Exploring practitioner attitudes to the use of technology in the Further Education and Skills sector - *the case of the curious and the confident*

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Executive Summary

LSIS commissioned a study to look at how attitudes to using technology in teaching may have changed over the last 11 years and what implications this may have for training staff in more efficient ways to use technology in the FE sector.

This study has evidence that supports the following conclusions:

- In the past 11 years teachers have moved from being passive recipients of direction and instruction in the use of technology to showing a *curiosity* in the possible educational uses of a range of technologies. They now want guidance on the purposeful application of pedagogy to those technologies that they have already used in their private lives in order to enable a wide-ranging use of resources in their student-centred teaching and learning.
- Confidence is the critical factor in the successful uptake of new technologies
- The possible use of technology in teaching is as wide as the number of practitioners making use of it. The traditional central provision and hosting of software is increasingly being supplemented by the use of social media, "apps" and Web 2.0 tools. We are now dealing with a tapestry of applications being used for learning.
- There is no one best way to use technology. Best practice is less relevant perhaps with "effective practice" in any given circumstance replaces it
- Technology intervention in learning is fragmenting and is supporting highly individualised patterns of use. The common factor is good teaching and student-centred learning rather than the uniform use of large centralised technology hosted by the provider
- Training should be aimed always at the application of technology in teaching rather than reviewing all the technology can do in abstract
- Successful impact of technology is the degree to which it lacks "turbulence" in its take-up and its invisibility in day-to-day teaching and learning.
- In effect teacher e-confidence and institutional e-maturity become the same as institutional e-maturity is best measured by the degree of teacher e-confidence on display.

Based on lessons learnt in carrying out this survey we now think that the following consequences may need further consideration:

1. Teacher exchange by subject specialism across colleges is now easily accommodated through technology as the single most important way of influencing change in using technology (amongst other things) yet it is not happening effectively
2. Assessing the development of teachers might now best be achieved by characterising the higher level thinking skills that they demonstrate in practice. This would allow any training undertaken to be measured against a central common standard based on reflective thinking skills. This suggests that we need new ways of mapping teacher professional development, perhaps distinguishing between or combining personal, professional and staff development strategies.

3. The IfL* e-portfolio REfLECT is emerging as a possible opportunity for teachers to capture the meta-skills they demonstrate through the use of tags and hence show their individual development in a way that is not yet supported
4. An e-portfolio based on meta-skills could inform both the peer review as well as employer requirements for staff development and annual appraisal. A reflective portfolio-based approach accommodates the changing landscape for capturing development.
5. We believe that the encouragement of divergent thinking engendered by such an approach could lead to innovative reflection on professional and practice

The survey successfully pioneered an approach called "technology in action" which focussed on capturing a qualitative response to teacher's use of technology in practice rather than a quantitative check on the amount of technology being uses. Consequently the later stages of the study were based on the following assumptions:

• Confidence is the critical measurement in the effective use of technology
• Teachers who are confident in using technology in their lives are now curious as to how that use can transfer into their teaching practice.
• It is important to capture how people feel about their use of 'technology in action' rather than what technology processes they know
• A level of confidence in confronting technology to use in teaching is more important than the level of knowledge about the software

The statistics of the survey:

The study was completed over the last 10 months and draws on 871 completed responses from over 1,000 teachers surveyed across 18 colleges, 4 WBL/ACL providers and one Sixth Form College from England and Wales. The study produced 107,600 words of free response to the questions asked by the study, and over 300,000 words in the professional narratives we produced.

*As of March 28, 2012, following the publication of the BIS report on Professionalism in Further Education, the future of the IfL itself is in doubt and so this recommendation may prove inappropriate. However we believe that recommending the use of a shared reflective e-portfolio in professional CPD, such as REfLECT remains relevant.

Part One - The Study, underlying hypotheses and approaches.

Introduction

Since the beginning of the e-learning journey in FE on 29th November 2000[1], national agencies and Government Departments have been conducting surveys of technology use and implementation among providers and practitioners in the Further Education and Skills sector as well as supporting individual projects and institutional activity e.g. funding virtual learning environments in colleges. The most detailed survey of institutional and practitioner use of technology in the sector were conducted from 2000 to 2010 by Becta and the reports and analysis of these results were published annually and compared with results from schools in the annual review known to 2007 as the Becta Review and thereafter as the Harnessing Technology Review. These national surveys sought to provide a measure of e-confidence and e-maturity in the sector and among both institutions and practitioners and, in the latter years, progress towards the policy outcomes of Government Strategy for technology in education.

In both the organisational and practitioner studies, the focus on e-confidence and e-maturity was on the use made of specific technologies, seen as markers for e-maturity and of practitioner abilities to use those technologies for specific purposes. This methodology worked well and was readily adopted by European partners in the 2010 pilot study to explore the international benchmarking of practitioner skills (Becta 2010) and use of technology in five countries among 2,500 practitioners drawn from further education providers in the college sector.

Becta, the UK national agency for technology in education, which operated until March 2011, emphasised the distinction between e-confidence, based on the capability of practitioners and their managers in an institutional setting and e-maturity at a system level, which emphasises the capacity of the system to assimilate and respond to technological developments to meet the needs of learners and other stakeholders. A key measure each year of the Becta surveys was the calculation of e-maturity in the sector.

Throughout the decade covered by the Becta surveys, there was rapid development of the use of technology in the FE and Skills sector, including the almost universal adoption of learning platforms in colleges in two phases, first using proprietary systems from commercial suppliers and then through the widespread adoption of Moodle, an open source learning platform. Many work-based learning and adult education providers also use learning platforms along with the widespread adoption of web-based approaches to technology use. Capturing this use, as both the extent and scope of technology availability has developed, has become problematic, as researchers have to decide each year, with reference to other research, sector providers and practitioners, what were likely to be the markers of e-maturity and at

what point a particular technology is so embedded in its use that it ceases to reflect good practice and is "normative" or is no longer widely used for administration or teaching and learning.

While there is still great value in a specific focus on particular technologies and reported uses of those technologies in practice to assess progress towards particular indicators, the widening scope of technology use and the blurring of personal and organisational boundaries in technology use requires additional methods to explore e-confidence and capability. This project identified that exploration of practitioner attitudes is required, not least, to help identify training and development needs on a more personalised basis and to aggregate the data on these needs for organisational and national activity. While focusing on some key technologies the need was to explore attitudes to categories of technology rather than specific applications e.g. Web 2.0 technologies.

In 2008-09 a pilot study of staff attitudes to technology was undertaken at Thanet College, utilising a prototype of the methodology in Appendix 3. Analysis of the data in this initial study showed that staff attitudes to technology could be used to produce individual profiles and identify specific individual and group training/support needs as well as generating a provider profile which identified both capabilities and personal and organisational capacity for development to meet provider needs in relation to technology. The subsequent review of the data and the research paper produced has been accepted by the Institute for Learning (IfL) and has been reported by them.

In 2009-10 Thanet College carried out work for Becta and IfL on professional development and the meta-skills required of teaching staff in terms of their use of technology and their wider professional practice, which utilised the underlying rationale derived from the 2008-09 study. These findings and subsequent analysis have been used to develop the methodology of the current project.

