Need to write 3-4000 words – where and what is the problem – find a beginning, a middle and an end and the action research will come out of this

# Rationale for my research

My doctoral research addresses a question which affects all staff in higher education who teach, research or support learning. The question is how best can teacher education support academic endeavor and scholarship in a digital age. As virtual learning environments have developed alongside traditional face to face design and delivery, there is an urgent need to examine more closely the ways digital practices can enhance the quality of teaching and learning rather than be perceived as tools for the standardisation and regulation of higher education. Through application of action research methodology, my research will ask staff in my own institution, the University of Lincoln, how best the teacher education programme might support them in this endeavor.

This research should not be about ‘teaching educationalists to use technology’ but being critical about the role of the university as a site of knowledge production and negotiation. HE is accommodating new technologies but of necessity the process needs to be critiqued.

The relationship between technology and higher education has never been easy. The low rate of adoption of digital practices does not exist in isolation within the university but is indicative of wider social attitudes to the mechanism of human labour. Resistance to online education has been present since the introduction of virtual learning environments in the 1990’s. With hindsight it is easier to highlight poor practices which may have contributed to reluctance to adopt digital ways of working, but the issues around resistance are not unique to higher education. For centuries machines have been viewed as mechanisms for taking work away and reducing the need for specialized skills and expertise.

Within higher education, there has been an exponential growth of the VLE but the lecture and seminar remain the primary mode of transmission while distance learning is supported through digital environments, with exceptions like the OU, it is still fundamentally follows a transmission model.

Needs broadening to the wider evolution of academic work/labour/enterprise around the development of digital technology which in itself has emerged as a specific issue in the past two decades.

Technology has the potential for effective learning but cannot transform or improve working or learning on its own*; it requires* support for digital literacies/scholarship of staff and students and first this needs to be recognised and secondly agreement reached on how best this might happen. (technology is not going to disappear – have responsibility to ensure it maximises learning opportunities rather than decreases them and staff/students empowered to become confident and users capable of negotiating their own digital pathways and exploiting digital affordances to suit their own requirements.

At a time where getting a degree is seen as a necessary career move rather than an intellectual enterprise, questions need to be asked around how best virtual learning environments represent genuine intellectual engagement. Technology privileges passive consumption of information and strategic learning ruled by assessment criteria leading to accusations of automation – ref ‘Digital Diploma Mills’ (David Noble, 1998) David Noble. Digital diploma mills: The automation of higher education. First Monday, Volume 3, Number 1 – 5 January 1998 <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/569/490>

Claims around social media as opportunities for users to not only contribute but subvert the mechanisation of higher education, are too often rhetorical/polemic – See Daniel Kreiss, Megan Finn, Fred Turner. The limits of Peer Production. New Media and Society 2001 <http://fredturner.stanford.edu/wp-content/uploads/Kreiss-Finn-Turner-Limits-of-Peer-Production-NMS-3-111.pdf>

Also the VLE has not fulfilled early promises of transformation – in particular for widening participation and Life Long Learning.

In **Information, Capitalism and Uncertainly by Frank Webster in Information, Communication and Society 3:1 2000 69-90** Webster says we should be suspicious of claims that technology is socially beneficial i.e. for the public good or a driver of positive change. (this is technological determinism and needs referencing)

Technology underpins the shift to a knowledge economy i.e. Information Capitalism so policies such as Widening Participation and Life Long Learning support demands for flexibility in the work force as people need to retrain for new forms of work.

One effect of global networks is the breaking down of traditional social constructions as people become  more informed of alternatives (Marx – social relationships will be disturbed and all that is solid melts into air) Privatisation the only alternative a public provision increasingly presented as a drain (eg public libraries and HE shifting to consumer model).  The media is primary means of distributing information with information providers increasingly becoming commercialised and controlled by advertising and ratings; feeding a market society with low standard content. (Ref Postman’s dumbing down and amusing to death based on work of Marshall McLuhan who suggest individuals discouraged from independent thinking (e.g. Baudrillard’s statement in the gulf war only happening in the media – also relevance of postmodernist concept of hyperreality – the inability to distinguish reality – in present time). Webster also says faith in the proletariat as agents of change is misleading – see reference to limitations of social media above)

