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ORIGINAL RESEARCH ARTICLE

Two groups separated by a shared goal: how academic managers and lecturers have embraced the introduction of digital technologies in UK Higher Education

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Digital technologies have been widely used in higher education (HE) for years, and the benefits have been recognised by both students and academics. Although many universities have developed their own digital technology strategies, many do not share either their vision or implementation strategies with staff.

This research explores differences and similarities in the perception of digital technology by lecturers and academic managers. The purpose of this paper is to compare and contrast motivations, barriers and support systems required for the use and adoption of digital strategies. Interviews were conducted with a group of 20 lecturers and academic managers in the HE sector. The results reveal that both groups shared a common view that the introduction of digital technology can have a clear set of benefits to students; however, their motivations for introducing new approaches differed significantly. Whilst it is important not to generalise too much given the lack of homogeneity in the two groups and also the crossover between managers and lecturers, managers tended to take a performance goal-based approach to its introduction whilst lecturers were more learning goal orientated. This difference can cause significant difficulties in the implementation of new approaches to learning.

Keywords: communities of practice; academic managers; digital technology strategy; academic staff-management collaboration; motivations

Introduction

The past 30 years has seen a shift in the positioning of higher education (HE) in the consciousness of those both outside the sector, where initiatives such as wider accessibility have become increasingly apparent, and also inside the sector, where the impact of increased marketisation and performativity has changed many of the established norms to ones where the focus of many is on measurement and progression within comparison tables (Furedi 2011). Whereas before, HE was characterised by tradition and arcane rituals (Perkin 2007), the Further and Higher Education Act

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(Department for Education 1992) encouraged what was deemed to be ‘best practice’ from the private sector into UK universities, a process that proved controversial given the inherently conservative nature of the sector and also the subsequent realisation that this was not always conducive to improve the experience of students within the sector (Thompson and Wolstencroft 2018). New roles, often taking their title from the private sector, have been introduced and individuals were assessed on their performance by quantitative measures (known as ‘metrics’) (Ball 2003). These were then used to measure performance and create ranking systems that sought to compare institutions as well as to assess the performance of individual areas (Ball 2003). Academic staff, rather than having a clearly defined role that embraced lecturing and researching, now acted as both leaders and facilitators of learning (Laurillard 2002, 2012). Instead of perpetuating the primacy of the traditional didactic lecture, lecturers were encouraged to innovate in their teaching and also to promote increased interaction with their students, a process that called for new skills from both lecturers and students as teaching became more like a shared event than a one-way communication of knowledge.

As part of this enhanced role, a sound knowledge and understanding of digital technology have become a key element of the job of a lecturer. According to JISC (2014), 90% of jobs require excellent digital skills and this means that competency in digital literacy has become an essential component in the development of employable graduates. Given that the focus on employability has been another consequence of the shift towards a marketised sector, with universities being judged by their success in ensuring that students secure employment at the end of their studies, the importance of digitally literate graduates is clear. This has been further hastened by the need to ensure that the metrics in this area, such as the Graduate Outcome Survey, reflect well on the organisation. As a consequence of this, academic managers strive to implement new strategies and enhance the digital environment within their institution to both support students and also so that the organisation is judged to be of a high standard in this area.

Whilst it is certainly the case that the majority of academic staff understand the importance of technology in teaching and learning, especially given the impact the switch to remote learning precipitated by the COVID-19 pandemic of 2020 has had on the sector, the rapid changes and persistent focus on universities’ digital strategies have raised concerns over the effectiveness of existing organisational support for lecturers (Raghunath, Anker, and Nortcliffe 2018). Most studies in this field have focused on the perceptions of students and lecturers; by contrast, there has been comparatively limited attention paid to management practices, their impact on the experience of staff and their alignment with staff expectations. This article seeks to redress this balance and investigate the views of both lecturers and managers, whilst aiming to help identify the crossover of views between the two groups and how to address any differences that exist.

Objectives of the research

This paper will compare approaches and identify differences in interpreting how digital technology is embraced by university academic staff (who we will classify as ‘lecturers’) and academic managers. It will address the following research objectives:

Objective 1: What are lecturers' and academic managers' motivations for adopting digital technology and what are their perceptions of the potential challenges in their adoption within teaching and learning in HE?