The phases of this study

This survey has had three phases across 2011 and 2012 of which this report represents the third and final summative report. The initial Phase 1 produced surprising findings highlighting both the value of the "technology in action" survey approach but also highlighted the insight we have termed the "curious and confident" practitioner.

Both these insights were confirmed and deepened across the much larger Phase 2 survey, which gave the authors the confidence to make the specific recommendations given here.

Phase 3 meant that we had surveyed over 1000 teachers across the FE sector, confirmed the value of the survey approach and provided slight variations on the key themes, whilst highlighting the key finding that current practice is deeply student-centred.

The landscape for the study
We see our work set in the following scenario that in part acts as our hypothesis:

1. **The Pace of change** The rapid broadening and diversification of technology that needs to be understood as it affects purposeful pedagogy and the e-learning is at least 11 years on.

2. **Technology as a servant of learning** A desire to let technology uses and development follow the needs of the teacher and learner in whatever organisational relationship it finds itself. In other words there is not one model of approach - technology must follow where purposeful and effective pedagogy leads.

3. **Technology as the norm**. A rising expectation from learners that technology will become central and normal to the learning experience offered and the experience will be uniquely tailored to their needs

4. **Rise of the reflective teacher** Teachers must reflect as a mechanism to narrate development and the emergence of new technologies in the shape of reflective portfolios to accommodate this. We see the rise of the individual journey informing the group enterprise rather than the other way around.

In this work, the guiding principles were that:

1. It is desirable that individual staff members develop their potential to be more effective in their professional life and day to day practice as part of the larger **developing workforce** and that the use of personal reflection supported by technologies, such as e-portfolios, by every practitioner makes this possible.

2. A **developing workforce** is one that recognises the constant challenge of the new and possesses the imagination to apply the properties of technology to purposeful and effective teaching and learning and personal development to deal with these changes with confidence.

3. A **developed workforce** is one that tackles changing and uncertain circumstances with confidence

4. A **confident** workforce is one that is not afraid of the challenges new technologies may bring to their practices and is able to modify their work and its context to take advantage of the affordances of new technology

The current project extended the work carried out at Thanet College in 2008-09, during two phases in 2011, to a further 17 colleges, 4 work based learning providers and one 6th. Form college, drawing on 837 teachers' responses. A third phase in 2012 took the numbers to 871 full responses from over 1000 surveys (incomplete responses were not used)

In developing the methodology from the original study at Thanet College, the first sample was used to test the online version of the research instrument and as a result of the response rate and feedback from participants, it was decided to continue the work using the unmodified instrument with as large a sample as could be obtained in the period June to August 2011. In developing the analysis for the first phase of the study we were able to develop a detailed thematic analysis of the free responses and from this, generate practitioner narratives that provided new insights into attitudes and practice in relation to practitioner use and implementation of technology in the sector.

The purpose of Phases 1 and 2 of the current project has been to test the methodology, particularly the research instrument with larger samples than the original study to explore:

6. Whether this new method of gathering data was valid and reliable and acceptable to participants;

7. Whether the results of the survey produced findings that were consistent with current knowledge and extended understanding of practitioner views and practice e.g. REVEEL;

8. Generated sufficient data to be representative of the different components of the sector e.g. work-based learning, adult and community learning and colleges;

9. Provided new insights that could be used for personal and organisational development and feed into the development processes for providers and sector bodies such as LSIS, IfL, AoC, NIACE and AELP and others as they develop tools and initiatives to increase the utilisation of technology for technology enhanced learning; and offered providers and sector bodies a useful tool to support training needs analysis and CPD.

Whilst the largest phase of the survey, Phase 2, effectively confirmed the findings and the survey model used in Phase 1, Phase 3 was used to widen the institutions surveyed. The results obtained confirm that the survey model is effective, that teachers are student-centred in their use of technology, but highlighted a greater degree of working with colleagues and a wide-ranging use of video. There is some evidence that the survey works best when used at the end of the college year, as we saw the best response during the Phase 2 survey in summer 2011.

This full report provides an account of the methodology adopted (Appendix 3) along with a detailed analysis of the quantitative and qualitative data obtained from the respondents and provides a discussion of the implications of the findings for the sector and for future research and development activity.

A copy of the research instrument/questionnaire is provided in the Appendices along with a number of short practitioner narratives and the thematic analyses drawn from

subject profiles and the self-assessment categories using http://www.surveymonkey.com/s/thanet-lsis-survey as the delivery method for the survey.

Our results are drawn from the quantitative analysis of responses from 871 teachers from 18 colleges, 4 Work based learning providers and one 6th Form College from across England and Wales. We have received a further 107,682 words of free response text and have 300,102 words of narrative.

What did we find

The enquiring mind
From a reading of the of free responses and analysing the frequency of phrases chosen from the 8 types offered, there is a clear preference of respondents choosing the options and then describing 'an enquiring mind' in their approach to facing new technology. It is arguable that this demonstrates a shift in what might be called the e-learning journey in comparison with five years and more ago where teachers were expected to be relatively passive and wait for direction and instruction, seeing
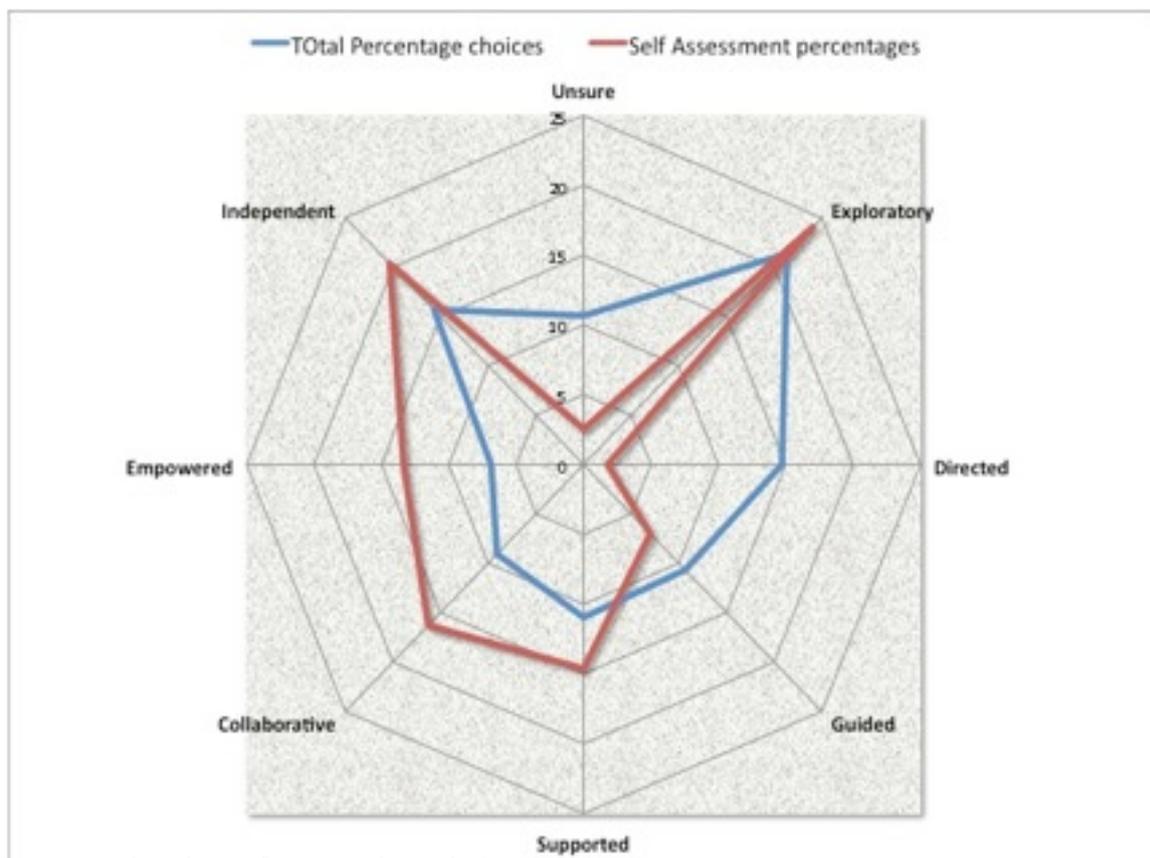

