UEA University of East Anglia

SEDA Report

ACADEMIC LEARNING NEEDS
AND EDUCATIONAL TECHNOLOGIES AT UEA –
AN ETHNOGRAPHIC FUTURES RESEARCH PROJECT

A SEDA small grant project

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INTRODUCTION

Enhancing students' digital literacies has now become a key responsibility for HE lecturers. As lecturers are key enablers in the development of students' digital abilities (Bennett, 2014), it is essential for universities to provide appropriate educational and training development. However, this is proving difficult for many lecturers as they may lack the time, training, understanding, and sometimes, the enthusiasm to explore different technologies and design learning accordingly. It is therefore essential for staff development centres in universities to address lecturers' needs for support.

The Centre for Staff and Education Development (CSED) at the University of East Anglia (UEA) already offers a variety of training and educational events to enhance the digital capabilities of academics. The SEDA project was designed to contribute to a review of the existing CSED provision in the area of technology-enhanced learning. It invited 'digital pedagogues' to imagine the future of digital pedagogy at the university, using an Ethnographic Futures Research approach (Dator, 2002; Textor, 1980) to elicit their views. This qualitative approach has been used to explore potential socio-technical futures for education. In our project, it involved using three different scenarios about the future, which participants explored to formulate different possibilities for future action in relation to the use of technology in teaching and learning. It was selected to help deliver the project objectives, namely:

- enable digital pedagogues to explore the future of technology-enhanced learning within a 10-year horizon
- identify common themes within these explorations to inform the range of services offered by CSED
- identify organisational factors that could support or hinder future digital practices.

The report collates the following outputs to support the learning needs analysis conducted by CSED, in the hope that other HEIs may find the Ethnographic Futures Research a useful approach:

- a summary and analysis of the digital pedagogues' projections
- recommendations for educational and training development at UEA
- an evaluation of the suitability of EFR for staff development planning.

ENHANCING LECTURERS' DIGITAL PRACTICES

The use of disciplinary relevant software, the emergence of VLEs and social media, and the potential of devices such as tablets and clickers have been presented as ways of enhancing the traditional forms of meaning-making in universities. However, these put pressure on lecturers to think of themselves as "confident, agile adopter[s] of a range of technologies for personal, academic and professional use" (Beetham and Sharpe, 2011). This section outlines key issues in the digital literacies of lecturers and the challenge

Digital literacies and academic practice

Digital literacies are usually discussed in relation to students' use of technology, but it is a much wider issue. In the context of universities, how lecturers use technology is also a source of possible concern though in different ways as for students. A brief examination of definitions of digital literacies helps to reveal this complexity. The definition proposed by JISC (2014) emphasises a range of "capabilities which fit an individual for living, learning and working in a digital society". While skills are important they represent only one facet of what being digitally literate involves. Beetham and Sharpe (2011) identify further layers in a pyramid model of digital literacies including access, skills, practices and identities, thus taking into consideration some social factors. Bennett (2014) adopted this model to produce a 'digital practitioner framework' that attempts to map the complexity of using technology in academic practice (Figure 1).

Figure 1: Bennett's digital practitioner framework (2014)
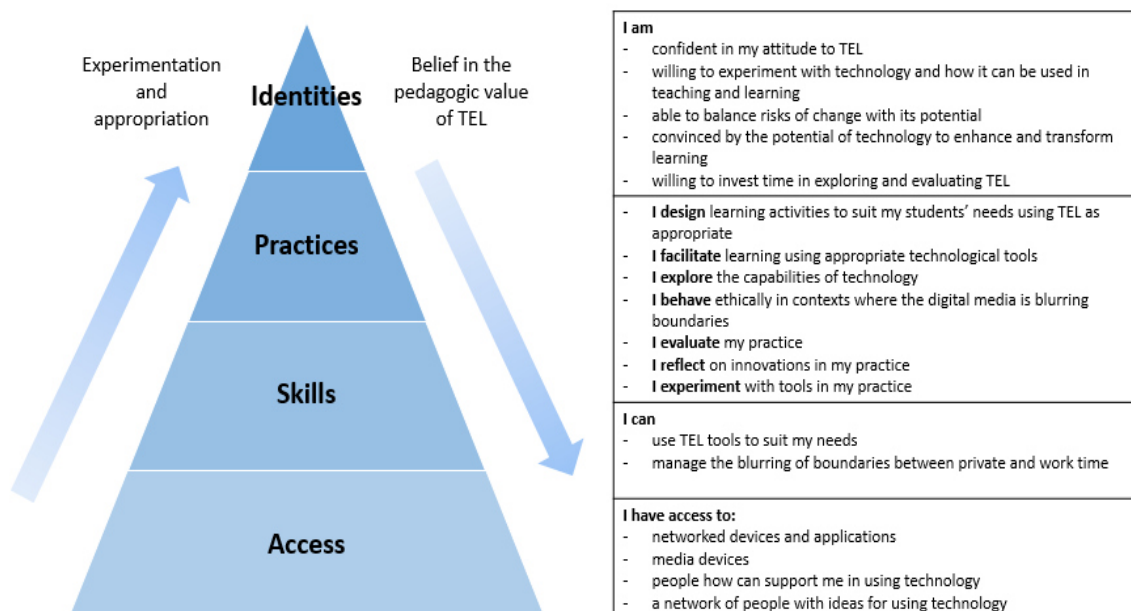
Bennett's work highlights the importance of goals in lecturers' motivations: most lecturers are interested in creating conditions that enhance student learning rather than in becoming digital pedagogues *per se*. It is essentially a belief in the value of technology that affect lecturers'

willingness to invest time in (re)appropriating technology for pedagogical purposes. This model provides a useful basis to articulate lecturer's digital literacies with academic development interventions as discussed below, though it suffers from some limitations as, like other models of digital literacies, it focuses mostly on individuals' characteristics. This does not make is easy to identify the influence of disciplinary practices or institutional pressures to use particular technologies; for instance, software approved across the institution may not be seen to support disciplinary practices such as close reading or textual annotations, thus leading lecturers to explore technologies located beyond the 'walled garden' of institutional software (Flavin, 2015). Nor does Bennett's framework helps to link individual practice with wider trends or issues in the wider network society: lecturers need to recognise that technology use is likely to exacerbate inequalities in digital engagement unless they mediate the use of technology appropriately (Facer, 2011; Jenkins et al., 2006; Mitchell, 2002). They may also wish to consider the powerful interests that promote the use of technology and the future directions for education (Facer, 2011; Facer and Sandford, 2010).

Challenges for academic development

The ability of lecturers to use educational technology has long been a concern (Goodyear et al., 2001) and represents an on-going challenge for academic development. Using Bennett's framework suggests possible ways forward for staff developers that go beyond a techno-centric or functionalist approach in CPD provision (Baran et al., 2011).

Access

The issue of *access* may at first appear relatively straightforward to address as universities make available computers and a wide range of software including institution-wide applications (e.g. VLE, library databases), disciplinary relevant applications (e.g. data analysis software) and support for interactive leaning (e.g. clickers). However, other applications may be available to address the needs of particular disciplines. Thus many lecturers – and students – decide use applications such as social media or apps available on mobile phones, suggesting a misalignment between institutional technology and learning and teaching practices (Flavin, 2015).