Objective 2: What are the potential initiatives which universities could undertake to support the smooth adoption of an effective digital technology strategy, resulting from recognised similarities and differences between the perception of academic staff and managers?

Literature review

In order to fully explore the roles of lecturer and academic manager in UK Higher Education, it is important to define what we mean when discussing these groups. Whilst senior managers are often viewed as figureheads who represent 'the institution' (Mintzberg 2013) and have responsibility for the overall strategic direction, academic managers tend to operate further down the organisation and act as an 'ideological buffer between senior managers and lecturers through which market reform is filtered' (Gleeson and Shain 1999, p. 462). Although they operate in the middle of the organisation's hierarchy, it is too simplistic to refer to them as merely 'middle management', as that implies a lower degree of autonomy than they would normally have in UK Higher Education. For the purpose of this paper, we are defining academic managers as individuals working in UK universities, who are responsible and accountable for a specific curriculum area. In the education sector, academic managers are expected to make a significant contribution to the successful implementation of policies but they also have a high level of autonomy in how their area is run (Briggs 2006). Whilst senior managers filter policy down, the academic managers are the ones who oversee its implementation and are therefore key figures in whether policies are successful or not (Bush and Coleman 2000). Hence, in the context of this paper, the success of any strategy on how to implement digital technology and which technology should be put in place is linked to the 'buy-in' from this group. In post-16 UK education, academic managers are often described as strategists in the post-incorporation age (Leader 2004; Lumby 1999), and this role means that they are the key figures when discussing the operational aspects of digital technology.

It is important to note that academic managers should not be viewed as a homogeneous group. There are many variations in both approach and also in their motivation for taking the role (Dennis and Walker 2016). Whilst some education managers might well be viewed as 'career navigators' (Thompson and Wolstencroft 2013), taking the role merely as a stepping stone to a more senior position, the majority have been promoted after proving their competence as a lecturer, and due to this skill, their position becomes one of a 'trusted servant' (Avis, Kendal, and Parsons 2003, p. 239) to the organisation. In other words, the belief is that because of their competence in one job, they can be trusted to implement policy in another role. As Daley, Orr, and Petrie (2015) point out, this is not always the case, not least because academic managers often still view themselves with reference to their previous role.

The same heterogeneity can be applied to the generic group of academic staff – we have called 'lecturers' in this paper. There are approximately 215 000 members of staff on academic contracts in the United Kingdom (HESA 2019); however within that

group, there are significant differences in roles. The lecturer grouping encompasses jobs ranging from hourly paid lecturers to Principal Lecturers or Associate Professors; hence, when drawing any general conclusions, it is vital that we acknowledge the disparate nature of this role and the fact that although we use the word lecturers to describe them, the disparity of roles means that ‘academic staff’ is sometimes used to reflect the spread inherent in this role. Furthermore, it is important to reinforce the point that a crossover exists with the role of the academic manager, as many lecturers are likely to be in a dual teaching/leadership role. Given our previous point that stressed how many managers still maintained a mindset more associated with the lecturer role, it is clear that there is not a simple divide that exists between the two groups, instead there is a degree of blurring of boundaries.

Turning to the area of increased usage of digital technologies, the presence of digital technology, including Personal Digital Devices and Information Communication Technologies, has facilitated a transformation in UK Higher Education (Pimmer 2016). Whilst the COVID-19 pandemic hastened the switch to digital technology, it is important not to see this as the only driver in the movement to new forms of teaching, as this shift had been ongoing for some considerable time. Management consultancy McKinsey (Dorner and Edelman 2018) embraced digital in relation to HE, identifying digital as a way of doing and breaking it down into three attributes: creating value for businesses, in processes that deliver the desired customer experiences and building capabilities. In light of the popularity, affordability, portability and flexibility of digital devices and technologies, the practice of using digital technologies has been widely promoted in the HE sector for the last two decades (Osborne, Dunne, and Farrand 2013; Pegrum, Oakley, and Faulkner 2013). The premise is that digital technologies encourage and facilitate education reform, where learners shift from being passive receptors of information to self-regulated, active participants in the construction of knowledge (Shroff, Ting, and Lam 2019). This ensured that there is an increased focus on student digital literacy skills, which place an additional emphasis on navigating, critically evaluating and using digital or digitally mediated information (Sparks, Katz, and Beille 2016). Portable and personalised digital devices also connect learners with their peers and lecturers in a ‘learning hub’, hence enhancing their learning experience (Wong 2012). Ligi and Raja (2017) suggest that mobile devices, which integrate personal learning tools, resources and self-created artefacts, offer potential for ‘anytime, any place, anywhere’, creative and collaborative construction of knowledge. This Martini effect (Naciri *et al.* 2020) creates opportunities for learning far beyond a traditional setting.