Figure 1 Radar Chart of 871 teachers choices.

technology use as a method of standardising approaches to teaching. Our survey suggests that teachers now prefer a more self-managed approach. There is less mystery into social technology generally, many respondents demonstrating an understanding of technologies not necessarily gained from work.

The confident teacher

This raised level of activity is producing better informed teachers who bring an understanding of social media to the classroom even if they are unsure how to bend it to the purpose of good teaching. Texting is a good example of this. There is clearly a sense of less fear in exploring technology and there is more often uncertainty into the application of technology in action in teaching rather than uncertainty in the thing itself. We detect less fear expressed in giving time and attention to exploring technology. This contrasts with a previous desire to be shown, told and directed where teachers felt they were 'too busy' to invest the time. The responses also suggest that resources are used on merit and not for cosmetic dressing. Perhaps teachers have moved their position from engaging with technology for efficiencies to technology for the quality of the experience of teaching and learning. Anecdotally we believe this is further supported by the emergence of the digital native into the teaching force who bring with them the properties of the 'no fear' generation in relation to technology.

The opportunity for wider influence

The narratives suggest strongly that the opportunity for teachers to consult and exchange ideas outside of college is still underdeveloped. Very little comment is made on any discussion or sharing occurring outside the immediate experience of the teacher responding. What there is remains formalised and directed. However the similarities in mindsets and approach suggest that efforts to support this process would be an extremely fruitful enterprise were it to happen. Research[2] suggests that the greatest change in teaching practice occurs where teachers exchange ideas and research supports this in identifying a common approach to assimilating the new. The narrative supports the view that teachers are more conscious of the value of the sector rather than of value to self.

The VLE

It is clear that the use of learning platforms is now normative, being embedded in nearly every FE College. It is perhaps a good example of high impact technology demonstrated by invisibility. (see section below on Impact). The learning platform of choice in over 75% of colleges is Moodle, which offers the widest opportunity for individuals and providers to configure the application to meeting specific requirement needs.

Web 2.0 technologies

Social Media technologies are understood in social terms but not in teaching terms. Texting for example is a familiar technology but not understood as an effective tool in a teaching and learning situation. Some teachers appear very sensitive to issues of safety and privacy. However in the third phase of the survey the use of video was highlighted, which may reflect the rise of interest in this as a resource given the publicity given to Khan's Academy as part of the rise of Open Learning in 2011.

Open outsourcing of technologies

There is very little criticism in the text by way of the wider culture of college organisation as a barrier to using technology. This is perhaps a reflection of the cheap or freely available nature of some technologies and the rise of a generation who grew up with Web 2.0 and see working with technologies not hosted internally by the provider or user ("cloud" technologies) as normal.

The diversity of technology in action

Our research offers a challenge to the perceived wisdom that technology is a force for centralising good practice, where benefits accrued from one experience can be replicated easily to others. Rather than technology becoming a force for unification and centrality, it is taking teachers and their learners into unique learning situations that work in terms of good teaching and learning that teachers are now able to articulate. It would be interesting to explore the degree to which technology is allowing teachers to diversify their approach and practice of curriculum design and delivery, challenging the organisational culture of central, settled methods of deliverables, based on 'inputs' and certainties of practice (see paragraph below on Divergent thinking).

The emotive & narrative responses to technology in action

Asking people how they feel about 'technology in action' instead of 'what they know' appears to provoke a need in respondents to explain or justify the reaction. Usefully for our purposes this resulted in a much higher than usual free response within the survey. This has provided a set of survey results with a far richer source of information than usual and it is possible to get a deeper understanding of a reactive measurement as we read how respondents justify or explain or defend their choices.

Getting the language right

A critical factor in the setting of the research is pitching the actions supported by the technologies within the current range of experiences and then describing their use from the 'uninformed' to 'normative practice'. Whilst it appears we have achieved this, it gives us a sense of where the sector is in terms of current activity and where the effort is in using e-learning. If the choices offered were too general and merely described widely accepted practices, respondents would be less able to give an emotive response. An example would be a series of questions about using Word to write notes. It follows that our research gives us an accurate picture of where the sector practice is currently.

An analysis of the narratives across Phase 1 and Phase 2 shows five particular themes recurring. They are: Students, Teaching, Colleagues, Moodle, and Texting & Blogs. In phase 3 the 6 themes are: Students, Colleagues, Teaching, Resources, Learning and Video (see Appendix 6). Arguably this suggests that Students, Learning and Teaching, Colleagues and Resources (in the broadest sense) are the key issues overall. Emerging from a survey on the educational use of "technology in action" it is interesting to note that 'Technology' as a theme did not appear in the top

choices of language. This suggests that teachers are far more interested in "technology in action" where it supports good pedagogy, or at the very least want to debate the merits in these terms. If this is the case then it further suggests a significant change in the cultural acceptance of technologies in the professional life of a teacher. It provides further evidence of the development of what we call the "digital practitioner". Rather than wanting to master the technology, teachers now want to master the application of the technology that works in support of good teaching and learning and are prepared to spend time personally to invest in its exploration. Perhaps the more profound changes in behaviour and degrees of impact are the most difficult to see. The generation that Prensky[3] called digital natives have now arrived amongst the teaching staff (The 'TeachMeet' initiative in schools[4] supports this premise) and they are making their presence felt; perhaps as the 'digital indigenous'.

The underlying thinking of our research is a better understanding of the notion of 'confidence' as we believe this to be a key to the successful assimilation of technology into learning. The markedly positive response demonstrated from the exploring or enquiring mind suggests that teachers on the whole believe that the risks inherent in exploring new technologies to improve teaching and learning is now considered worthwhile

Fluency	The ability to rapidly produce a large number of ideas or solutions to a problem
Flexibility	the capacity to consider a variety of approaches to a problem simultaneously
Originality	the tendency to produce ideas different from those of most other people
Elaboration	the ability to think through the details of an idea and carry it out

rather than something to be shunned or be undertaken under the direction of an expert.