Skills

Skill development may also appear a straightforward issue. Universities offer a wide range of training courses to upskill lecturers, students and researchers. Yet knowing 'how to' use a particular technology does not necessarily prepare lecturers to manage a pedagogical relationship. For example, to use clickers effectively lecturers need not only to attend training on the use of clickers and Turningpoint software; they also need to consider lecture design and student activity (as shown for example in Prunuske et al., 2012). As these may be separate training events, it can be difficult to be sure that lecturers have receiving all appropriate training and are using the technology to best effect.

Practices

Gunn (2010) notes that the skills-based approach to build operational capacity is of limited value since most lecturers now understand the core functions of the most common educational technologies. To enhance lecturers' digital practice, academic developers need to

find other ways of supporting the development of a wide range of pedagogical approaches which are inflected by disciplinary practices, an understanding of the affordances of a particular technology, and when relevant, by professional expectations. This represent a significant challenge since resources are limited and therefore bespoke projects can be difficult to run. Gunn (ibid) suggests a range of alternative measures such as supporting lead practitioners, developing a community of practice, and disseminating case studies of good practice. Institutional guidelines and guidance are also needed to provide a framework to support lecturers who are willing to take on a variety of roles beyond that of subject domain specialist (Goodyear et al. 2001), including that of learning technologist.

Identities

To develop a digitally aware teaching persona, lecturers need opportunities to explore the complex relationships between their discipline, pedagogical approaches and technologies. This requires confidence and the creation of a distinctive relational habitus in the development of digital literacies that configures the links among self, tools, tasks, and others in digital activities (Underwood et al., 2013). This is therefore the most difficult layer of Bennett's framework to address for academic developers. Measures such as training events, consultancy-type projects and the development of a community of practice may not be enough. Peer mentoring could provide a suitably personal and exploratory approach, but is also very staff-intensive. Such a form of support would work best within an institutional culture that supports pedagogical experimentation and actively provides support in various forms (Gunn 2010).

METHODOLOGY

As Facer and Sandford note, "education is a future-facing activity" (2010). It therefore seems legitimate to use a future-oriented approach to explore how lecturers think about technology – another future-facing domain. As a form of qualitative enquiry, Ethnographic Futures Research (EFR) is concerned with the discovery and examination of different scenarios about the future (Dator 2002, Textor 1980). EFR does not study the future as such, as it is a construct without objective existence. What does exist are the participants' "present set of images as to possible or probable future cultures, and [their] preferences among those hypothetical cultures" (Textor, 1990) for their sociocultural context. These are worth eliciting and analysing as they can influence the process of change through which the participants' views about the future could become the present (in the present study, the training and educational provision offered by CSED and wider institutional factors). Textor et al. emphasise the importance to formulating such visions: "A community or society without a clear image of what it wants to get is hardly likely to end up wanting what it does get" (1984).

EFR has been used to elicit experts' views about the future of education (e.g. Dator, 2002; Facer and Sandford, 2010; Redecker and Punie, 2013; Textor, 1985) as well as about the future of digital engagement (Mitchell 2002). It therefore seemed a legitimate approach to consider to elicit lecturers' views about the future of their digital practice, as well as a potentially interesting addition to academic development activities that could complement more conventional methods such as surveys. The ethnographic element stems from the situatedness of these propositions, since participants are seen as key informants who are encouraged to explore possibilities within their own social context (Textor 1990).

Scenarios as the "fundamental building block" of EFR

The key method for eliciting projections of the future is the interview; in this study we also used a small focus group to find out whether a joint conversation would bring other kinds of projections about the future. The aim of the interview is to elicit participants' alternative anticipatory propositions of the future for a specific sociocultural setting (UEA in the present project). Projections differ from forecasts or predictions or utopias in that they form "a story, an imagined future, and deals essentially with what a particular situation could, might, or is most likely to be, at a specific horizon date" (Textor 1995). The "fundamental building block" (Textor 1980) of an EFR interview are three types of scenarios: optimistic, pessimistic and realistic or probable (in that order), to be placed on a continuum of desirability. First, participants focus on an ideal situation to create a vision of the future within the realm of plausibility (here in terms of their use of educational technologies at UEA), and then consider factors that may affect how or whether this vision is achieved. Together the scenarios create a holistic expression of how changes could be implemented within the context of UEA's four Schools.

The technique for the interview is that of *elicitation* rather than structured interview, which means that "within wide limits, the interviewee is free to move in directions of his own

choice, and to construct scenarios in terms of his own categories, rather than being asked to use the categories of the researcher" (Textor 1980:23). The main appeal of EFR is the way it frees participants' imagination and allows them to explore possible cultures that could exist, thus generating rich data then be used to map training or educational needs and/or other institutional initiatives. A particular issue for EFR researchers to look out for is "tempocentrism" (Textor 1980), that is, a tendency for participants to consider their own time rather than consider alternative futures; providing a ten-year horizon helped to manage such a natural tendency.

The series of individual interviews and the focus group followed the principles identified by Facer and Sandford (2010) for exploring future digital practice in education settings:

- challenge assumptions rather than predict the future
- avoid a technologically deterministic approach
- recognise how values and politics shape our visions of the future
- acknowledge that higher education has responsibilities that need to be reflected in these visions

Research design elements

To structure our project, we adopted Textor's five design elements of EFR projects (1980, 1990).

1. The population and culture whose future is explored

The research was limited to the UEA context, and explored the perspectives of various lecturers who acted as informants for their particular setting. Our purposive sample included:

- two leading digital pedagogues with recognized experience at UEA
- five newer lecturers with less experience but a shared interest in using technology to support learning and teaching
- two support staff whose roles rely the use of the technologies at UEA and work closely with student and/or staff to enhance the student experience.

The project was conducted within an ethic of respect towards the participants. They were informed about the nature of the project and about the approach followed within the interviews and focus group. They were asked to read the summaries written after the interviews and make any changes they wished. To protect their anonymity of the participants, the report withholds all names, role titles, and specific disciplines.

All participants shared an interest in technology enhanced learning. Why involve such staff with such a specific profile? There are known benefits to restricting an exploration of future digital practice to lecturers with recognised experience or interest in the area: Clegg et al. (2000) stress the importance for participants in ICT-focused courses to have a "common baseline of experience [to] enable them to convey what their specific requirements are." By inviting only interested staff, the baseline was much higher, and through their practice and interest in technology-enhanced learning, such staff are more likely to be in a position to envisage future developments in the use of learning technologies. The idea of such a collegial

but focused approach is inspired by the New Media Consortium's Horizon Project which capture experts' views in a wiki and distils them in a yearly Horizon Report (e.g. NMC Horizon Report 2016).

2. The domain of culture under consideration

The EFR study is limited to an exploration of what the future might be like in relation to digital pedagogical practice. We encouraged participant to think in personal, disciplinary and organisational terms. While some of the information we received may be beyond the scope of the training that CSED can offer, it is also important to take a wider view and pass on relevant concerns and suggestions to relevant UEA departments.

3. The horizon date

This was limited to 10 years in future, partly because of developments in ICT fields are so rapid. The field of higher education itself is also affected by other pressures, such as the implementation of the Teaching Excellence Framework.

4. The forces driving sociocultural change

It is undeniable that technology is creating changes in society in general and higher education in particular. EFR is not technologically deterministic, and our stance in the project was co-evolutionary, recognising that both society and technology are mutually influencing and shape human practices (Facer, 2011). So we considered that both lecturers and students find ways of shaping their use of technology within their disciplines. Other forces to consider include changes in the higher education sector.