While universities have increased their investment in the purchasing of hardware and software to build the infrastructure for the adoption of digital technology, the motivation of staff for using digital technology ultimately becomes the key factor in influencing such success (Yeung *et al.* 2014). This raises questions as to whether the motivation for implementing digital technology from the university is in line with the academic staff’s adaptive orientations. According to Dweck (2000), in a competitive learning environment, there are two paradoxical motivation constructs: defined as learning goals and performance goals. People who focus on the performance goals are concentrating on proving competence and avoiding negative judgement, whilst those focusing on learning goals have demonstrated a desire to develop new skills, master new tasks or understand new things (Dweck 2000). These two constructs are complementary, but often in the learning environment, it is quite hard to balance

both. Whilst Dweck was primarily referring to motivation from a student perspective, there is also evidence that this is applicable to staff who become adept at ensuring performance goals are reached (Orr 2012).

Using Dweck's (2000) approach, the risk in introducing new technology into lectures is that it may reduce the students' rating of the teaching experience (a key factor in the overall metrics; Ball 2003); therefore, the tendency to adopt digital technology in the classroom by lecturers who are more focused on their performance review associated with career development is low (Walder 2015). Walder also asserted that the dominance of the student evaluation on teaching provision in HE inevitably inhibits technological and pedagogical innovation, a dominance reconfirmed by Furedi (2011). However, the fear of technology does not prevent an enthusiastic academic who presents a high level of knowledge acquisition needs, to adopt digital technology to enrich their teaching, sometimes at the expense of their performance or achievement (Walder 2015). As education has moved from a teacher-focused approach to a more student-centred constructivist approach, the prevailing view is that the academic lecturer ought to continuously update the digital skills, which are familiar to the students and are required in the modern workplace (Pontis *et al.* 2015).

There is sufficient evidence that many academic staff are keen to use digital technologies in teaching and learning, recognise many benefits of it to students, but lack the appropriate strategies and techniques that would support the delivery of desired outcomes (Genet 2013). There is though limited research and evidence around the motivation of academic managers in introducing technology and how they support academic staff in adopting or enhancing the use of digital technologies.

Methodology

Participants

A total of 20 lecturers and managers agreed to participate in this study. They were selected via an interview invitation that was sent out to lecturers and academic managers in four business schools in UK Higher Education. The business schools that were targeted followed their respective university educational digital technology strategies. As stated earlier, lecturers, in this study, refer to academic staff who are primarily focused on their teaching responsibilities, whilst managers are staff who have responsibility and accountability for part of the curriculum. Participants were aged from 27 to 70, and all have worked in HE institutions for more than 3 years. All have given their consent to be interviewed for this study, contributions have been anonymised and full ethical approval has been gained from the host university. A full breakdown of participants is shown in Table 1, but in short, 45% identified as male and

Table 1. Participant profile.

Role	Age			Gender		Experience in HE (years)			
	31–40	41–50	51	Male	Female	5	6–10	11–20	21
Academic staff	10	3	1	5	9	3	7	3	1
Manager	2	3	1	4	2	0	3	3	0

55% female, 30% participants were academic managers and 70% participants were lecturers. Job titles for the academic managers in the interviews include associate head of school, associate dean, deputy director and principal lecturer.