The sector has talked about e-maturity and the desire to show maturation as a justification for the use and development of technology in learning. We would contend that this maturation process turns out to be a measurement of the journey of increasing confidence in tackling the unknown of technology and how these technologies support teaching and learning. We now believe that the notion of teacher confidence offers a marker of maturity and consequently e-maturity and e-confidence are, in relation to e-learning, one and the same.

A hundred flowers blossom (Divergent Thinking)[5]

Our approach allows each of the responses to be reformatted into individual narratives. The range and refinement of software available now allows the use and then capture these idiosyncratic learning journeys as stories. We have as many individual stories as respondents. We have now emerged from the constraining forces of early technologies that saw passive development in terms of batch or group training, reflecting what might be called "convergent thinking" which arguably lead to herd responses and towards a now more evolutionary approach, where experimentation leads to the survival and implementation of the most effective solutions in individual teaching circumstances, what might be called "divergent thinking".

Arguably divergent thinking is the precise approach needed to promote innovative thought and the application of new learning approaches, which is such an important part of how we develop the use of "technology in action".

The challenge for the future then is how to support the developing fragmentation of technologies, skills and processes brought to the learning table by teachers and students alike in the light of existing cultural pressures to conform and comply.

Part Two - The implications for providers and individuals

Meshing CPD and staff development (SD)[5]

Staff Development is a well-established practice of ongoing training managed by employers of teachers in colleges. CPD and reflective practice has recently been re-introduced to teachers through the work of the IfL. The ability to track personal learning journeys supports the development of divergent rather than convergent thinking, offering a richer, deeper and more insightful approach to ordering thoughts and should be encouraged as an approach to personal development.

Based on our premise that teachers are now in a position to better manage their own development and conditioning as professionals in further contributing to their colleges, we believe there is a mechanism and capacity now to bring all the strands together, requiring only a will to exist between the various agencies and colleges.

A behaviour that describes a professional approach

We now know enough about how teachers use technology in learning to devise a common structure, not of measurements but journey signposts that defines the degree of confidence/maturity and we offer one in our Meta-skills. These would be a set of common higher level thinking skills against which any training can be attached to one or more. *(see Appendix 2 for a suggested list)*

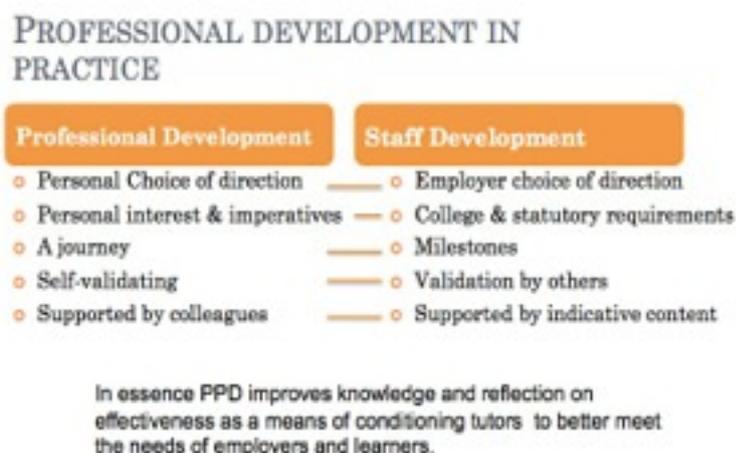### A method to define all training in terms of behavioural outcomes

The use of a reflective portfolio already given to every teachers in the sector provides a common mechanism at no cost to providers to capture, marshal, share, critically reflect upon, explain, plan and publish individual development and training.

An opportunity for staff to share in subject specialisms across colleges

The same portfolio mechanism, supported by the IfL and Staff Development managers can use the portfolio mechanism to support cross college dialogue in a manner not possible previously.

A mechanism to support college as well as tutor requirements for Staff Development (SD) and CPD

We see good reason, based on our results,

PROFESSIONAL DEVELOPMENT IN PRACTICE

Professional Development	Staff Development
○ Personal Choice of direction	○ Employer choice of direction
○ Personal interest & imperatives	○ College & statutory requirements
○ A journey	○ Milestones
○ Self-validating	○ Validation by others
○ Supported by colleagues	○ Supported by indicative content

In essence PPD improves knowledge and reflection on effectiveness as a means of conditioning tutors to better meet the needs of employers and learners.

and great benefit from combining in one place teacher requirement to complete staff training and PPD activity, allowing each to condition and inform the other, and present the outcome perhaps in different format to both employers for appraisal and for peer professional review via the IfL. Initial trials have been undertaken in support of this.

Our research suggests teachers are in a place where they would be able to embrace and apply the mashing of the two processes, perhaps by enabling them to dynamically 'navigate' their own professional development.

The immediate future of e-learning training should be directed at pedagogical performance rather than learning about the software. Over the last five years the 'digital natives' have begun joining the teaching profession and they bring with them new skills and a different approach to new technologies, what we have termed the 'digital indigenous.' It was evident from a number of responses that many teachers were familiar with technologies through personal use but wanted ideas and discussion to support its application in their teaching and learning world. Such training should move its focus from the application of the now relatively familiar social media to a concern with the as yet perhaps unfamiliar 'purposeful' pedagogy necessary to maximise the effective use of new technologies.[6]

Our research provides much evidence for the view of the maturing of FE sector practitioner attitudes to the use of technology. The original premise of inexperienced teachers requiring process training in how technology works is giving way to the expectation of confident teachers who want help to examine using technology in good teaching and learning practice, which has the student and the learning experience at the heart of their professional concerns. Staff now seem to have the ability to navigate their way through a range of technology options and uses with a primary focus on the student and learning, with an eye open as to how this also benefits their college.

Implications for other sector bodies

As highlighted in the Executive Summary the changes highlighted in the government document Professionalism in Further Education produced by BIS means that this section should be read with caution. However remain convinced that we offer useful information about rethinking the processes of professional development whatever the outcomes concerning who is charged with responsibility for its delivery.

The IfL should work with staff development managers to make better use of REfLECT as a means of supporting individual learning journeys through enquiry and reflection, both processes that lend themselves to the practice of reflective thinking and recording as a means of capture. REfLECT needs to be opened up to Colleges for staff development yet remain under the control of IfL members.

LSIS training should be aimed at practical application training with evaluation being based on reflective thinking and recording on individual impact as described in the Meta-Skills. REfLECT is a tool to capture and share ideas with colleagues and employers, thus drawing together formal and informal learning into one story of development. This requires closer working between the IfL, LSIS, & Staff Development Managers in colleges, or whoever is charged with taking this forward in 2012.

LSIS should explore ways to foster and support the exchange of teachers across colleges for sharing ideas and practice.