5. Underlying assumptions

Textor (1990) stresses the importance of making such assumptions explicit, to provide some degree of consistency across scenarios. These include the belief that the UK will remain a democratic society, that there will be no ecological catastrophe affecting the UK, and that the use of educational technologies will continue to be perceived as a key component of learning and teaching practice (in general and in UEA Learning and Teaching strategy) as well as an essential feature in the professional lives that graduates typically aim for. There was also an assumption that education has a key role to play in creating a fairer future for society and that it needs to consider whether the use of technology promotes or hinder this role (Facer 2011).

Analysis process

After conducting the interviews and focus group were conducted, we summarized participants' contributions and sent them for checking. Brief summaries are included in the next section of the report and the detailed notes are provided as appendices. Working within an interpretive paradigm, our next step involved working iteratively through the data to identify themes, mapping how these occurred in the optimistically, pessimistically, and most probably conceived future cultures, while making every effort to respect the participants' perspectives and recognising that participants normally build on existing patterns within the institutional culture to surmise changes or continuities. We then used our thematic analysis to draw conclusions and to offer recommendations for CSED and,

where relevant, for other departments within UEA. Our context of interpretation was limited to the particular culture under study (UEA) but it is hoped that readers will find it possible to see similarities with their own context.

FINDINGS

Summary of UEA learning needs survey

To contextualise the findings from the ethnographic futures interviews, this section first summarises key points from a UEA survey into the learning needs of all staff. In 2015, UEA's Business Intelligence Unit conducted a survey to ascertain staff engagement with the training provision offered by the CSED. Overall the response rate was low, so findings can only be treated as indicative, which was in part the impetus for using a qualitative approach to reach a better understanding of academics' needs. This present report focuses on academics' responses to the survey.

Within this group of UEA staff, 52% reported needing training in innovative teaching practices, including with new learning technologies and subject-specific software and statistical analysis. They considered this was a continually developing area and thought their job performance would be enhanced through on-going training and access to information about available technology. Though the survey highlighted a general preference on the respondents' part for face-to-face events, academic staff indicated that they would consider online training and distance learning to develop their practice with educational technologies.

Summaries of individual interviews

Participants were from all four UEA Faculties and covered a range of roles. To anonymise all findings, the summaries below do not use participants' real names, titles, and disciplines. Detailed interview summaries are provided in the Appendix.

Gregg

The first interview was with 'Gregg', a lecturer in the Faculty of Social Sciences. He reported no training need as he is very competent with the mainstream learning technologies in use at UEA. In his optimistic views of the future, he saw an extended use of technology and additional time and support given to staff to explore possibilities. He saw communities of interest and an 'information desk' as key elements in improving the uptake and use of technology in teaching and learning. Gregg's pessimistic scenario centred on the top-down introduction of technology and the lack of a responsive technical support system, partly due to the increased size of the university, which would both affect the quality of interactions between students and lecturers. In his realistic scenario, he thought the university could provide targeted support and time for staff and students to develop required digital skills; he also thought that, by making physical and digital spaces (e.g. wiki) available, the university could support the development of a community of interest.

Beth

'Beth' is one of the two support staff that we interviewed. In her optimistic scenario, Beth firmly positioned educational technologies as a way of blending HE study with busy lives, in a way that is responsive to the needs of individual learners. She also saw these technologies as a means of enhancing existing teaching and learning practices, though she recognised that both

students and academics would need support to make this optimistic scenario more probable. Beth's pessimistic scenario focused on the potential of educational technologies to be recuperated to create a 'banking' view of education (Freire, 2000), particularly if academic staff do not reclaim technology to support educational relationships. In her realistic scenario, she emphasised the need to help lecturers to embrace their role as facilitators of learning rather than as content providers and to use technology accordingly (and wisely).

Claire

'Claire' is a lecturer in the Faculty of Arts and Humanities. She expressed no particular needs in relation to her own use of technology but is keenly aware of her students' needs in relation to technology, particularly from students with learning needs or non-traditional backgrounds. In her optimistic scenario about the future, she envisaged that UEA would provide all students with tablets to make it easier to embed applications into everyday learning and teaching practices. She hoped for a more user-friendly version of the VLE and for easier forms of online marking, particularly for non-textual forms of assessment. Her pessimistic scenario concerned the impact of technology on contact time and a possible differentiation between universities, some offering generous contact time and others pressing for online resources to the detriment of personal engagement. In her realistic scenario, Claire drew on the existing practice of some universities to provide tablets, and the importance of a differentiated, disciplinary approach to the use of technology in learning and teaching which would benefit students' employability.

Danielle

'Danielle' is a lecturer in the Faculty of Medicine and Health Sciences. She portrays herself as not being particularly interested in technology but the interview showed a strong ability to orient herself in relation to digital practices. Her optimistic scenario included a bank of specialist videos to support the development of students' clinical skills in specialist areas, and more widely, interactive resources which could perhaps from the basis for a MOOC. Danielle also included dedicated technical support in this scenario. Her pessimistic scenario based on an extrapolation of current problems with the VLE at roll-over time and the lack of time given to staff to develop their skills with technology. Her realistic scenario focused on what she saw as reasonable expectations regarding technical support and the availability of information about the use new technologies in learning and teaching. She also considered that the bank of specialist videos could become a reality, perhaps involving interdisciplinary collaboration with the department of Drama and Creative Writing.

Francesca

'Francesca' is one of the two support staff that we interviewed. She has a great deal of direct contact with students and also works closely with lecturers to provide bespoke, discipline-oriented support to students. Her optimistic view of the future centred on 'professional conversations' with lecturers, support staff and students that would enable her to enhance the services offered by her department. Francesca's outlook is much broader than her specific responsibilities and use of technology. Her pessimistic scenario considered the limited ways in which the VLE is used as repository rather than as an online meeting space; she was also concerned about how the institutional culture might enforce particular technologies or practices. Her realistic scenario focused on make 'professional conversations' possible through a range of initiatives such as micro-CPD, unconferences, bulletins for Associate Deans of

Learning and Teaching, and the provision of physical and digital spaces. Her vision is that of a supportive and inclusive culture of technology use.

Tadeusz

'Tadeusz' is a lecturer in the Faculty of Science. Like other participants, he expressed no particular learning needs in relation to his own use of technology. He was particularly aware of institutional priorities and differences in opinions among colleagues regarding the educational uses of technology. His optimistic scenario included a clearer focus on students as producers and as partners in curriculum development, with technology as means of developing those roles. He also considered two institutional possibilities to improve pedagogical practices across the institution: the use of corpus analysis to check that assessment tasks show progress against Bloom's taxonomy and the use of lecture observations to ensure that active learning is adopted more widely and consistently. Tadeusz was very aware of the ethical issues and of the resistance such ideas would generate. His pessimistic scenario concerns the emphasis placed on static content in what he saw as a misguided desire to please students, rather than as using technology to encourage interactions and critical thinking. For his realistic scenario, Tadeusz believes that awareness the pedagogical foundations of digital practice will gain ground, provided there are opportunities to share and review good practices.