 On the one side technology is seen as an answer to higher education’s need to do more with less – if only the most appropriate strategic approach can be discovered - see Gilly Salmon(2005) ‘Flying not flapping: a strategic framework for e-learning and pedagogical innovation in higher education institutions’, ALT-J, 13: 3, 201 – 218 <http://www2.le.ac.uk/departments/beyond-distance-research-alliance/mediazoo/media/Flying%20not%20flapping.pdf>

On the other the use of technology in education has been the subject of critique – see the work of Selwyn eg The use of computer technology in university teaching and learning: a critical perspective by Neil Selwyn (2007) <http://www.mendeley.com/catalog/computer-technology-university-teaching-learning-critical-perspective/>, Looking beyond learning: notes towards the critical study of educational technology by Neil Selwyn (2010) <http://www.mendeley.com/catalog/looking-beyond-learning-notes-towards-critical-study-educational-technology/> and Degrees of Digital Division:  Reconsidering Digital Inequalities and Contemporary Higher Education by Neil Selwyn (2010) <http://rusc.uoc.edu/ojs/index.php/rusc/article/view/v7n1_selwyn/v7n1_selwyn>

Multiple levels of resistance which need separating out – resistance is in response to drivers – which are social, institutional and individual

Social – machine replacing labour etc

Institutional – higher education etc – doing more for less – educating the workforce – internationalisation – widening participation – application of efficiency measures to educational imperatives

Individual – in response to social, institutional plus personal

* Shift from traditional face to face to virtual environments
	+ loss of interpersonal interaction – facial clues, body language etc –
	+ loss of status – lecturer to facilitator
	+ gain of additional workloads – managing online environments is resource heavy –

Acquisition of individual digital scholarship and digital literacies

Education is fundamentally a cognitive process, traditionally understood as one requiring physical presence. The machines of the internet and world wide web are unable to replicate the essential nuances of interpersonal communication. The primary affordances of virtual learning, for example access unrestricted by time and location, have consequently been overshadowed by reluctance to adopt digital ways of working. Digital pedagogy is lagging behind and virtual learning continues to be perceived by the majority of academics as an ineffective substitute for human interaction, in particular for those qualities of higher education which make it unique, namely the processes of critical thinking and reflective practice.

My own experience with digital information and communication technology has multiple layers, created from a life lived against the background of change.

Layers of experience creating drive to work better with tools in hand – to apply broader social impact of digital ways of working - develop digital graduate attributes and digital scholarship/literacies to better use the technology for education and ensure learning process remains critical and reflective etc

# Layers

For many years of my childhood there was no television set. The tv sis not have today’s ubiquitous presence and where they existed, the pictures were black and white. Today I still don’t have a television but watch programmes on the internet. I remember taking a threepenny bit to the public telephone half a mile a way to make a phone call. Today I have a mobile which is also a camera, voice recorder, alarm clock, calculator and so on; I check my emails, send texts, scan barcodes, access the latest news and weather and listen to my music.

When my children were born, camera film was developed at the chemist or sent away in envelope to specialist companies. When one of these lost a role of pictures of my first born, nothing could be done. There were no computers in their primary school classrooms but the Sinclair ZX and Commodore 64 were appearing in homes. A friend had a BBC microcomputer. It was analogous to the days when a friend of a friend in my secondary school had a colour tv.

As a left work to have my first child, times were already changing. The last conference I attended at Wembley Exhibition Centre was hosted by IBM and promoted transformational effects of the word processor. Advertisments claimed Tippex would no longer be needed. I proof read scientific reports with a pen, marking up carbon copies and returning the manuscripts to the typing pool on the second floor. By the time my youngest was at school, less than a decade later, the world of publishing and text production had been digitized. I lacked the skills for the new world of electronic writing, editing and formatting.