Training design should start from familiar activities and apply it in new ways. Examples could include:
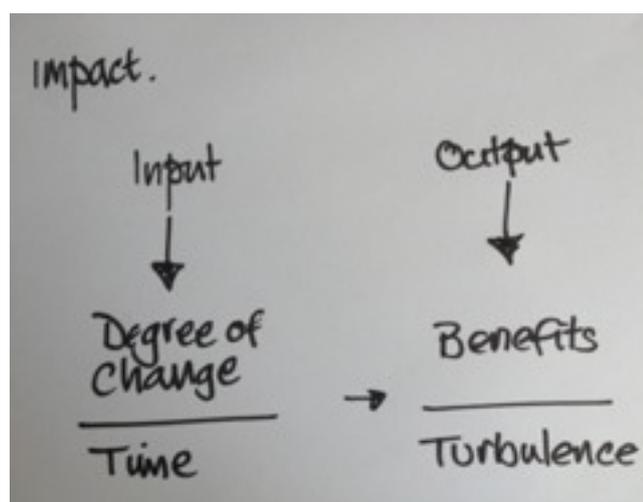
- From more familiar texting friends to texting in support of the administration of courses

- From taking pictures to using them in VLEs.

- From capturing a voice message to pod casting

- From running a paper-based NVQ to running an NVQ in an *e-portfolio*

All of this activity could be added as summative learning into an e-portfolio such as REfLECT.

A common set of meta-skills should be developed to support the critical thinking skills that are so important to the enquiry-led generation. Meta-skills or higher level thinking skills sets the measurement of professional acuity at a higher, less detailed level allowing the detailed to be interpreted more freely. A set of meta-skills, developed through previous research and project activity is proposed as an appendix to this Paper in order to stimulate further discussion.

Impact of e-learning
Considering the normalisation of many technologies into learning practice as evidenced here, it is possible that we have been deceived in a search for the impact of technology, expecting it to be physically manifested and overt in everything teachers do. It could be that successful impact is evidenced by the opposite; technology use being one element in many artfully constructed student-

centred learning experiences, part of everyday practice such that the technology is not really seen nor acknowledged, simply being used when deemed appropriate for learning as planned. This appears to be the case with the use of Moodle VLEs to pick one example. The better the impact of technology, the less it is seen. In terms of our approach, we are suggesting that there has been great change over time with many benefits having been accrued, with, critically, the greatest impact having had little turbulence. Perhaps only new or troublesome or unsatisfactory technologies with limited immediate application to practice remain on the surface and open to view, and thus to questioning and concerns?

Perhaps the most effective impact of technology actually occurs where its use is not obviously seen, nor recognised in the framing of immediate survey responses, but rather when that effective use only emerges through prompts that promote reflection on practice, as undertaken here.

Appendices
Appendix 1 - Sample Narrative Voices
Alton

I find work carried out with the VLE improves the quality of my work and learner results; I know what texting is and I may use it. I have taken part in on-line discussion with students for work purposes. I don't see how students working on-line could work in my circumstances. I write notes and guidance to support the College purpose. Using sound files is used as a method of submitting work or thoughts within the College. I understand how still images might help in teaching. I understand how video might help in teaching. I don't see blogging as having any educational value in my circumstances. I don't see social media as having any educational value in my circumstances. I have produced evaluations of experiences, training, conferences etc. I have set an activity where learning and progression is dependent on other people's activity. I speak to colleagues in the staff room and in the Office working collaboratively with students and other teachers in College and beyond is beneficial to me and my students. I see value in having an exchange of resources in some circumstances and have done some sharing. I have a colleague who is knowledgeable about technology who gives me informal help and support with my use of technology at work. I work with colleagues on a cross-college basis during training events. I rate myself as Supported.

City Lit.

I use the VLE routinely in different ways and this work is established in my practice. If I am understanding correctly what is meant by a VLE here - I use Moodle for my courses - uploading journal articles, book chapters - but also identifying websites and news articles of interest on websites, for my courses. In addition, I will occasionally link a YouTube clip related to specific topics for my students to then access online through Moodle. In the VLE - I upload materials copied and distributed in each session, but also utilise Moodle to provide extension readings/resources for those interested in specific topics. I try to ensure that the materials are accessible to all of my students - so usually provides a range of resources for all levels. I know what texting is and I may use it I have taken part in on-line discussion with students for work purposes. I have not used it my capacity as a teacher at City Lit, but I have used it on a number of occasions in my role as an GCE-level examiner, as well as in my capacity as an editor for a think tank based outside of the UK - online discussions and meetings are a means of keeping in touch and 'meeting' when colleagues are based elsewhere in the UK or globally. Utilise Skype as well as central for these purposes. I am aware working with students is possible through the Internet. I don't currently utilise this facility in my teaching at City Lit, but am aware that it is a possibility. One of my students' blogs regularly about our course topics, so I have 'conversed' briefly through his blog site to add to discussions. Computer based resources are an essential tool for teaching and learning and success in my work I have subscribed to pod casts for personal or professional reasons Podcasts from conferences or interviews as a resource for my students I have attempted to use YouTube clips in my course sessions as well, but have not always been able to get the sound to work in the actual class lesson I use still images, and so do my students as an integral part of teaching and learning. I have utilised free images from the internet - whether it be political cartoon images or maps - to indicate and highlight specific topics covered during a session I enjoy using videos to supplement or replace talking in lessons again, the use of pod casts or video footage of a specific conference proceeding. YouTube clip I have read blogs and know how to comment on one Groups in social media that are relevant and helpful for my work - Facebook LinkedIn. I belong to a few organisations that utilise listserves for emailing information and events to other members; yahoo groups do a similar thing - developing group forums for information and networking. Co-mentoring and having critical friends to share my professional experiences with is standard practice for me blogging via friends/colleagues blog sites; emails; online conversations and 'chats' Teaching through technology is often guiding and supporting learners to their objectives. Moodle Blackboard. I have used communities on-line with professionals outside the College Working collaboratively with students and other teachers in College and beyond is beneficial to me and my students. I have contributed to and regularly used resources from trusted websites, where ownership is not an issue I can ask technicians for advice on the operation of the technology as a user. I participate in collaborative groups whose members are drawn from different organisations and circumstances. I rate myself as Exploratory.

Mid Kent

I use the VLE routinely in different ways and this work is established in my practice. I know what texting is and I may use it I am aware on-line meeting with colleagues is possible through the Internet I have seen or heard of on-line student occurring in College. I have learnt new ways to create interactive materials that requires others to respond to the materials. I have seen an ipod (digital audio) work and understand what they are I have used

imagery with my learners to create class records and activity to support learning I understand how video might help in teaching. I have read blogs and know how to comment on one I have used social media for personal uses I have produced evaluations of experiences, training, conferences etc. I have used technology to allow others to follow personal routes to achieve a group objective. I have shared ideas and opinions with other staff and teachers elsewhere in the College Working with other teachers and non-teachers towards goals is logical and satisfying. I see value in having an exchange of resources in some circumstances and have done some sharing. I have a colleague who is knowledgeable about technology who gives me informal help and support with my use of technology at work. I work with colleagues on a cross-college basis to develop my use of technology continuously. I rate myself as Collaborative.