Focus group: Kathryn, Nicholas and Nadya

The focus group was unfortunately smaller than expected with only three participants, but this enabled each participants to explore different futures in greater detail. In their optimistic future scenarios, 'Kathryn' and 'Nicholas' (Social Science), and 'Nadya' (Arts and Humanities) included readily available technical support and advice relevant to their disciplines, the creation of a community of interest (including students), and a variety of spaces (physical and digital) to support interactions. Their pessimistic scenarios included a lack of staff agency in decisions about technology, a widening gap between staff and student skills, and a lack of institutional investment in tablets. The realistic scenarios focused on having time to explore and experiment, with appropriate and easy access to support and training.

Thematic analysis

Project participants shared a number of key aspirations and concerns about the future of technology use at UEA, with some ideas being framed either positively or negatively. The following recurring themes were identified in the interview and focus group data. These are concerned mostly with issues of practices and identities, to use Bennett's digital practitioner framework.

Support and time

A key theme in all three types of scenario was the need for enhanced support and extra time for learning and using technology. Its different facets included:

- readily available technical support when technology problems occur in teaching rooms; participants viewed localised support as a necessary step in the uptake of institutionally approved technologies
- advice for course teams as they design courses, targeted to support disciplinary practices
- information about upcoming technologies to keep updated and make decision-making easier about the inclusion of technology
- support when considering and experimenting with technologies 'new' to the lecturers concerned
- time to learn and confirm learning about technology, as well as to develop appropriate social practices (e.g. team work around e-assessment)
- time and support *for students* to learn how to use and benefit from educational technology
- an 'information desk' to help lecturers identify specialist support across the university.

In some pessimistic scenarios, participants saw technical support becoming more generic and less responsive to disciplinary and course needs, particularly as the university increases in size. This would make it hard to develop relationships between lecturers and learning technologists and other support staff, which in turn would affect how technology is taken up and used innovatively in teaching and learning. Nadya also saw problems in the different ways in which students and lecturers use technology and talked of a 'gap' between the two. Pessimistic scenarios included lack of time and training and the negative impact on the development of skills and confidence.

Some of the issues listed in this section are concerned with *access* – not to technology itself but to information about educational uses of technology. The lack of information and time reported with participants affected their ability to develop appropriate pedagogic *practices*, hence the need for different kinds of support.

Community

The idea of a 'community' to share knowledge and ideas around technology and more widely about pedagogical practice was a recurring theme in optimistic and realistic scenarios. Francesca's phrase, 'professional conversations', captures well a range of aspirations around improved flow of information among lecturers, with academic support and learning technology support, and with students. Participants expressed an interest in the creation of a 'support group' or 'community', the nature of which could best be likened to an "affinity space" (Gee, 2005) given the variety of potential participants, interests and disciplines. For some participants, students were seen as key members: as users of technology, as producers of digital artefacts, and as contributors to curriculum development.

Participants gave some thought to mechanisms that could support conversations, including:

- digital and physical spaces for people to meet
- a 'repository' of case studies in the use of technology to share good practice
- bulletins for Associate Deans of Learning and Teaching within the Faculties
- events ranging from micro-CPD to 'unconferences'
- more access to and input from relevant services to drive the conversations forward.

In her realistic scenario for the future, Francesca saw a supportive and inclusive culture that promotes the learning and teaching goals of students, lecturers, and support staff. For Tadeusz, this would enable the sharing of sound pedagogical practices around the use of technology, and enhance students' higher learning skills. Though none of the participants challenged the use of the technology, some of them felt that their agentic role in the use of educational technologies needs to be reclaimed (Gregg, Claire, Nicholas).

Improved use of the VLE

Participants expressed a wish in their optimistic scenario for an improved VLE and for enhanced practice with the VLE. This message was particularly clear with the participants who are in a position to work with other colleagues and hope that the VLE will be used in more imaginative ways than as a repository of information. Participants who were interested in the use of tablets expressed a clear wish for an improved interface, particularly on mobile devices, to mirror a little more closely the kind of apps that students use and therefore provide a more inviting experience of e-learning. They also indicated a strong interest in improving e-assessment, particularly for non-textual forms of assessment.

In the pessimistic scenarios, there was a concern for a 'repository' approach to the VLE which Tadeusz saw as potentially symptomatic of a transmissive approach to teaching. For Tadeusz, this was tempered by an awareness that lecturers go beyond the walled garden of the VLE to use interactive apps to engage students in real-time (e.g. clickers, Twitter, YikYak, BlikBook. PeerWise). For Beth and Claire, this approach to the VLE was problematic in other ways, not just for their futures at UEA but more widely across the HE sector. Like Coopman (2009), Claire saw this increased textualisation of VLE use as way of reshaping students' relations with lecturers and with the university, leading to a very different experience, with perhaps wealthier universities offering more contact time. For Beth, this limited understanding of

technology could be particularly pernicious as it could support managerialist approaches to technology usage and make it easier to impose a 'banking' view of education (Freire, 2000) where both students and staff have to comply with transmissive views of education rather than use technology to explore and expand knowledge.

For some participants, it is a realistic to expect the VLE to work well, including for e-assessment (e.g. email notifications). Danielle pointed out that medical staff expect equipment in operating theatres to work, so lecturers could legitimately have the same expectations about core technologies at UEA. Beth saw the VLE as a kind of 'mission control' which lecturers and students could use as a safe base while exploring other technologies available in the wider internet; adequate technical and pedagogical support is needed for both.

Investment in specialist technology

Some participants included references to discipline-specific technological resources. In their future scenarios, Claire and Kathryn talked about the benefits of UEA equipping their students with tablets and relevant apps. Giving students such devices would make it possible to make assumptions about student access to hardware and software and to develop innovative disciplinary teaching and learning practices accordingly, including forms of assessment currently not possible as students don't have the necessary equipment. This would tie up with the idea of students as users of technology and as producers of digital artefacts. In her pessimistic scenario, Kathryn thought it unlikely that UEA would provide tablets for her students. In contrast, Claire saw the distribution of tablets to students as a realistic possibility for the future, particularly if it was limited to disciplines that have made a strong case for their use (supporting specific learning and teaching practices, employability).

Another form of specialist technology is the use of videos within the Health Sciences, to cover the difficult domains of mental health and learning difficulties and help students develop a strong understanding of how best to support services users with such conditions. In her optimistic scenario, Danielle pointed out that such videos could be shared across the entire Faculty of Medicine and Health Sciences, and more ambitiously, could form the basis for a MOOC on specialist consultation skills.

Transformative potential of technology

In their positive scenarios for the future, Beth and Tadeusz put forward ideas not shared by other participants, using a higher level perspective. Beth focused on the potential of technology to provide students with more flexible and wider access to higher education and to encourage knowledge creation (e.g. in active lectures using doubledutch software to support student discussion). Tadeusz provided a cautious examination of how technology could be used to improve teaching practice and enhance the nature of challenges that lecturers set for their students. As his ideas were in some ways related to the use of analytics, he saw possible ethical issues – a concern echoed by Gregg.

As Gregg and Tadeusz come from disciplines that use quantitative research approaches, it is perhaps not surprising that both considered the use of analytics and metrics and expressed concerns about how these could be used or even 'gamed' in their pessimistic scenarios. Gregg talked of a 'paradigm shift' that could be enabled by analytics if appropriate training was offered to lecturers; however, he was also concerned about quantitative data being used in administrative process with students or in staff appraisals/promotions, with neither group being asked for their consent or necessarily fully understanding the implications of the data being collected. Tadeusz was also concerned about the data being used to push technologies that students claim to like (lecture capture) to the detriment of other technologies more suited to their development as scientists. Gregg and Nicholas also expressed a concern about being pressured to use particular technology in their pessimistic scenario.