Instrument and data analysis

Semi-structured interviews were conducted to explore participants' views on digital technology in HE as well as their experience in the adoption of various digital technologies in terms of knowledge transfer, an interactive teaching environment and supportive learning communities. Academic managers were asked to share their interpretation of their organisation's digital technology strategy and their expectations of lecturers towards the digital technology adoption in their teaching. Each interview took up to 45 min. Structured questions included 'what is motivating you to use digital technology in your teaching? What are the main challenges in your adoption of digital technology?' As the interview moved further along, participants were asked to answer unstructured follow-up questions to elaborate on their responses. For example, if the participant responded, 'I will use instant mobile apps to interact with students in class', the interviewer asked 'which technology would you use' and 'how students interact with that technology'. Each interview conversation was recorded with the permission of the interviewer. The researcher manually transcribed the audio recording into a password-protected file, and thematic analysis was undertaken to analyse the full set of the data (Braun and Clarke 2006). The code that follow AM refers to an academic manager and AS is an academic staff member, who we have termed 'lecturers'. In addition, the thematic analysis focused on ensuring that when similar words or phrases were used, this was recorded. Once these broad themes had been identified, then their comparative importance to the two groups was assessed via a tally of frequency of mention and a more subjective measurement that focused on their perceived importance to respondents.

Results

Thematic analysis of technology adopted in teaching

The lecturers interviewed were unanimous in saying that digital technologies added value to their teaching and learning practices, and they were all keen to embrace new technologies. Table 2 shows examples of the range of educational technologies that they had already adopted in (and outside) the classroom. In addition to this, lecturers also expressed an interest in integrating technology into their teaching to help support what they perceived to be 'digital native' students (Prensky 2012). Based on

Table 2. Technology adopted in UK Higher Education.

Purpose	No. apps	Examples
Presentation	7	PowerPoint, Prezi, YouTube, Slate
Interactive teaching	10	Kahoot (online quiz), Coggle.it (mind mapping), Vittle (recording), Adobe connect and Big Blue Button (webinar)
Assessment and feedback	5	Adobe Spark (audio presentation), Google docs (group project), Penultimate (add picture)

the descriptions of participants, the technology adopted served three main purposes: enhanced presentation, greater interactivity when teaching and improved assessment and feedback in HE.

Motivations behind adopting technologies

Both academic teaching staff and academic managers interviewed believed that if appropriate digital technology is adopted in teaching, students’ learning experience and learning outcomes would be enhanced. Table 3 highlights the main motivations in using digital technologies in teaching and learning from a lecturer’s perspective. These were divided into four categories: students’ learning, collaboration and community building, effective and efficient use of resources and staff development.

Table 3. Motivations for using digital technologies in teaching and learning.

Reason	Academic teaching staff	Academic managers
Staff development	<ul style="list-style-type: none"> • Self-development • Become equipped with new knowledge and digital techniques • More confidence in the use of digital learning opportunities 	<ul style="list-style-type: none"> • Feeling of continuous development • Keeping up with current trends • Feeling of self-accomplishment
Student learning experiences	<ul style="list-style-type: none"> • Accommodating diverse students’ needs • Increase in student course satisfaction • Connect students with the digital word • Increase student’s digital literacy • Increase in student engagement and retention • More enjoyable learning experience 	<ul style="list-style-type: none"> • Preparation for future careers and industry requirements • Development of transferrable skills • Greater interaction with students • When good development occurs, it may add value to the course and increase course recognition • May provide innovative and creative assessment techniques • Enhancement of student engagement with formative and summative feedback on student learning
Collaboration and community building	<ul style="list-style-type: none"> • Share ideas on pedagogical innovation • Best practice sharing through official and non-official communication channels 	<ul style="list-style-type: none"> • Development of communities of practice • More opportunities to share areas of good practice • Bringing students and staff together creating student-friendly learning environment
Effective and efficient use of resources	<ul style="list-style-type: none"> • Effective way of engaging students inside and outside of class • After developing material, learn ways to improve delivery without increasing workload • Save printing time and become more environmentally friendly 	<ul style="list-style-type: none"> • Inform IT strategy and assess/improve wireless technology • Take advantage of cloud technology • Assess compatibility and currency of staff and students’ hardware and software • Quick response to student needs

Seventy-nine percent of the academic staff mentioned that the implementation of digital technology helped them to explore new and innovative ways to engage students. Additionally, lecturers reported that the overall student learning experience can be improved through interactive face-to-face classroom learning activities and online interaction between academic staff and students. Academics who lectured but had no managerial responsibility commented:

More engaging delivery of content and continuous pathways for communication between tutors and students. Keeping up with students' pace to acquire information. (AS-05)

Enhance student awareness of the wide range of new digital and flip learning platforms. (AS-07)

These tools could be utilised to create effective online learning communities internationally. (AS-11)

All academic managers interviewed recognised and strongly supported the motivation of lecturers to use digital technologies in teaching and learning practices. They also identified higher-level institutional and market-based incentives and values that digital technologies may help to meet:

Digital skills and entrepreneurial nous are essential skills for new graduates in a fast-changing industry. University will prepare the global ready employees with industry requirements. (AM-02)

As productivity and economic growth relies on knowledge and creativity, digital fluency remains necessary. (AM-06)

The motivations from staff for using digital technology are summarised in Table 3.