In 1989 I went to university and discovered computers. There were 20 in one room, all running DOS word processing, spreadsheet and database packages. I remember the impossibility of trying to understand them. The Insert key was my nemesis. I’d worked in a professional environment, had a home and family, travelled 50 miles a day to attend university but was reduced to tears far too many times by the complexity of digital ways of working. It took all of my three year degree for them to begin to make sense. I haven’t forgotten the irrational fear of a keyboard when I preferred a pen and the unpredictability of digital text and numbers.

My first computer was a Tandy with a five and a quarter inch floppy disc and attached to a dot matrix printer. Paper came on a reel. It printed and folded, with perforated strips of holes down each side. By the early 1990’s I had missed a crucial decade of development and change. Unable to find graduate employment, I became a volunteer for a literacy project which received funding to purchase six desktop computers including one with a cd-rom. Educational cds played sound and video. At the time there was no internet. This felt like a media revolution in educational technology. I noticed users came in for desk work or to use the computers but never both together. I started to look for ways to digitise the teaching of literacy and numeracy, working with staff and students, the majority of whom were uncertain of the technology. Remembering too well what it felt like to struggle, I became and IT Tutor. In the 1990’s, European Social Funding made possible a network of community IT centres across the city. Employability now required ICT qualifications. I ran three workshops a day and one on Saturday mornings. I was the first tutor in the city to use computers to support traditional teaching and learning in a range of different settings; Maths and Literacy, English for Speakers of Other Languages, Returning to Learning courses, rehabilitation following physical and cognitive impairment, courses for students with sight loss and a range of business skills qualifications and certification.

Meanwhile at home, the internet had arrived via a dial up modem. By the end of the century, the Sinclair ZX and Commodore 64 were being replaced by the Sony PlayStation and Nintendo. The BBC Microcomputer died and Broadband moved in. I bought my first laptop.

Working in the community involved a network of school classrooms and community centres, running workshops alongside blood donation sessions, saxophone tuition and netball. Many of these centers were on first and second floors, inaccessible to anyone with mobility restrictions or wheelchair users. Working alongside a number of community development initiatives, I set up DITTO; Disabled Information Technology Training Opportunities. I tutored ten week courses for social service day centres and managed drop in sessions. With a minimum of equipment – mostly handmade keyboard covers, headsticks and devices for holding down the Alt and Ctrl keys, I worked with people who had cerebral palsy, paralysis through stokes, arthritis, sight loss and a range of other impairments, showing them how to name and save files and word process.

I never doubted the potential of digital data for equality. Its inherent flexibility meant it could be personalized to suit individual preference in terms of text size and shape, colour contrasts and backgrounds. It is particularly helpful for users of assistive technologies. Digital data can be converted to audio and listened to as well as seen, spoken voice can be converted into digital words, alternative text added to describe the content of images and their purpose, navigation achieved through keystrokes; technically there is no reason for digital exclusion. Tim Berners Lee, founder of the world wide web through his invention of the code of html and the functionality of the hyperlink, also believed in the potential of the internet to enable digital democracy.

Insert quotes from TBL and Dardallier on accessible internet and democratisation of participation.

I still believe in the potential for digital inclusion but in the past decade have seen it all begin to go terribly wrong. The internet has become an increasingly visual environment; one where web developers assume a narrow range of access criteria which I call the MEE Model. All users are assumed to use a mouse to navigate, eyes to see content on the screen and ears to hear any prompts or warnings. The reality is this excludes the diversity of ways in which people use computers and access the internet.

Long before Warschauer first used the expression Digital Divide, I knew digital divisions were about more than access to technology. They were about the ways technology is used. I worked in inner city areas, in pockets of deprivation and unemployment. I knew how existing social inequalities were replicated in terms of opportunities to participate in these new digital ways of working. A first degree in social science and a Masters degree in gender studies gave me the theoretical grounding in the construction of social difference and marginalization, how empowerment becomes a right to be fought for and social justice an ideal which is far from being realised. My decade in adult and community education, working with individuals marginalised through physical, sensory and cognitive impairment, reaffirmed my own experiences of life as an outsider, where personal and political choices positioned me on the perimeter rather than the centre. Against a back ground of political consciousness raising and increasing social awareness of racial, gender and disability discrimination, I campaigned for digital rights and equalities while watching exclusion grow with the development of user generated content and file sharing through text box editors and content management system which diluted the application of Web Accessibility Recommendations and Standards.