In her realistic scenario, Beth noted that a cultural change was needed within the institution to help lecturers see themselves as facilitators of learning (as well as subject specialists) and to increase their awareness of the possibilities of educational technology in fulfilling this role. Gregg and Danielle also mentioned the importance of receiving information about different types of technology available so that they could keep abreast of developments and enhance their digital literacies.

CONCLUSIONS AND RECOMMENDATIONS

To find out about UEA lecturers' needs in relation to technology-enhanced learning, we used an EFR approach to gather staff perspectives and also to trial this approach to ascertain learning needs. This section contains our conclusions and recommendations regarding the training/educational provision and to the use of EFR in academic development.

For CSED

The interviews and focus group did not point to any specific training requirements, with one exception (use of analytics). Indeed some participants pointed out they were able to attend to their training needs, though one (Nadya) highlighted a gap between lecturers' and students' digital skills. So the project was of limited value in terms of recommending the (re)development of specific training events, though CSED will act upon Gregg's important contribution regarding staff understanding of analytics. This issue is now addressed in the MA in HE Practice and a staff seminar will be offered next academic year on this subject.

Participants viewed the future as a "real site of responsibility" (Facer 2011) and consequently expressed needs that are not currently met by CSED in the hope of influencing the review of its existing provision. While CSED and the Centre for Technology-Enhanced Learning (CTEL) offer regular technical training events, included 'at elbow' support, there is no equivalent mechanism for academics to ask for pedagogic support from CSED. CSED could therefore diversify its services in order to address needs identified by participants, namely:

- support when developing new courses (Gregg), new work practices (Danielle, Francesca, Gregg, Tadeusz), or new identities (Beth)
- access to a repository of case studies (Gregg) and of information about technologies that lecturers could consult for developing their practice (Danielle, Nicholas)
- a greater awareness of pedagogical innovation (Francesca, Tadeusz).

Such needs may hint at the maturity of UEA as an organisation in terms of educational practice with educational technology. As most participants in our purposive sample were comfortable with technology, their issues were most likely to be at the level of practices and/or identities to use Bennett's pyramid model (2014). This is not to deny that traditional training support are still needed (as suggested by the UEA survey conducted by the Business Intelligence Unit and by participants' comments about the common use of the VLE as repository) but a type of consultancy support is also required for lecturers who are comfortable with technology and wish to further enhance their pedagogical practice with technology.

A continuum of measures could therefore be envisaged by CSED to address a wider range of needs with:

- at one end, continuing the range of existing formal events and short courses to address technical skills and seminars to explore pedagogical issues

- through enabling 'professional conversations' supported by various digital and physical spaces (e.g. a multi-authored blog to collect case studies or to outline the potential of various technologies, an unconference, a dedicated space for conversations about learning and teaching)
- to piloting new services that could include consultation (e.g. to review planned use of technology in course descriptions) or time-limited embedded consultancy (e.g. to improve the use of interactive technologies, or to improve the use of the VLE).

The new services outlined here could potentially support innovative practices more effectively than current CSED provision, as more advanced practitioners would get more targeted advice and support would focus on teams and/or courses rather than on individual lecturers. Such an approach could encourage a continuous collaborative process of critical reflection and action around technology-enhanced learning – a move away from competency-driven approaches to software training. It would represent a paradigm shift mirroring the social constructivist approaches advocated for enhancing student learning. An evidence-based approach to project evaluation would be needed to find out how successful such an approach would be (Gunn, 2010).

For UEA

As EFR is focused on understanding a culture (Textor 1980), it is unsurprising that participants commented explicitly on institutional factors in their scenarios for the future. The main issue they concentrated on a step-change in the institutional support for digital pedagogy; this would involve adding time allowances for learning and adopting technology, providing of specialist technologies, clarifying how analytics might be used, and providing high-level support for developing a community of interest in digital pedagogy.

How lecturers' time is allocated was identified as an important factor in the uptake and development of technology-mediated pedagogical practices. At present, lecturers are not awarded specific time to learn and then to consolidate their learning regarding technology. This means that developing digital capability is perceived as something enthusiasts do in their own time at best or as a resented burden at worst, which limits how quickly or effectively technologies such as the VLE can be used. As this issue is beyond the scope of what CSED can offer, it will be reported to the Academic Director for Learning and Teaching Enhancement to discuss possible ways forward (e.g. special time allocation when new technology is rolled out, or for time-limited initiatives such as the introduction of a new technology).

Participants mentioned two specialist technologies. Deploying these technologies is also beyond the scope of CSED services, so the need for tablets and videos will be reported to the Academic Director for Learning and Teaching Enhancement with possible recommendations. For example, the introduction of tablets could be considered as pilots for specific courses, to be supported by a strong pedagogical case, rather than being envisaged as a university-wide measure. The production of videos on consultations skills and mental health could be considered of value for the entire Faculty of Medicine and Health Sciences, and could also be form the basis of a MOOC to complement the existing suite designed by UEA (the MOOC could become part of curriculum of courses in the health sciences).

Training in the use of analytics was identified as an issue to address in the CSED provision. It has becoming easy for lecturers to view access logs and some research stresses the potential benefits for course design and management as well as for the educational research (Baepler and Murdoch, 2010). However, Beth and Tadeusz voiced concerns about such uses of data. Selwyn also highlights the role of data in managerialist approaches in HE, the rise of so-called 'dataveillance' and the reductionist nature of data-based representation (Selwyn, 2015). Clarification on the part of the university is needed about what data is collected, from whom and for what purpose, following JISC guidelines (2015).

Finally, participants expressed a need for culture change and increased support for digital pedagogy. Francesca provided the clearest vision of what this culture would nurture: a supportive and inclusive culture of IT use that goes beyond technical training and promotes the creation among lecturers, support staff and students of relational habitus that encourage the productive use of technology to engage with learning and the wider world, and to develop and produce new knowledge and understanding (Underwood et al. 2013). Participants provided clear ideas regarding the mechanisms that could be employed to support this change. While CSED could be instrumental in making some of the ideas become realities (e.g. physical space, digital spaces such as a wiki, events such as an unconference), high-level support is required (e.g. administrative support), as well as an articulation of what an education at UEA stands for. Such needs are not unique: Gunn (2010) noted that supportive organisational structures, change management processes and a sense of shared ownership are key enablers in creating a different culture around technology-enhanced learning. Beth, Claire and Tadeusz were concerned about the managerialist and utilitarian tendencies emerging in Higher Education, reflecting a common unease with new visions of education as a means of prepare young people for the knowledge economy and of the relationships between education and the use of technology (Facer, 2011).

EFR in academic development

To the best of our knowledge, ethnographic futures research has not be associated with academic development and learning needs analysis, though it has been used to explore alternative futures for the HE sector in Europe (Redecker and Punie 2013) and teacher education (Jasman and McIlveen, 2011). We therefore present this project as a kind of methodological exploration that may be of value in academic development since "stories we tell about future are powerful resources for shaping our sense of possibilities and our readiness to fight for change" (Facer, 2011).