Constraints when adopting digital technology

Despite the varied technological abilities of staff, all participants had concerns regarding the adoption of digital technologies. Table 4 lists and sorts all causes of discouragement and categorises them into student learning experiences, technical capabilities, workload and staff development.

Student learning experience

One of the main concerns relating to student learning refers to the implementation process of digital technologies. Lecturers questioned the impact of digital technologies on students' knowledge development and enhancement of creative thinking:

The actual purpose of promoting digital learning in education and online learning is to turn education into a normalised commodity that anyone can sell/buy for a price. (AS-09)

Table 4. Factors causing discouragement in adoption of digital technology.

Factor	Academic teaching staff	Academic managers
Student learning experiences	<ul style="list-style-type: none"> • Digital techniques take away more from traditional learning styles to the point where it is detrimental to learning • Lack of digital training for students • Lack of techniques to help minimise plagiarism cases • No guidance with regards to what digital media is available globally in order to allow all student participation • Overuse of certain digital learning tools that become less impactful in teaching over time 	<ul style="list-style-type: none"> • Overuse of some technologies could demotivate students from participation • Use of technology in teaching is not perceived yet as additional resource that adds value to current practices • Misconception that adoption of digital strategies is used mainly to increase student satisfaction within NSS • Poor facilities and systems for delivering hand on training to student
Technical capabilities	<ul style="list-style-type: none"> • Difficulties with transferring current content into digital content • Uncertainty on where to start and how to set up activities using technology • Unreliable digital technologies and platforms • Difficulty in integrating technology into existing teaching practices in large cohort modules with diverse teaching teams 	<ul style="list-style-type: none"> • Technical limitation and reliability of systems • Uncertainty of what is permitted (IT policy, GDPR, etc.) • Capability to diversify the tools for varied purposes such as teaching, learning, assessment and feedback • Uncertainty on how and who could deliver an in-depth, hands-on training on available digital technologies
Workload	<ul style="list-style-type: none"> • Time-consuming process of developing of digital teaching and assessment materials • Time allocation for the development of additional activities using technology 	<ul style="list-style-type: none"> • Perception that a movement to digital teaching and learning techniques takes significant amount of time to complete • Poor systems for development with regards to teaching remissions associated with training and redevelopment of teaching, learning, assessment and feedback techniques
Staff development	<ul style="list-style-type: none"> • Lack of willingness from colleagues to share and promote best practices • Know-how on digital technologies • Uncertainty on what is available to staff to use and how to learn to adopt it 	<ul style="list-style-type: none"> • Lack of willingness from staff to take the challenge and change delivery style • Facilities and systems for delivering hand on training to staff are available, but with low attendance

I think we need to be far more radical, whilst never losing sight of what most helps our students, which often has little to do with technology. (AS-06)

We will focus on the mechanics and process rather than outcomes. (AS-11)

In addition to academic staff concerns, academic managers feared that there is still a misconception that ‘digital technologies are mainly adopted to meet student learning preferences and increase student satisfaction within national metrics such as National Students Survey (NSS)’. (AM-03)

Technical capability

Both lecturers and academic managers identified some core technical constraints related to digital technologies. Constraints identified by both groups were very different. The majority of lecturers harboured a distrust in technology due to its perceived unreliability. Whilst lecturers did see the benefits, as outlined earlier, the prevailing view in this research was that it was sometimes an unnecessary use of resources (particularly time and money). By contrast, academic managers were mainly concerned about the policy implications and extent to which technology can be used without breaching General Data Protection Regulations (GDPR). They did not tend to consider the pedagogical implications.

Are the new innovative tools being compatible to my modules learning objective? No. Will the new techniques help our students improve their performance or otherwise? No. (AS-09)

Unreliable technology. Will it improve what already exists? (shaking the head) (AS-04).

