

- ***ICT/computer literacy:*** *the ability to adopt and use digital devices, applications and services in pursuit of goals, especially scholarly and educational goals*
- ***information literacy:*** *the ability to find, interpret, evaluate, manipulate, share and record information, especially scholarly and educational information, for example dealing with issues of authority, reliability, provenance, citation and relevance in digitised scholarly resources.*
- ***media literacy:*** *including for example visual literacy, multimedia literacy: the ability to critically read and creatively produce academic and professional communications in a range of media*
- ***communication and collaboration:*** *the ability to participate in digital networks of knowledge, scholarship, research and learning, and in working groups supported by digital forms of communication*
- ***digital scholarship:*** *the ability to participate in emerging academic, professional and research practices that depend on digital systems, for example use of digital content in teaching, learning and research, use of virtual learning and research environments, use of emergent technologies in research contexts, open publication and the awareness of issues around content discovery, authority, reliability, provenance, licence restrictions, adaption/repurposing and assessment of sources.*
- ***learning skills:*** *the ability to study and learn effectively in technology-rich environments, formal and informal, including: use of digital tools to support critical thinking, academic writing, note taking, reference management, time and task management; being assessed and attending to feedback in digital/digitised formats; independent study using digital resources and learning materials*
- ***life-planning:*** *the ability to make informed decisions and achieve long-term goals, supported by digital tools and media, including for example reflection, personal and professional development planning, CV building, identity and reputation management, showcasing achievements*

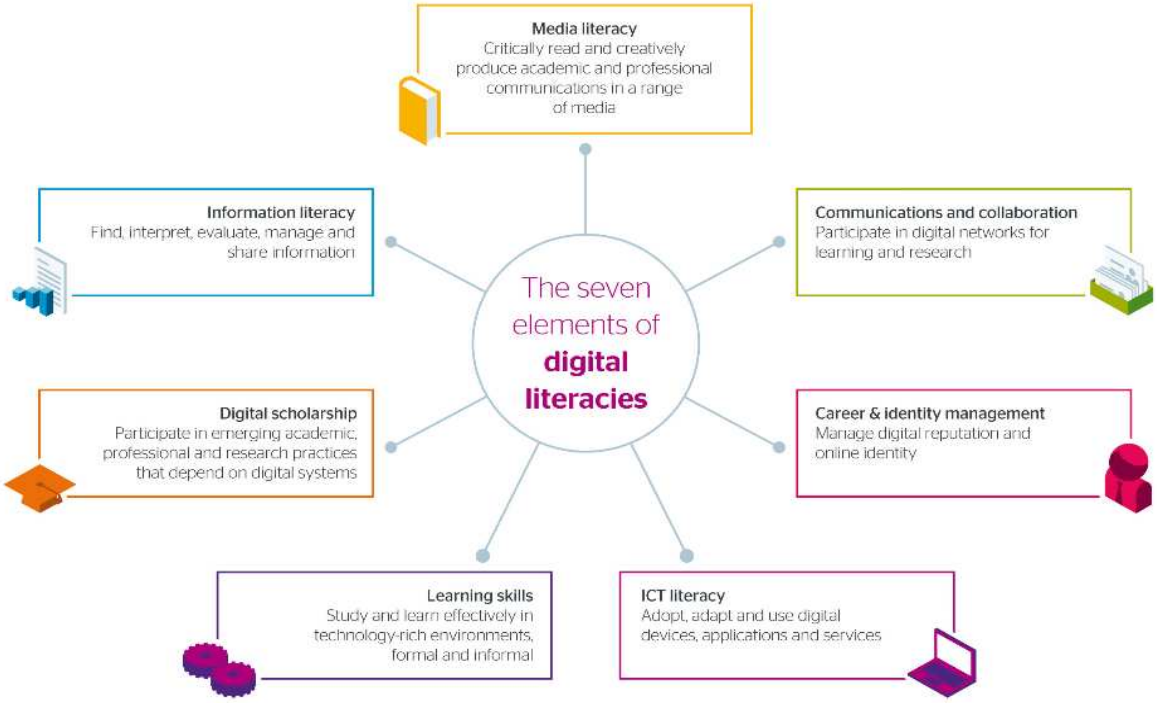
Doug Belshaw, devised a framework for exploring digital literacies within the curriculum. He suggests that there are eight essential elements of Digital Literacy:

- ***Cultural*** *– Looking at the context in which the literacy is situated*
- ***Cognitive*** *– How do we think when we are using a device*
- ***Constructive*** *– Aiming to use technology in a constructive (rather than passive) way*
- ***Communicative*** *– Using technology to enhance our communications*
- ***Confident*** *– Being confident to jump in and explore/use/master/learn technology*
- ***Creative*** *– Using technology in the classroom requires some creativity and risk taking*
- ***Critical*** *– The ability to look at the technologies you are using (and what you are using them for) critically*
- ***Civic****- We should be using the technologies available to us for greater good*