EFR is associated with conventional ethnography, and therefore shares similar limitations and benefits. As a form of qualitative research, EFR is time-consuming and subject to the same potential limitations in terms of researcher bias. Textor (1980) notes that "the ethnographer does not – and of course could not – shed himself [sic] of what he knows about the extant culture". Nor is EFR exempt of possible threats to credibility, transferability, dependability and confirmability which are discussed at length in the literature on qualitative research. The methodology also creates ethical problems that differ from those found in conventional ethnography: as they construct different cultural scenarios, participants express their values and their perceptions of the institution they work for. Textor (1980) notes that such

candid perspectives are extremely valuable for researchers but, depending on the context, could have detrimental effects on participants. We recognise all the issues listed above, but also wish to draw attention to the potential of the methodology and its focus on participants as informants for their disciplinary and/or departmental settings.

Participants' responses

Rather than asking for a 'vision' or following a tight interview schedule, EFR required participants to build an image of how a particular issue might unfold in the future within their own contexts. All participants responded positively to the unusual format for the interview: in as much as the word 'fun' can be associated with a research method, the scenario-based interviews seem to engage participants in a way that, in our experience, surveys and traditional interviews do not. The appeal to participants' imagination worked particularly well to help to uncover the lived experiences and aspirations of lecturers regarding the use of technology in their practice. Consequently, the data collected was far more varied than expected and of use not only for the Centre for Staff and Educational Development but also across the university.

Rich data

EFR yielded unique insights into how lecturers orient themselves towards the role of technology within their discipline, their university, and in the case of Beth and Tadeusz, the HE sector as whole. As Textor (1980) indicated, there was a "measure of consistency and patternedness" in the participants' positions, suggesting that beyond the differences due to their disciplines, participants experienced to the institutional culture in similar ways though they might frame the same issues (e.g. need for time to explore technology) as probable or as unlikely. Instead of considering the use of technology solely as a skill, participants consider the wider social and institutional settings and identified potential barriers, as can be expected from a methodology that aims to uncover cultural issues rather than individual problems. Addressing issues such as time and support or community-creation is more complex that providing training or equipment, as it is also a matter of continued support and engagement for services such as CSED and UEA's Centre for Technology-Enhanced Learning.

Suitability of EFR

Our project complemented the university-wide survey in learning needs in useful ways. The project used EFR in a rather pragmatic way, to explore issues and uncover possible solutions. Following Facer and Sandford (2010) we found that the use of different scenarios helped to "challenge the assumption of a single inevitable future and provides an accessible means of collating significant amounts of evidence and opinion". While the interview data did not suggest that specific courses or events should be put in place to support academics' use of educational technology, it suggested different ways of working such as internal consultancy, affinity spaces, or micro-CPD would be worth considering to provide suitable responses to academics' needs. We suggest that EFR is a suitable methodology for staff developers interested in positioning training and educational provision within the wider culture of their institution.

As this was our first foray in the field of future studies as academic developers, we did not seek to go beyond a pragmatic approach. Yet the project captured critical perspectives towards the use of technology (e.g. students with learning difficulties, diminished agency in technology

use) which could be approached in different ways, through formal training and/or as subject for 'professional conversations'. We are aware that the use of EFR could be extended further in more critical ways: for example, the field of critical futures studies links explorations of the future with issues of sustainability and global citizenship to empower educators, students and communities (e.g. Inayatullah, 2008). Such perspectives may provide fruitful avenues in academic development and educational technology research.

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APPENDICES

Interview brief

The following brief was summarised in an invitation email and presented in full at the beginning of each interview.

CSED won research funding from SEDA to explore the perceptions of UEA academics regarding possible future in their uses of technology in teaching and learning. This small research project is part of a wider learning needs analysis that CSED is conducting. The interviews with academics are designed to complement the findings of a UEA0-wide staff survey.

During the interview, you'll explore three scenarios about what the future might bring:

- An optimistic scenario – if you could get all the technology you would wish to support students, what would the future look like? Consider your practice, your discipline, and if you wish, university factors
- A pessimistic scenario – in a least favourable scenario, what would the future look like? What would impact your practice the most?
- An intermediate, realistic scenario that is most probable – what would your practice look like in this version of the future?

This approach is called 'ethnographic futures research'. It has been used in educational research and in research on digital engagement, to develop a vision of the future and to find ways of making this vision a reality.

After the interview, I'll write up a summary which I'll send you to check; feel free to change or correct anything which you think doesn't represent your thinking. To protect you anonymity, your name, title and disciplines will be withheld.

Detailed interview notes

Interview with Gregg

The first interview was with 'Gregg', a lecturer in the Faculty of Social Sciences. He reported no training need as he is very competent with mainstream learning technologies (e.g. Excel, Blackboard, clickers), though he welcomed the idea of other technologies becoming available in future. His scenarios focused on institutional-level topics and how they impact his professional practice.

Gregg's optimistic scenario centred around the increasing use of online facilities to support students, and also more time for staff to learn about the potential of technology in support pedagogy and the relationships with students. He thought that course teams could be encouraged to produce a narrative regarding their use of technology and that they would receive specialist support for learning technologists and academic developers to do this. To support such initiatives, a general 'information desk' could guide people towards the most

likely support person. In terms of relationships across the university, Gregg hoped that thought that staff with common interest in educational and in technologies could find ways of sharing experiences and expertise, either online or through networks.

Gregg's pessimistic scenario considered the worsening of existing trends and on the impact of the expanding size of the university. He was concerned about trends within technical support which is generic rather than departmental, slow to respond and has high staff turn-over, which make it hard to find the 'right person' to solve a problem or even discuss an idea. These trends make it hard to develop relationships with tech support which in turn affects the quality of teaching and students' learning experiences. Gregg also was concerned about the top-down introduction of technology and feared that consultation with teaching staff would not get prioritised.

As UEA gets bigger, there are strong risks that personal relationships will be affected. For the staff-student relationship, the challenge will be to use technology in an effort to personalise educational experiences. Analytics could be used in this way to capture individual students' trajectories, but this requires skills - will there be sufficient training for staff to use these sensitively? Or will the use of analytics become an admin process with reminders or notifications? Or, more importantly, will there be discussion with staff so that they can have a say in the use of metrics and decide what matters in their area? This represents a paradigm shift in human relationships which may not be well explained to staff and students. This would be particularly problematic if analytics are used in appraisals, promotions or performance reviews.

Another consequence of the increasing size of the university, is the specialisation of academic staff to cover more advanced or niche areas of knowledge. While this may be beneficial for the institution, this could make it harder to know for lecturers to know what their colleagues are doing and to cross-fertilise ideas (it was unclear here whether this comment was about pedagogy, technology, or disciplinary content).

In his realistic scenario, Gregg considered ideas that can be, in part, solutions to the problems highlighted in the pessimistic view of the future or ways of making the optimistic scenario more achievable. For example, he considered that getting e-assessment to work in his department is entirely achievable (and was in fact achieved in Semester 2 2016), well ahead of the horizon window of 5-10 years. However, Gregg also thought that, in a realistic vision of the future, staff could be given time and support not just to learn technology, but also to develop new social practices (e.g. for e-assessment within teams of markers, use of analytics), though he recognises the institutional pressures. He made a similar case for students who are not always as proficient with specialist technology as lecturers are inclined to believe. Associated with the idea of staff support, Gregg explored the idea of targeted educational development for the disciplines and perhaps also having long-term relationship with academic developers to raise awareness of possibilities and ensure continued enhancements. He also suggested having a wiki for organisational information that staff could update, to make it easier to 'navigate' the university and support the creation of communities with shared interests.