Technical limitations. Worried about reliability of systems. Uncertainty of what is permitted with current IT policy. (AM-05)

Not aware of who is/are more comfortable and confident to adopt the technology. And how can we encourage and train more staff on available digital technologies. (AM-01)

Workload

This study also found another important issue inhibiting technology adoption – unpredictable workload. Lecturers were of the opinion that they are currently overloaded by heavy teaching timetables, significant research loads and onerous administrative work, which left little time to invest in the discovery of new technology. Staff were also resistant to change due to unclear and usually underestimated workload, and hence the time required to develop and integrate digital technologies in their teaching was limited by the other demands on their time. Fifty percent of the academic staff interviewed expressed their frustration with poor recognition, and even blame, for trying out innovative methods that did not work. This often led to low module/course evaluations and the associated consequences for lecturers.

More workload and not applicable to my style of working. And there is no recognition or reward for teaching innovation. The current workload system has fixed time for the module preparation, did not consider the effort to put into innovative technologies in our teaching practices. (AS-03)

A five-minute module introduction will take me at least two hours to complete. (AS-06)

It will be hard to integrate this into my current material. (AS-04)

I won't have the time to develop any of this because of more immediate priorities. (AS-10)

Time consuming and the fear that all new techniques might get lost before they're applied in the classroom. (AS-11)

Potentially time consuming and not teaching anything new. I think I will spend more time on research rather than learn a technology may not be used in the next few years. (AS-14)

By contrast, the academic managers interviewed believed that technology might actually help to reduce the workload for staff and they stressed that lecturers received full support for adopting creative teaching using digital technology. From our academic managers' perspective, staff who were reluctant to introduce technology in their teaching were viewed as lazy and unwilling to change. Managers interviewed believed that it is a general misconception that adoption of digital techniques requires significant amount of time.

The faculty provides a lot of hands on training on the available technologies in the different subject area...Staff gets their hours to attend the self-development workshops... these workshops have comparable low attendance than research focus training. (AM-01)

Some of the teaching materials have not been updated in the last few years.... some staff are not interested to try the things they are not comfortable with...laptops and mobile phones are completely forbidden in some classrooms... how we can connect those staff with the technology... (AM-05)

Staff development

All participants acknowledged the importance of training and support for the integration of digital technology in teaching. The groups were in agreement that staff development opportunities were necessary to enhance the skills and knowledge of all academic staff. They were all willing to participate in training.

Despite this motivation to participate, academic managers commented on very poor staff participation in training sessions that had been organised. They believed that it was caused by academic staff not fully understanding their own needs and being afraid of changing their current teaching techniques.

'Only 30% of the staff completed the online digital technology training after we told them the session is mandatory and related to the performance review'. (AM-06)

'I don't know where I can get access to those training sessions and where I can get the training notification'. (AS-12)

'Training? It's a completely waste of time. We don't need to know the theory, we would like to know how this can be integrated in my module, try it hands on'. (AS-08)

By contrast, lecturers were broadly critical of the current approaches and quality of the training sessions that were available. They commented that they were not adequate for their needs and they did not develop or enhance the skills needed to adopt new digital technologies in teaching.

Discussions and recommendations

Maintaining and nurturing motivation

The majority of academic managers and teaching staff interviewed believed that the adoption of a new digital technology strategy would create opportunities for development. Its use would help create feelings of self-accomplishment, and it was likely to increase confidence for both lecturers and students. However, there was a warning attached to this in that designing the digital experience around current university structures rather than focusing on the needs of end user could lead to outdated behaviours which reinforces the point made by Raghunath, Anker, and Nortcliffe (2018). A common observation made by lecturers and managers interviewed was that they felt strongly motivated by the idea of enhancing the student experience through the engagement and development of transferable and digital literacy skills.

The prospect of the adoption of new and effective ways of engaging students digitally inside and outside classes without increasing workload often encouraged lecturers to try out and adopt digital technologies in their teaching and learning practices. What should be noted was the difference in how the two groups perceived its introduction. Whilst lecturers saw the main benefit as being the impact on their professional practice in the classroom, academic managers rarely mentioned the pedagogical benefit, instead they felt that the main motivation for the adoption of digital technologies was to increase course recognition, prepare students for future careers and the creation of a student friendly environment. In many ways, this can be traced back to the performative environment described by Ball (2003) and the focus on increased efficiency that Thompson and Wolstencroft (2018) traced to the Further and Higher Education Act (Department for Education 1992), where outcomes are viewed as more critical than the processes adopted. Digital technology is seen as the means to an end rather than a good in itself.