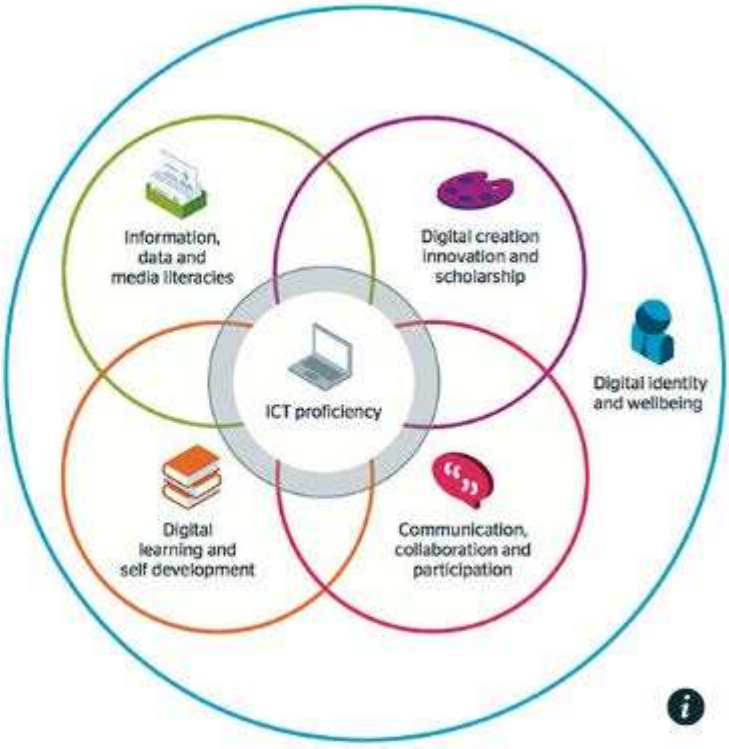
(adapted from Belshaw, 2011)

JISC (2014) Quick Guide to Developing Students' Digital Literacies.

Source: http://www.jiscinfonet.ac.uk/infokits/digital-literacies/



Jisc's (2015) model of Digital Capablity Framework available from
https://www.jisc.ac.uk/rd/projects/building-digital-capability



Appendix B - Assessment and Feedback: an example of a national priority

The REAP (Re-engineering assessment practices) project was carried out in mid 2000s across 3 Scottish HEIs. It involved transforming assessment practices by making students more 'self regulated' in relation to their own learning process (Nicol & Draper, 2009). Their approach was about redesign of assessment but in fact it leads to redesign of courses. They articulate their approach to bringing about wide scale adoption through three components;

The problem domain (i.e. assessment and feedback)

The deep and worthwhile educational aspiration (of self-regulated Learning)

The underpinning educational principles (i.e. principles of good assessment and feedback practice)

They argue that using these principles enabled a range of stakeholders (e.g. academics, senior managers) to accept and engage with the REAP project. They used these principles to engage staff through presentations which then sparked interest and new ideas and drew people into the process (p.199). They used the notion of tight-loose approach whereby the principles were tightly adhered to but the mechanisms by which people took forward ideas were fluid. They suggest 7 principles for organisational transformation (p.204) and 4 activities. The first 2 recommendations are ones that our D4 project needs to consider.

1. Focus on the project on a widely recognised problem area;
2. Ensure that there is a long-range and worthwhile educational aspiration that is grander than the goals of the project itself and that is related to the strategy;

In Draper and Nicol (2013) they develop their discussion of these seven decisions which shape an educational change project.

The Jisc (2014d) report distinguishes between EMA, electronic management of assessment, and EAM, electronic assessment management. which is more administrative whereas EMA is broader and about all aspects of technology use to support the assessment process not just management of assessment. For instance includes elements of; getting students to engage with their feedback, plagiarism detection, use of online testing, use of assessment in course design/transformation, assessment management. The report argues that uptake of EMA is patchy and fraught with difficulty (like all institutional embedding). One focus is integrating between SITS and VLE with only 11% institutions highly integrated (of course there are risks and benefits/challenges to this). Student experience is a driver for uptake with consistency a benefit to students of EMA p.15. They go on to analyse the "pain points "for adoption and systems integration and staff resistance are two top ones. p16. Culture and practices are also cited e.g. external examiners, moderation etc

Jisc (2014d) promotes the MMU's 7 stage life cycle approach which appears to me to be quite like what we do well but return of feedback is not standardised with some paper and some electronic,

the release of marks through their student portal after 4 weeks, also not standard, and mechanisms to ensure that students engage with feedback not embedded.

The EBeam report (Ellis & Reynolds, 2013) is of particular note because it was based on University of Huddersfield experience. Their findings are that students, admin and institutions like EMA but academics less so due to concern over emarking. (p.12). They argue for allowing academics to choose to mark in a way that they prefer (by providing paper print outs) so that emarking spreads organically without disgruntlement but to do so alongside rewarding electronic marking though simplifying systems and providing a top down push . Student demand and expectations should then translate into an entitlement to electronic feedback. They divide the staff into categories of early adopters, Healthy Sceptics and laggards. The EAs they say need to be kept on side by ensuring that they benefit from the time savings of emarking and that systems support their work. Healthy Sceptics - need to see benefits through saved time etc, need to hear student perceptions and have support of the early adopters. Both groups had technical problems to which there are solutions/workaround so support is needed to enable people to find these. The reluctant group require patience and support (p.17). They suggest administrative staff could focus on student support issues related to assignments e.g. chasing up students who have not handed in. They argue the assessment analytics carry risks as assessment is very emotive area and that it needs careful handling rather than simply dashboards (e.g. training in their interpretation). Although use of EA might inform a teaching and learning strategy. They conclude that Students see many benefits to EMA: see quote p.19 but that academic staff are much less uniform with some seeing benefits whereas others identify these 'benefits' as limitations - i.e. a highly subjective and individualized picture. Thus systems need to allow lecturers to mark in a way that suits them.