Interview with Beth

'Beth' is one of the two support people we interviewed. She used to be a lecturer but now works closely with a wide range of staff in her support role and is very knowledgeable about educational technologies. She expressed no particular training needs but instead considered the wider picture of how technology could impact pedagogical practices within UEA.

In the optimistic scenario for the future, Beth sees technology as a means of widening access to Higher Education to people who might not be able to access otherwise, and of blending education with people's lives, thus echoing Facer and Sandford's views on networked learners (2010). Her own experiences as a former Open University student has made her particularly sensitive to these potentials for the use of technology in education. She also sees technology as a way of delivering a more personalised form of education, where learners can engage at their own pace in their own environment and get support (or extra challenges) to reflect their learning journeys. She sees technology as a life-enhancing and 'colourful' way of supporting interactions between people and of 'getting ideas glowing'. Beth gave the example of doubledutch use in a conference that she recently attended: this app enables participants in a lecture or conference talk to share their thoughts, take pictures of slides and annotate their photos, thus showing the multiplicity of interpretations and questions that can arise when a group of people share their ideas when co-present. She acknowledged that using such technology requires new skills for lecturers and students alike.

In the pessimistic view of the future, Beth expressed a concern for the managerialist turn in higher education which could centre on reuse of materials and on getting students to conform and comply – rather than explore and develop intellectually. Her fear is that one day there might not be enough educationalists to care about this 'banking' view of education. She saw how students could be made complicit in this view as they are concerned about job prospects. She was very concerned about the lack of appreciation that some lecturers have about this negative potential for the use of technology, and that refusing to engage with technology is not a way of changing how it is used. She explored the potential of augmented reality in teaching and learning but was concerned about how such technologies could enforce standardised ways of learning.

For her realistic scenario, Beth thought a culture change is needed in universities regarding the position of knowledge and their role in relation to students: content is no longer the sole prerogative of the university, so lecturers need to become more aware of their identities as facilitators of learning and of the various ways in which technology could enhance this role. The continued (but improved) use of the VLE is can be instrumental in this scenario as the technology can offer both students and staff with a 'mission control' space from where they can explore other internet technologies and practices. Beth noted that UEA staff are interested in filming short lectures for flipped learning, and that providing adequate support (both technical and pedagogical) is a realistic objective to ensure active learning takes place.

Interview with Claire

'Claire' is a lecturer in the Faculty of Arts and Humanities. In her approach to the use of technology, Claire was particularly aware of the needs of students in general, but also focused on the needs of students with learning needs and non-traditional backgrounds. Like 'Danielle', her scenarios are also clearly influenced by disciplinary concerns.

Claire was very aware of the benefits that technology could bring to student support and outlined exciting possibilities with the use of smart technologies. In her optimistic scenario about the future, she envisaged that UEA would provide all students with smart devices (at present about a quarter of student numbers do not own smart devices), in particular tablets, so that it would be easier to embed applications into everyday teaching practices. The aims would be to reduce differences between students and ensure that all students would have access to the same applications. For example:

- all students could access Pokémon Go to experience what 'augmented reality' means, or social media to evaluate what social networking involves
- they could explore with different forms of digital assessment, including video-based materials
- on-screen reading would be easier than on a laptop, so online close reading could take place in seminars, and both lecturers and students could use digital annotations.

In her optimistic vision of the future, Claire expressed a hope for a more user-friendly version of the VLE especially on mobile devices. Her students do access resources regularly, but do not really engage interactively with these. She also expressed a wish for easier forms of online marking, particularly for non-textual forms of assessment. In a positive version of the future, students would be able to submit visual materials and staff would be able to annotate these materials easily, without feeling constrained by the limitations of administrative systems.

Claire's pessimistic scenario for the future was centred on changes in the student-lecturer relationship. She was concerned that an emphasis on technology could be used as an excuse to reduce contact time – rather than enhance it. She was not resisting new pedagogic practices, such as flipped learning', but insisted that even with those, students still need to feel that they are 'studying at UEA'. In a dystopian view of the future, she expressed a fear that there could be a two-tier system among universities, with some offering generous contact time, while others pressing for computer-mediated forms of support focused on textualisation of learning rather than active personal engagement.

Claire pointed out that some universities already provide their students with tablets, so her optimistic scenario is not necessarily about the future and could be considered a realistic expectation about the future. She thought that a disciplinary approach could be adopted to provide technology to students, to mirror the curriculum and the expectations that some lecturers have of their students' digital literacies. She also saw the distribution of tablets as a way for the university to achieve its goals to go paperless; at present students like to have readers collecting relevant resources because reading on computer screens is rather difficult. Claire also saw easy access to technology as a way of embedding digital literacies within courses and thus enhancing the employability of Arts and Humanities graduates through experiential learning with technology.

Interview with Danielle

'Danielle' is a lecturer in the Faculty of Medicine and Health Sciences. She portrays herself as not being particularly interested in technology but the interview showed a strong ability to develop herself in relation to digital practices.

Danielle's optimistic scenario focused on the creation and use of videos to help students in the health sciences engage with service users with learning difficulties and/or suffering from mental health issues. She felt this is particularly important to have video resources available to give students vicarious experiences in order to bridge the gap between practice and theory and to recognize good or poor professional practice. Various organizations provide such videos but they are expensive to buy or borrow, so Danielle expressed a wish about being UEA creating their own library of video materials. She pointed out that such resources would be useful beyond her own discipline since all health professionals will, at one point or another in their careers, work with services users suffering from mental health issues. A project had started to develop video resources but stopped as a key member of staff changed jobs. We discussed the possibility of creating a MOOC aimed at health professionals to help them improve interpersonal and consultation skills in relation to mental health and learning difficulties.

Another aspect of Danielle's optimistic scenario centred on the availability of technical support. She referred to her own learning journeys with Prezi and TurningPoint and thought that having access to knowledgeable individuals for a short while beyond initial training would be really beneficial for the uptake of technology. She considered having dedicated technical support readily available as essential to support practice. She also thought that informal staff support groups could be a good way of sharing ideas, solutions and good practice.

In her pessimistic scenario, Danielle extrapolated from current problems. She feared that system overload, particularly at the beginning of the academic year, could become worse. As examples, she mentioned problems with Blackboard roll-overs, the difficulties that some classroom computers seem to have in locating new users for the first time, the lack of training for teams in relation to Blackboard's e-assessment facilities. Danielle feared that organizational practices around the uptake of new technologies would not change: schedules are currently not being revised to give staff time to learn and get up to speed with new technologies (such as e-assessment this year).

For her realistic scenario, Danielle considered that providing adequate technical support and equipment is a reasonable expectation; so would having easy access to information about new technologies and their potential for teaching. She drew a analogy between the NHS and the university: in the same way that health practitioners expect equipment to be fully functioning in an operating theatre, lecturers could expect lecture hall equipment to be fully functioning and well maintained (lightbulb projects, sound, clickers, etc). Danielle also thought that providing a bank of suitable video clips could be achievable and could become part of a multi-disciplinary project between the Health Sciences Faculty and the department of Drama and Creative Writing. Finally she also thought that providing information about available or new technology could be manageable, to help lecturers consider possibilities and develop their digital practices.