This disconnect is symptomatic of the factors expressed by Dweck's (2000) performance goals, where recognition and the avoidance of negative judgements are key. By contrast, the thoughts of lecturers are linked to learning goals. So, in effect, both groups were positive about the benefits but their motivation came from different sources.

Academic managers interviewed recognised that effective implementation of digital infrastructure and use of resources in terms of IT strategy, access to wireless technology, assessment of compatibility and currency of hardware and software and finally response time to student queries would boost the student and staff motivation even more, something that reflects the literature (Yeung *et al.* 2014). Academic managers also understood that they should involve academic staff in digital technology strategy design in order to create greater transparency, agreement on decisions and platform for sharing experiences with digital technologies.

Learning communities' development

Following on from the interviews conducted with lecturers, it became clear that they are often expected to come up with and share their ideas on pedagogical innovation that would nurture a sense of a community in learning. The research indicated that the same group of academics were not previously encouraged to do so and were not guided on what would be a good example of a learning community or what key success factors would be. Given our previous point about the diversity of approach to success for lecturers and managers, this is clearly of concern. This created a potential conflict with managers who viewed the creation of communities of learning as being of great importance. Lecturers participating did not share the same values and did not feel motivated to create such communities as academic managers do. As defined by Kearney and Zubber-Skerritt (2012), 'learning organization creates learning communities to encourage its members to draw knowledge from within the organization to strengthen their ability to think critically and creatively. The concept assumes that learning is an ongoing, creative and lifelong process; one that adapts and transforms in response to the needs and aspirations of people inside and outside the organization'.

There appeared to be multiple reasons for this reluctance to engage with learning communities as understood by the participatory institutions. First, lecturers tended to focus on their own teaching rather than any great sense of community, choosing to improve their own lessons through digital technology rather than looking to boost any of the metrics. Second, lecturers highlighted the lack of training and clear directions given which contributed to a low level of motivation to embrace the wider benefits of digital literacy. This led to significant resistance and what was perceived by the managers interviewed as an unsatisfactory response to change.

Managers, by contrast, spoke of the importance of creating digital communities and when pressed, spoke of recent changes to the National Student Survey (NSS), where the learning community has become a new focus. This again highlights the performance-based motivation prevalent amongst managers.

Linking this back to the literature, managers in the survey have clearly tried to find ways of highlighting the importance of creating a student friendly digital learning environment (Prensky 2012). One way identified was the importance of positioning the digital learning community within the internal environment of university rather than as a standalone community. This means that you are using digital technology to enhance existing structures rather than starting from scratch. In effect, what was stressed was that digital technology was an enhancement of existing practice rather than something that changed the fundamentals of what was taught. Evidence from this research suggests that this would encourage lecturers to participate and inspire new approaches by sharing examples of good practice. Unfortunately, there is no clear set of expectations or direction that would help academic staff create a student friendly learning community (Yuan and Kim 2014). What has become clear is that the vision of the academic managers of a community of learning based on digital technology is not fully shared by lecturers.

Conception and differences in approach

Information collected during this research shows that in response to changing market requirements, academic managers push for new technology with the stated aim of enhancing teaching and learning approaches. Lecturers in the research, however, feel

they are being forced rather than motivated and encouraged to change the approaches that worked for so many years. There is a recognition of the importance of digital technology but there was also a fear that they would lose control over students learning as well as a reluctance to merely agree to what the academic managers suggested. The consensus was that the traditional whole classroom disciplined teaching was more effective than the minimally guided technology-driven learning. This finding is consistent with the research conducted by Englund, Olofsson, and Price (2017).

In addition to the aforementioned fears, academic teaching teams were concerned about the motives of the introduction of new technology. As has been stated, lecturers tended to focus on the pedagogical benefits of its introduction; however, there was a distrust of the motives of the managers. Many commented on whether it was being done merely to improve NSS results and other metrics rather than to improve students' learning and achievement. A minority commented that more traditional teaching and learning techniques were being sacrificed to try and increase module and course student satisfaction metrics by adopting uncertain and untested technologies.