Havering

I use the VLE routinely in different ways and this work is established in my practice. My VLE is Moodle. I use it to allow students access to my PowerPoint and worksheets, past exams and mark schemes. Students also submit coursework via Moodle and receive feedback. As a department we store test results etc on Moodle. I know what texting is and I may use it I don't use texting with my learners. I only have personal texting facilities. I am aware on-line meeting with colleagues is possible through the Internet I do not use online meetings either personally or professionally. I have seen or heard of on-line student occurring in College. I do not use this. I have heard that you can leave yourself open to problems with this. Computer based resources are an essential tool for teaching and learning and success in my work I use Office programs to produce worksheets, PowerPoint and spreadsheets. I have used Yenka for virtual electric circuits. I have seen an ipod (digital audio) work and understand what they are personally; I use Cakewalk Sonar for music recording. I will be using this to produce some sound files for the BTEC forensics lessons as students need to understand how sound can be used as forensic evidence. I will use this with Audacity to see the waveforms in college. I have thought about using audio for giving feedback but have not got round to it. (Technically WMA files are better than Apple files in terms of size and sound quality.) I use still images, and so do my students as an integral part of teaching and learning I often have images in my PowerPoint and worksheets. I have used videos to support the contribution I have considered using videos to record experiments (I have previously filmed role plays) but have not got round to this. I have often found some videos on YouTube instead. I have used Windows Movie Maker and if I remember correctly, Pinnacle. I have read blogs and know how to comment on one Many blogs that I have seen are poor and I don't find it a satisfactory medium. I don't see social media as having any educational value in my circumstances I find other methods of communication preferable. I have read about and understand reflective thinking as part of professional development I regularly use reflective thinking, however, I do not write it down as I find this unnecessary and restrictive. Teaching through technology is often guiding and supporting learners to their objectives I have shared ideas and opinions with other staff and teachers elsewhere in the College I regularly talk to departmental colleagues and share resources. I take part in cross college learning communities. Working with others is a preferred method of working. I see value in having an exchange of resources in some circumstances and have done some sharing I regularly share resources with my colleagues. It saves us time. I search for resources on the internet but they often require some editing. I am able to access and use e-learning resources to help me acquire new skills and knowledge of technology used in College I usually work out how to use technology without help. I work with colleagues in my department. My colleagues in college are usually sufficient help. I rate myself as Independent.

Appendix 2 – The Meta skills

	Higher level thinking	Indicative description
1	Drive to think & work flexibly	The ability to use technology in different ways than originally covered in training or the Manual. Making technology bring learning to life. Personalising learning through the use of technology
2	Ability to adapt technology to purposeful pedagogy	The ability to make technology contribute to learning for learners rather than seeing technology as an end in itself. Includes widening participation, increasing retention, particularly amongst hard-to-reach learners
3	Vision to create imaginative blended learning design	Learning and demonstrating the skill of redesigning teaching and learning by blending in technology to other forms and methods of teaching and learning. This refers to skills developed through practice and engagement with peers and learners rather than in formal sessions or using formal learning resources
4	Curiosity to involve learners in curriculum delivery & design	The Learner Voice. Involving learners in the design and personalising of learning. Student e-learning monitors in classes. Involving learners in the experience of learning in the widest sense
5	Imagination to develop future learning plans	Using technology in helping learners to develop management of their own journey, to account for their learning and plan future learning. Improving the tutorial process, making learning more relevant to the needs of each individual learner
6	Desire to account for personal and purposeful effectiveness	Using technology to develop the skills of reflective thinking. Capturing ideas and themes to inform teacher learning journeys through personal learning space. Developing professional accountability
7	Capacity to develop collaborative and cooperative working	To look across and out of the organisation to work with and for others. An open mindedness. Working adaptively to accommodate the ideas of others. Assimilation of the best ideas.

Appendix 3 – Methodology

Sample

This project was commissioned during February 2011 with a project deadline of 31st March 2011 and subsequently, for Phase 2 of 31st August 2011. Phase 3 completed 31st. March 2012. The project team – Geoff Rebbeck (Thanet College), Fred Garnett (Consultant) and Nigel Ecclesfield (LSIS) contacted a number of providers asking for a sample of up to 50 practitioners from each provider. Five providers agreed initially to which a further ten providers were added in July 2011. The nature of the sample for both phases is less important than the testing of the research instrument, which it is intended to use on a wider scale in subsequent activity and each provider was asked to provide a purposive sample of their practitioner staff that was representative of;

1. The range of experience and confidence of staff with technology;

2. Subject discipline and teaching department; and

3. Offered a balance of participation in vocational and academic programmes by their sample, within the very restricted timescale required by the project.

Research Instrument

The research instrument developed for this project was developed from an instrument used in the research conducted at Thanet College in 2008-09, which explored practitioner perceptions of and attitudes to technology as a means of exploring personal and institutional capacity and capability in the use of technology. **The research and research instrument developed at that time took the perspective of exploring practitioner feelings towards 'technology in action'** rather than a more conventional rating of skills and activities adopted in other surveys such as the Becta national surveys from 2000 to 2010.

The instrument used in both phases of this study was developed using the Survey Monkey platform and consists of 19 questions in seven sections, which includes one section asking for personal information about subject taught, the respondent's name and organisation. The instrument was broadly similar to the original instrument used at Thanet College, but updated and adapted for use with a larger sample drawn from different providers. The questions are grouped on discrete pages and each page of the survey was given a heading corresponding to the seven sections. Apart from the personal details required, all respondents were asked, in each question, to choose an option from a drop-down menu of seven items and, if they wished to, add to their answers in a free-text box. The contents of the free text responses could be analysed in detail and used as a means of validating the responses provided in the drop-down menu as well as offering a source of detailed evidence about the rationale for the responses given and activities undertaken with technology. Over

107,000 words of free text responses were obtained, equivalent to 300 pages of printed text. These have provided particularly helpful insights into the responses to the questions and confirmed, in Phase 1 that no further modification was required to the format or question text before being used with a larger sample.

Gathering data

The survey instrument was set up in Survey Monkey and the E-learning Co-ordinators in each establishment were asked to identify 50 practitioners, who were representative of the provider's teaching staff and invite them to participate, with a small number being "held in reserve" if the response rate was poor. The 50 practitioners were then invited to participate in the survey, on a voluntary basis and offered a small incentive for their participation . This incentive included the option of being sent a copy of their completed survey response for CPD purposes.

Each practitioner contacted by their E-Learning Co-ordinator was sent an e-mail containing a direct hyperlink to the survey and encouraged to take part, but after this, the only intervention by the Co-ordinators was the sending of a reminder five days prior to the closing date for responses. The project team wished to minimise intervention by provider representatives and while they kept each provider up to date with the number of responses, on a weekly basis, further activity was kept to a minimum. Respondents were given the freedom to refuse to answer any of the questions and were free to participate or not as they wanted. Each participant received an e-mail from within their organisation providing a short outline to the project and a hyperlink to the survey, which took them straight to an introductory page detailing the purpose of the survey and assuring them of the security of the data and their anonymity when organisational data was provided to their E-Learning Co-ordinator.

Following on from the introductory page respondents were asked to provide personal details and then proceed to the following sections. As noted above, respondents could choose to withhold their personal details or responses to any question.