As digital exclusion increased so it became more invisible. When the platforms for discussion and debate in the public sphere themselves become digital then those excluded from digital ways of working lose their voice. As governments adopted a ‘digital by default’ policy towards the provision of public information and welfare services, so those most in need of social care and support are shut out from the means of accessing it.

Ref System Error report into the failure of government IT systems and Universal Credit documents etc

A paragraph on the role of higher education to develop digital graduate attributes/technological citizenship etc – Revisit Chapter in CERD Book Two – digital citizens ect – students/staff who recongise and challenge digital inequities rather than replicate and reinforce them.

In order to do this, the sector needs to pay attention to digital scholarship and digital literacies etc – where scholarship involves authentication and validation of online resources, critical thinking around the social impact of the internet and the mechanisation of higher education, academic integrity, professional online identities parameters of exclusion etc etc

Needs to support staff in best practice – make the best use of the tools they have – enhancing the quality of teaching and learning through technology cannot happen in isolation from teacher education programme which address the relevant issues – relevant issues should include awareness of the social, cultural, political etc etec

I’ve worked in education for over 20 years, supporting individuals to use information and communication technologies. Starting out in adult and community education, I moved to the University of Lincoln in 2000, shortly after the Dearing Report into the Future of Higher education and the start of the process of embedding virtual learning environments into existing systems and processes. As a Widening Participation Project Officer, I developed the use of virtual learning environments to support institutional links with students in partner schools and colleges. Moving onto an educational development office funded through HEFCE Teaching Quality Enhancement Funding (TQEF) I worked as an e-learning officer supporting staff in the use of VLEs and helping develop the first course to be designed and delivered entirely online (Pheromone Therapy in the School of Life Sciences) as well as being involved in the validation and periodic annual review processes for the institution’s work based learning courses (Business Management, Logistics Management, Food Manufacture etc). For the past seven years, I’ve worked as a Teaching and Learning Coordinator in the Centre for Educational Research and Development. Here I gained professional accreditation as a Learning Technologist with the Association for Learning Technology as well as Fellowship of the Higher Education Academy (HEA). From 2011-13 I led on an HEA/JISC Change Academy initiative called Embedding OER Practice, funded through the JISC Open Educational Resources (OER) UK Programme (insert URL for further information), and a supplementary research project, OER International (insert URL for further information). For three years (insert dates) I was an online student with the Open University, studying an MA in Open and Distance Education and have participated in a number of online CPD courses (Oxford Brookes etc – titles and dates).. In the last 12 months I’ve been a student in a number of MOOC including E-Learning and Digital Cultures from the University of Edinburgh <https://www.coursera.org/course/edc>, Modern and Contemporary Poetry <https://www.coursera.org/course/modernpoetry> from the University of Pennsylvania and Learning Design for a 21st Century Curriculum <http://www.olds.ac.uk/> from JISC Open Learning Design Studio. This has increased my understanding of the phenomena of Massive Open Online Courses as well as informed and extended my knowledge of the challenges of free learning opportunities.

An output of my externally funded work and experiences with open education, is Teaching and Learning in the Digital Age (TELEDA), the first fully online qualification in the University of Lincoln’s teacher education portfolio. I’ve written and piloted this new 30 M Level CATS course which is delivered and assessed through Blackboard, the university’s virtual learning environment. TELEDA offers staff a 24 week student experience of learning through online communication and collaboration, with stress on active participation, reflective journaling and evidence of the application of learning to practice. TELEDA provides the subject for the action research methodology in this doctoral research (see Methodology Chapter).

TELEDA raises the issues pertinent to the future of higher education. At a time of increased student fees, internationalisation of the curriculum and the need to cut costs, alongside the prevalence of digital ways of working, and associated expectations of user-generated content and high quality multimedia resources, virtual learning environments are often seen as a strategic answer to the managerial question of how to do more with less.