In response to academic teaching teams' concerns and fears, the majority of academic managers interviewed believed that the main reason behind those concerns is a lack of willingness to learn, adopt new approaches, and to change their old and very often overused teaching and learning materials. What became clear in the research was that many academic managers had not clearly identified the link between staff motivation and their willingness to adopt new technologies. Instead, many managers believed that lecturers shared their view on the benefit of new technology; hence, there was a reliance on performance goal-based techniques to motivate with managers believing the promise of better metrics was enough to encourage the introduction of new techniques. The reality, however, is that the lecturers interviewed were not motivated by this approach, instead adopting a learning goal-based approach when looking at digital technology.

Performance evaluation

Linked into the previous point is that our findings showed that one of the main factors discouraging academic staff from adopting digital technology in teaching and learning is related to the overemphasis that university management teams have on module and course evaluation. Whilst academic managers encouraged lecturers to integrate technology to their current teaching and learning practices and curricula, the perception amongst lecturers was that they did not consider the workload that is associated with such requirements as well as the potential impact on the lecturer. This finding is consistent with the study conducted by Wanner and Palmer (2015) that highlighted the academic staff have limited support and guidance to familiarise themselves with and adopt digital technology practices in classrooms. Whilst the academic staff are anxious about adopting proposed improvements, they are also uncertain about how those improvements would affect their module and course evaluations. They highlighted that those evaluations often act as key indicators for their annual personal performance review (Dweck 2000). In effect, most academic staff are reluctant and are less motivated to adopt the digital technology as there is limited evidence to show that technology has positive impact on module and course evaluations and positive influence on their personal development (Englund, Olofsson, and Price 2017).

What is significant for the practical application of this research about the findings from this research is that both groups share an interest in the introduction of digital technology, so the creation of a shared vision for academic staff and managers on digital technology should be possible. This could have a positive impact on students' learning experiences, can act as a potential solution to common concerns on the adoption of digital technologies and could become a motivating factor if introduced correctly. An example of this would be that performance review criteria could recognise adoption of innovative digital techniques as a positive in terms of performance. This would help minimise staff hesitation, encourage adoption of new digital teaching techniques and increase staff motivation and confidence in doing so. Moreover, the performance review process could be a tool that helps motivate academic staff and encourages them to try new technologies.

Conclusions

The introduction of digital technology into UK Higher Education has been the subject of much debate and at the heart of it is the argument about why we are looking to bring in new technology. The groups at the heart of this study typify this debate and also highlight the differing motivations. Both groups in this study are broadly supportive of the introduction of new forms of digital literacy but underneath this agreement lies significant differences. The academic managers interviewed could be said to broadly follow a performance goal-based approach (Dweck 2000). Their interest lies in the impact digital technology will have on the end results associated with their courses. Hence, by encouraging the implementation of new approaches, they hope that metrics such as the NSS will be improved.

By contrast, lecturers are less convinced by this argument and tend to adopt a learning goal-based motivation for its introduction. They see the benefits to their own professional practice and the impact on the experience of their students. They are wary of any approach that focuses primarily on metrics and are also quick to point to barriers to its introduction. At this point, it is important to reiterate that we should not view the two groups as either homogeneous in nature (although there was a fair amount of unanimity in many of the answers) or mutually exclusive. As is often the way in UK Higher Education, managers lecture and lecturers manage and so whilst this caveat remains important, what we can conclude is that whilst the introduction of digital technology is a shared goal between the two groups, their motivation for doing this is rather different and until the two sides recognise this divide, any introduction is likely to be fraught with difficulties. The recommendations suggested earlier will support this process; however, it is only a starting point for the introduction. The participants for this research are mainly from four business schools in the United Kingdom. Although some of them have also reflected their experiences with their previous institutions, the representative of this data is still limited. Further research could explore the difference between academic staff and academic managers towards their motivation of digital technology adoption with a wider range of data.

Statements on open data, ethics and conflict of interest

Data from this study can be obtained by writing e-mails to the corresponding author.

Academic staff and managers who participated in this research did so voluntarily, and permission was gained to use data for research purposes only. Participants were protected by hiding their personal information. The only personal information asked was their gender, age and experiences with digital technologies.

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