The sections of the survey were;

1. Introduction

2. About yourself and the context of your work

3. VLE, learning platforms and texting

4. On-line discussions

5. Using different media and formats in my work

6. What I do

7. Personal development, collaboration and reflection, which included a self-rating question using the typology devised by the project team
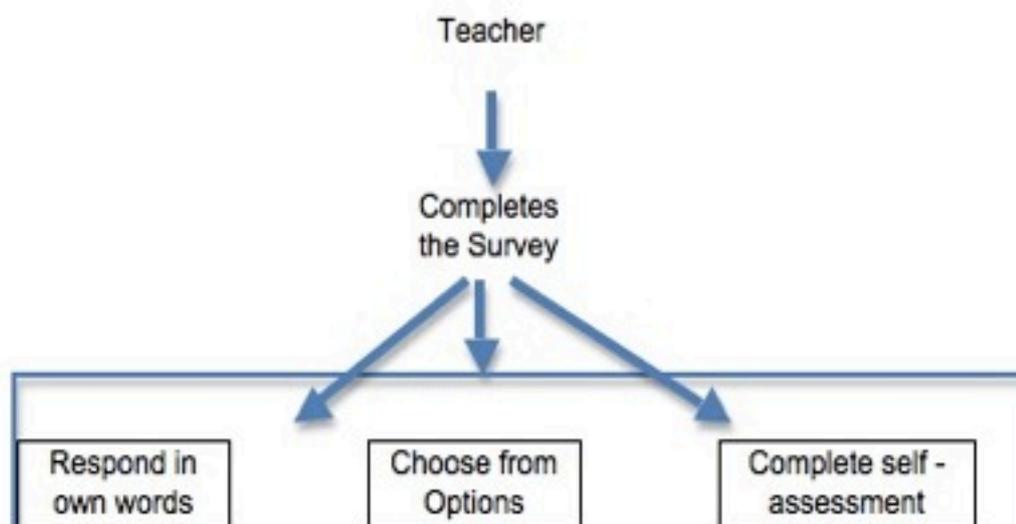
Using Survey Monkey allowed the project team to access data on a daily basis and monitor the number of responses, although no intervention was necessary to achieve the response rate reported below.

Data Analysis

The individual responses are automatically collected, stored and analysed by Survey Monkey and the stored data provides the initial analysis of the data input from respondents. For this project, the data was downloaded from Survey Monkey by the project team and subject to further, detailed analysis in Excel for the quantitative data. Cirilab's Speed Reader was used to explore the free responses and identify key themes in those responses as well as subsidiary themes and potential issues in relation to specific questions. Further analysis and review of the data was carried out by the project team using a range of different methods for particular pieces of data, and where these contribute to the analysis in this report they will be noted in the findings. Researchers interested in pursuing the detail of the methods used are welcome to contact Nigel Ecclesfield at LSIS for more detail and for information on related work sponsored by LSIS.

Given the size of the data files, they are not reproduced in full in this report, but are available in anonymised form from LSIS. The key data is reproduced in the "Findings" section and will be subject to further analysis as part of the follow-up to this study. It is hoped to work with a larger sample of providers, more closely matching the sector's profile in terms of size, location and other demographic details, in the future.

Appendix 4 - The Survey as a flow diagram

Appendix 5 – E-maturity Matrix

| Capability | Unsure | Rising Interest | | | Current change | | Normative | |
	1.Don't know	2.Exploratory	3.Directed	4.Guided	5.Supported	6.Collaborative	7.e-empowered	8.Normative
I have access to a VLE/ Learning Platform in my work for teaching and assessment	I do not know how to use a VLE/Learning platform to support my work	I have started to think out what I can do with a VLE	I do work on the VLE but prefer to be supervised when I do	I have been shown how to do things with a VLE, but	I do work on the VLE but don't require much help	I work with other colleagues on the VLE	I find work carried out on the VEL improves the quality of my work and learner results	I use the VLE routinely and this work is established in my practice
I use texting in my practice	I don't see how texting helps in teaching	I know how to use texting to communicate with my colleagues and learners	I know what texting is and how I may use it	I have seen educational uses for texting demonstrated	I have used texting at work with support from a colleague	I use texting with other staff as part of my work activity	I like to develop new uses for texting with learners and colleagues	I use texting regularly to reach learners and colleagues
I meet colleagues on-line	I don't see how meeting colleagues online could work in my circumstances	I am aware meeting colleagues on-line is possible through the Internet	I have seen or heard of colleagues meeting on-line occurring in College	I have contributed to an on-line discussion with colleagues	I have taken part in on-line discussions with colleagues for work purposes	On-line meeting with colleagues is now a regular part of how I work	Talking to groups of colleagues on-line is important to fulfilling my role	I do this regularly with others and complete activities other than talking e.g. Sharing
I meet students on-line as part of my work	I don't see how meeting students online could work in my circumstances	I am aware meeting students is possible through the Internet	I have seen or heard of student online meetings occurring in College	I have contributed to an on-line discussion with students	I have taken part in on-line discussion with students for work purposes	On-line meeting with students is now a regular part of how I work	Talking to groups of students on-line is important to fulfilling my role	I do this regularly with others and complete activities other than talking e.g. Sharing documents
I produce learning resources using technology	I am uncertain how producing computer based resources would help in College	I write notes and guidance to support the College purpose	I create different types of resources for people to use in different ways	I have learnt new ways to create interactive materials that requires others to respond to the materials	I am producing most of my work related resources by computer	I produce materials with my colleagues to enrich the student and College experience	Using computers to produce resources has improved my effectiveness and the quality of the College output	Computer based resources are an essential tool for teaching and learning and success in my work
I use sound files in my work	I don't see how the College would use sound files	I have seen an iPod (digital audio) work and understand what they are	I have listened and received useful information from an ipod package	I have subscribed to pod casts for personal or professional reasons	I have made sound files for students or others to hear.	Using sound files is used as a method of submitting work or thoughts within the College	I use pod casting routinely to support aspects of College life	Pod casting is a central method of supporting learning for me
I use still images in my teaching	I am not sure how still images would have anything to offer in my work	I understand how still images might help in teaching	I have used imagery to support the contribution I make to College	I have joined pictures and text together to create records or narratives	I have used story boards to capture work and to demonstrate techniques and important points	I have used imagery with my learners to create class records and activity to support learning	I enjoy using images instead of words.	I use still images, and so do my students as an integral part of teaching and learning
I use videos in my teaching	I am not sure video would have anything to offer College life	I understand how video might help in teaching	I have used videos to support the contribution I make to College	I have joined video and text together to create records or narratives	I have used story boards to plan work and to demonstrate techniques and important points	I have used videos with my learners to create class records and activities to support learning	I enjoy using videos to supplement or replace talking in lessons	I use video and so do my students as an integral part of teaching and learning
I blog	I am not sure what blogs are		I have read blogs and know how to comment on one	I have written a summary of an event for others to read	I have produced a blog entry inside College for myself	Blogging about my work adds to my contribution to the College	I find blogging is valuable in supporting what I do at College	I blog regularly for myself and others, with the purpose of supporting students and College life
I use social media	I am not sure what social media are	I don't see social media as having any educational value in my circumstances	I have used social media for personal uses	I have contributed to social media forums	I have initiated an activity in social media	Social media helps me to develop my work	Groups in social media are relevant and helpful for my work	I use social regularly for myself and others, with the purpose of supporting students and College life