Interview with Francesca

'Francesca' is one of the two support staff that we interviewed. She has a great deal of direct contact with students and also works closely with lecturers to provide bespoke, disciplinary-oriented support to students. Her role involves using specialist software as well as more generic applications such as the VLE. She expressed no particular learning needs in relation to

her use of technology that is not already met through existing training and support structures. However, her role brings her into contact with a wide range of attitudes towards the use of technology and of perceptions of her particular department, which sometimes limits the way she is able to support students.

Francesca's optimistic scenario centres around the idea of 'professional conversations' with lecturers, support staff and students, so she could fulfil her role more effectively (in a more targeted fashion rather than in a generic manner). She has a vision of how a shift in organisational culture and different mechanisms could lead to more innovative uses of technology; therefore, like 'Gregg', her outlook is much broader than her specific responsibilities and use of technology. In this scenario, there would be more opportunities for her to engage with lecturers about their pedagogical intentions, so that Francesca could create learning events (face to face and online) that dovetail with student learning tasks. This engagement could take the form of working directly with lecturers and/or of contributing to discussions on digital pedagogical practices.

The pessimistic scenario reveals Francesca's concerns about how the institutional culture could continue to frame the use of technology, pedagogy and the use of support departments in ways that limits the services that her department offers. She also expressed concerns about how the VLE could continue to be seen as a rather uninspiring repository of information, rather than an attractive online resource and meeting space where students can experience different forms of digital engagement.

Francesca's realistic scenario focused on making 'professional conversations' possible, using/enhancing existing mechanisms and creating new ones. She suggested realistic and achievable ways of creating greater awareness of CPD offerings and of the pedagogical implications of using technology. These include practical initiatives such as reviewing the range of CPD opportunities to include a range of events (from micro-CPD to the annual L&T conference), or providing bulletins for the Associate Deans of Learning and Teaching in each of the four faculties. Creating specific spaces (physical and digital) devoted to professional conversations would convey institutional commitment to improving the use of technology in teaching and learning (and to learning and technical in general). In this scenario, the main goal is to create a supportive and inclusive culture of IT use that goes beyond technical training and promotes an understanding of the varied goals of students, lecturers, and support staff.

Interview with Tadeusz
'Tadeusz' is a lecturer in the Faculty of Science. Like 'Francesca', he expressed no particular learning needs in relation to his use of technology that is not already met through his own explorations of technology or through existing support structures. As an innovator he is in contact with many colleagues and various university departments, so he is particularly aware of institutional priorities as well as with colleagues' perspectives on the educational uses of technology.

Tadeusz' optimistic scenario provided interesting ideas for using technologies to improving pedagogical practice, though he acknowledges that these ideas could be problematic in some ways. Given UEA's emphasis on active learning in lectures, he suggested that it is really important to understand what this means in practice and that lecture observations could give

a sense of how active students truly are (50% of the time? Or less – how much less?). Similarly he explored the idea of conducting a corpus analysis of assessment tasks held on the VLE, to find out how challenging these are when considered against Bloom's taxonomy, and whether complexity develops over time in a degree course or follows a path of specialisation. Tadeusz acknowledged that both ideas would involve a level of scrutiny that would be unwelcome by many lecturers, so great care would be needed in helping staff to become aware of their pedagogical practices and to understand the value of observing teaching practice. Less controversially, Tadeusz explored the idea of students as users of technology and as producers of digital artefacts. In his vision of the future, he thought this could be much extended, citing the use of current uses of PeerWise (a platform enabling students to create, discuss, and answer course related assessment questions), as an example of students engaging in the learning project of higher education and seeking to get the best of their degree experiences.

In his pessimistic scenario, Tadeusz considered the current limited usage of the VLE (limited as a repository) and expressed a concern for such practices carrying on; in particular, the practice of uploading lecture notes emphasises the transmissive view of the learning-teaching relationship. He recognised that some colleagues use interactive software located outside the walled garden of the VLE (such as BlikBook or YikYak) so interactive uses of technology may not always be visible. He was also concerned by the pressure to record lectures given the way students use it (binge-watching before exams); he feared that without guidance for lectures on how best to use this technology, lecture capture will be mostly used to respond to student wishes – rather than to student needs. Finally, Tadeusz expressed concerns about departmental cultures that engage little in the literature on pedagogical practice and innovation, thus limiting the uptake of technology or different forms of pedagogical relationships with students. More widely, he was also concerned about how metrics could be distorting the learning-teaching relationships, by putting pressure on lecturers to deliver what students like rather than what they need to become scientists after they leave university.

For his realistic scenario, Tadeusz believes that the trend in using technology in a pedagogically sound fashion will gain ground, provided there are opportunities to share good practices among the 'can do' people. He gave as an example how some lecturers are using clickers to engage students in conversations, rather than simply as a way of testing knowledge; this requires skills in asking questions that support various facets of student learning. He also discussed the need for lecturers who flip lecture to evaluate their practice, especially the interactions that take place during lectures, and thought that support could help lecturers to reach a 'post-flipping' stage. He also stressed the need to manage students' expectations (about viewing education as a matter of passing exams) and to use technology to support the development of higher learning skills.

Focus group

Regrettably, attendance was smaller than expected and the focus group brought together:

- Nicholas and Kathryn (Social Sciences, different departments)
- Nadya (Arts and Humanities)

As part of the a general discussion on an optimistic take on the future, Nicholas, Kathryn and Nadya talked about having easy access to support which would be embedded in their Schools

or Faculties. This support would be available to offer technical advice and targeted help with a disciplinary focus, and would include access to academic development support when courses are being designed, to ensure that the best tools and spaces (digital and physical) are being used. There would be time for lecturers to share their practices through case studies, to create communities of interest. The MAHEP would be a key element in helping participants network with colleagues; staff would get ½ day a week to study and experiment, and the course would offer suitable spaces (digital and physical) to support networking practices These communities would also include students conducting small educational research projects (as is currently the case in Pharmacy); these would help enhance students' digital literacy capabilities, as would a version of the Digital Voyager programme for each School.

Kathryn, Nicholas, and Nadya then developed their own scenarios. Nadya spoke about the technology (e.g. audio) that would benefit her discipline and how UEA needs to invest in it. Nicholas envisaged having access to different kinds of environments across the campus, including m-learning possibilities, and having a more consistent learning culture within his own department. He also would have easy access to evaluations of new technologies, to make decisions more easily about what to include in teaching and learning, and to make better use of time when experimenting. Kathryn hoped that there would be ways of making content more interactive and accessible, and echoed Nicholas's view about informed advice and the importance of having learning technologists readily available, in order to create an ethos of creativity.

In his pessimistic scenario, Nicholas thought that there would be more pressure to use particular technologies, and that staff would not be invited to consider what would work best for them or given time to make decisions; this lack of agency is already felt by some colleagues. Kathryn feared that UEA would not give tablets to all students even though this would enable consistency across equipment and software and would create a level playing fields among students. Nadya was concerned about the gap between students and lecturers in terms of digital skills.

In the realistic scenarios put forward by the focus group participants, staff would get time and support to explore e-assessment and explore its potential, particularly in relation to audio assessment. Students would not have to go to the Hub to get their feedback and could receive it via email. To develop technical skills, CSED would offer shorter courses more often, so that staff could book at times that would suit them best.