Those who have experienced online education will know it has the potential to be the worst or the best of learning environments. Poorly managed, it can consist of uploaded lecture notes, video and PowerPoint presentations, inadequately adapted for digital delivery and hampered through lack of appropriate support for the creation of effective online learning experiences. Well managed, online collaboration and assessment can provide powerful opportunities for learning through the establishment of interaction leading to the development of communities of shared practice where evidence of learning is abundant. Digital learning can effective learning but is rarely a cost effective option. Tutoring online requires investment in resources such as time and money; both of which are in perennial short supply. The setting up, facilitating and managing of virtual learning environments is a whole institution initiative requiring cross institutional working practices. Student expectations are for a seamless technology experiences, single sign-on processes and support for the integration of their existing digital ways of working with institutional teaching and learning. Staff with a broad range of subject expertise exhibit mixed digital ways of working. Like students familiar with social media but less sure how it might be used within higher education, staff may have a working knowledge of digital practices but be unsure how to transfer and develop these into appropriate digital pedagogical models and frameworks.

One fact we can be sure of; the internet is not going to go way. The need for staff to adopt virtual ways of working will increase not lessen. Nor will the pressure on institutions to offer higher educational opportunities online. This is likely to increase as the digital continues to be seen as a way to reach more students and generate income. The challenge remains the same now as it was in the 1990s; how best to manage the shift from face to face to online environments which prioritize quality interaction, communication, collaboration and assessment; challenges which have increased as the internet and world wide web themselves have developed. Digital scholarship is a complex 21st century discipline. To be digitally literate include academic integrity, authentic use of social media, awareness of the appropriate construction of online identities, attention to issues of access and inclusion as well as possessing the means of authenticating content and making the most of networks for the connectivist construction of knowledge. Research projects have focused – rightly – on the student experience (list JISC examples eg Learner’s Voice, LExDis etc). This research shifts the focus to staff engaged with teaching and/or supporting learning and is set against a background which addresses the history of resistance to the use of technology for education as well as the wider social struggle between humans and the machine.

Action Research Methodology

I’ve chosen a collaborative long term approach in order to include the voice of those often excluded – staff who know the way forward will inevitably contain an online element – yet have fears and reservations about the shift from face to face to virtual classrooms.

**Action research is an honest account of:**

* What happened
* Making sense of what happened
* What happened next

**Challenges of Action Research:**

Action researchers need to

* Be prepared to engage in critical reflective practice
* Be prepared to accept they could do better
* Be prepared to accept their practice can be improved
* Be prepared to accept change to their practice

My research is not about me saying this is how I think online learning should be – it’s about having my way challenged - it’s not my voice but the voices of my colleagues who take on the role of students – and in doing so find themselves in the best place to explore teaching and learning in a digital age and decide what works and what doesn’t work for them.

About empowering staff – digital confidence and competence – to become digital scholars – digitally literate – able to make choices – select the most appropriate tools – use networks of social media – create exciting, stimulating, innovative online environments – to find out ways of working which suit them – be aware of where they are today with regard to technology for education – where they came from and where they might be going – all within the broader social issues – which they can then pass on in their own teaching and learning – and contribute to a more equal digital society – one which challenges digital exclusion rather than replicate and reinforces it.

In the spirit of openness – which is the foundation of inclusive practice – I will make my TELEDA learning resources freely available in packages addressing learning theory for a digital age, online communication, collaboration, assessment and feedback.

I will invite staff to talk about their ideas and interpretations of digital scholarship – what it means to be a digital academic and the role of digital technology in their loves and practice. I’m curious to see if it’s an advantage to have analogue roots – to discover their awareness of the literature on digital education and the research which suggests digital environments are creating fundamental changes to how education will appear in the future. The analogy is Gutenberg and fears over the possession of books altering individual memory etc etc

I need to be prepared to find I am wrong in my ideas. Teacher education may not be the best place to support the development of digital scholarship and digital literacies; staff may not feel the development is required. The future of higher education might not be as digital as I am expecting. The on campus lecture and seminar might continue as a dominant mode of teaching and learning.