	Unsure	Rising Interest			Current change		Normative	
Capability	**1.Don't know**	**2.Exploratory**	**3.Directed**	**4.Guided**	**5.Supported**	**6.Collaborative**	**7.e-empowered**	**8.Normative**
I reflect on my work and personal development	I don't understand this yet as a concept of self development	I have produced evaluations of experiences, training, conferences etc.	I have read about and understand reflective thinking as part of professional development	I can think and write reflectively	I use a portfolio to store reflective thinking and writing with other aspects of my CPD	I have occasionally shared my thoughts and conclusions with others for mutual help	Writing and thinking reflectively makes sense and improves my understanding	Co-mentoring and having critical friends to share my professional experiences with is standard practice for me
I see using technology for teaching and learning as a joint enterprise for staff and students	I think our learners are too passive to do this	I have found time to allow students or colleagues to dwell and explore issues valuable	I have used technology to allow others to follow personal routes to achieve a group objective	I have set an activity where learning and progression is dependent on other peoples activity	I am relaxed about seeing where students want to take the VLE course activity	I work in partnership with learners in deciding what to tackle, how and when	I rely on students to tell me how parts of the course will run and with what purpose	Teaching through technology is often guiding and supporting learners to their objectives
I contribute to learning communities	I speak to colleagues in the staff room and in the Office	I have shared ideas and opinions with other staff and teachers elsewhere in the College	I have spoken to staff teachers elsewhere in the college through formal means such as Town Meetings	I have used specific communities of colleagues to look at an aspect of College life or learning	I have joined communities on-line with colleagues to exploit the technology for our common improvement	I have used communities on-line with professionals outside the College	I have established a community for a purpose and brought others into it	Communities are for me a natural way to extend the horizons of my own capacity and develop new capabilities.
I share resources and ideas	I tend to keep my ideas and resources for my own use	I see value in having an exchange of resources in some circumstances and have done some sharing	I am aware of and use libraries or databases of resources held elsewhere and complied by others	I have arranged for students to create and share resources amongst themselves to improve learning	I have contributed to and regularly used resources from trusted websites, where ownership is not an issue	I have deliberately attempted to create with other teachers and learners original resources	I am happy to rely on others to find and submit resources to students	Activity design is more time consuming to me than producing content, all of which is widely publicised
I collaborate with others in College and beyond	I am happy to work by myself	Working with other teachers and non-teachers towards goals is logical and satisfying.	I have deliberately found critical friends in College and beyond to help me work on my role.	I understand the value of collaborative working from an academic perspective and enter into it in that spirit	I work collaboratively as a means of improving my effective contribution to College life	I have instigated circumstances where others have been brought into a collaborative project with me.	Working with others is a preferred method of working	Working collaboratively with students and other teachers in College and beyond is beneficial to me and my students.
I have access to technology support from someone who understands the context of my work	I can ask technicians for advice on the operation of the technology as a user.	I have access to technology training on a formal basis at fixed times in the year.	I am able to access and use e-learning resources to help me acquire new skills and knowledge of technology used in College	I can use a drop-in service to help me improve my skills and develop new uses for technology in my work.	I have a colleague who is knowledgeable about technology who gives me informal help and support with my use of technology at work.	I have access to a technology steward who works with me to help me make effective use of technology to meet the needs of my circumstances.	I contribute to and benefit from groups of colleagues in my subject area who work to improve their use of technology in their teaching.	I am part of a wider community of teachers inside and outside College who use technology to develop new applications for technology and support each other in trying new things.
I work with colleagues who are outside my college	I don't work with colleagues in my subject team(s)	I work with colleagues in my department	I attend external developmental events and training with colleagues working in other providers	I work with colleagues on a cross college basis to develop my use of technology continuously	I work with colleagues on a cross college basis during training events	I participate in collaborative groups whose members are drawn from different organisations and circumstances	Writing and thinking reflectively makes sense and improves my understanding	I manage or facilitate a collaborative group

Appendix 6 – Signatures from Phase 3 Surveys

Overview; below is the hierarchical list of most-frequently used terms in the final set of narratives from the "technology in action" survey, produced using the Cirilab tool. As before "students" is the most frequently cited term in the free text entries in the survey, with a particular focus on meeting and supporting. There are two slight differences from the previous two rounds. Firstly the higher-ranking of "colleagues" but closer reading show that this is as much about their support for students as anything else. Secondly the use of "Moodle" is cited less often with "video" being cited far more readily. Overall we might summarise this a reflecting a strong focus on practical teaching and learning using a range of resources and perhaps confirms our view that the use of the VLE has become "normalized" and so not commented upon.

Signature
Tree: Expand All, Collapse All

- 📁 **Students**
  - 📁 College
    - 📁 Support
    - 📁 Texting
  - 📁 Meeting students
    - 📁 Internet
    - 📁 Images
- 📁 **Colleagues**
  - 📁 Students online
    - 📁 Meeting students online
    - 📁 Learners
  - 📁 Technology
    - 📁 Social media
    - 📁 Moodle
- 📁 **Teaching**
  - 📁 Video
    - 📁 Digital audio
    - 📁 Collaboration
  - 📁 Ipod
    - 📁 Meeting
    - 📁 Student online
- 📁 **Resources**
  - 📁 Supporting learners
    - 📁 Online
    - 📁 Practice
  - 📁 Work purposes
    - 📁 Lessons
    - 📁 Reach learners

- 📁 **Learning**
  - 📁 Learning platform
    - 📁 Meeting colleagues
    - 📁 Blogging
  - 📁 Reflective thinking
    - 📁 Assessment
    - 📁 Store reflective thinking
- 📁 **Videos**
  - 📁 Sharing
    - 📁 Sharing documents
    - 📁 Powerpoint
  - 📁 Sound files
    - 📁 Experiences
    - 📁 Class records

Knowledge View created by Cirilab

References

1 Ros Prettyman made the first post to the new JISCMAIL Curriculum Champs list on this day. It is widely held by consensus to mark the beginning of e-learning in FE.

[2] Petty G. (2006) **Evidence Based Teaching - A practical approach** *Nelson Thornes*

[3] Prensky M. (2001) Digital Natives, Digital Immigrants at http://www.marcprensky.com/writing/prensky%20-%20digital%20natives,%20digital%20immigrants%20-%20part1.pdf

[4] To see how Divergent thinking works in education see Ken Robinson's RSAnimate lecture at http://www.youtube.com/watch?v=zDZFcDGpL4U&feature=player_embedded

[5] *In Web development, a **mashup** is a web page or application that uses and combines data, presentation or functionality from two or more sources to create new services. The term implies easy, fast integration, to produce enriched results that were not necessarily the original reason for producing the raw source data"*
found at http://en.wikipedia.org/wiki/Mashup_(web_application_hybrid)

[4] TeachMeet, accessed March 31st 2012, http://teachmeet.pbworks.com/w/page/19975349/FrontPage

[6] *for an example of this new approach see 'An ITQ completed in personal learning space' at http://tinyurl.com/d6wxets*