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Current and Future Online and Blended Learning Provisions

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ABSTRACT

This paper explores existing definitions and models of online and blended learning within the academic literature to ascertain the key characteristics and different modes of online learning and teaching (L&T) provisions. These are compared with current online learning provisions within one Higher Education Institution (HEI) in the UK. Empirical data was collected from 42 participants, including senior managers, learning technologists, programme and module leaders and students, from across three different online programmes in the university. By investigating staff and student perspectives, the study explores current online learning and teaching approaches, enablers and barriers to online L&T and what can be learnt or improved in future online L&T environments within HEI. The outcome of this study will be twofold: (1) a table of the characteristics of different modes of online L&T and; (2) a set of key recommendations for developing future online learning environments. These outputs are very timely as the importance of online learning environments has risen dramatically over the last year. COVID-19 has pushed many universities into evolving and delivering online L&T and new online L&T models are likely to be required once COVID-19 has passed.

Keywords: online provisions, online learning, blended learning, definitions and models

Introduction

Within higher education, there are different definitions and models of online learning, some of which have been recognised within the learning and teaching (L&T) literature. Various terms are used in relation to online learning, including but not restricted to: blended learning; distance learning; remote learning; e-learning; online learning; online distance learning, digital learning and mobile learning, etc. More recently as a result of the COVID-19 worldwide pandemic, other terms are starting to emerge, such as 'emergency remote teaching'. This can be described as 'flying the plane while building it' and is in sharp contrast to a quality online provision that is carefully planned and designed with accessibility in mind (Brown, 2020). These terms are increasingly recognised by Higher Education Institutions (HEI) worldwide as a means of improving modern-day learning (Schweizer, Paechter & Weidenmann, 2003) to achieve wider access to education (Jones & Lau, 2010) and internationalisation objectives (Mihhailova, 2006).

Graham, Woodfield and Harrison (2013) developed a spectrum of the different types of L&T delivery, ranging from face-to-face (F2F) to completely online learning. Within the two ends of their spectrum, there are technology-enhanced (with no reduction in F2F); blended learning (with some reduction in F2F); mostly online (with a supplemental or optional degree of F2F). This model is useful as a starting point for understanding the different modes and reflects three clear types of online learning provisions within HEI – online learning, blended learning and distance learning. Graham et al. (2013) emphasis the role of technology within the learning provision, however, there is no consideration of other complexities such as the timing and location of L&T and the level and nature of interactions.

This paper aims to evaluate current online learning provisions within HEI to determine the best approaches for future developments. The study has three objectives: (i) it will evaluate the impact of technology on the development of online and blended learning at a strategic level within a dynamic HE sector; (ii) it will consider the operational factors shaping the design, delivery and outcomes of online teaching and learning and finally; (iii) it will provide practical insights into the factors for success within future online and blended learning provisions. This will aid understanding of the different modes and emergent forms of online learning, especially in a COVID-19 era. The paper begins by exploring the definitions and models of different modes of online learning within the academic literature and draws out the key characteristics.

Exploring Key Definitions of Different Modes of Online Learning

Online learning

Online learning is described by most authors as technology supported learning (Benson 2002, Conrad 2002, Carliner, 2004) with enhancements in accessibility, flexibility and interactions (Ally, 2004). Recently, Singh and Thurman (2019) define online learning as “education being delivered in an online environment through the use of the internet for teaching and learning. This includes online learning on the part of the student that is not dependent on their physical or virtual co-location. The teaching content is delivered online and the instructors develop teaching modules that enhance learning and interactivity in the synchronous or asynchronous environment” (p. 302). Singh and Thurman (2019) identified 46 definitions of online learning within the literature and noted that the essential elements in existing definitions of online learning are the use of technology, the time element - synchronous or asynchronous learning, interactivity, physical distance and comparisons made with traditional classrooms.

Blended learning

Allen and Seaman (2010) suggest blending learning “blends online and face-to-face delivery. A substantial proportion of the content is delivered online, typically uses online discussions, and typically has a reduced number of face-to-face meetings” (p. 5). Sharma (2010) and Cronje (2020) proposes that blended learning involves (i) a combination of face-to-face and online or (ii) a combination of technologies or (iii) a combination of methodologies and, (iv) a mix of theories, and it involves adjusting the relative blend of each of these. Scholars such as Garrison and Kanuka (2004), Bower, Dalgarno, Kennedy, Lee and Kenney (2015) and Hrastinski (2019) promote inclusiveness, quality and quantity and synchronisation concepts. The inclusiveness concept focuses on the inclusiveness of the mix of F2F and online instructional modalities. The quality and quantity conceptualisation emphasises improving the quality of learning and ensuring appropriate amount of time is spent in each of the face to face and online learning environments (Hrastinski, 2019). The synchronous conceptualisation emphasises learning in both real-time or pre-recorded to both campus and online learners. Clearly, some of the dimensions of blended learning are similar to those of online learning as articulated in the different definitions of online learning.

Distance Learning

Distance learning is regarded as a formalised L&T system supported by electronic communication (Techtarget, 2020). The location of learning is not constrained geographically and is more likely to take place at home (Open University, 2020). Distance learning has evolved from print media to include interactive learning through technologies (Schlosser & Simonson, 2003; Dabbagh, 2004). The dimensions of distance learning include technology, individual learning and geographical distance. Some literature regards ‘distance learning’ as an “old-fashioned idea” (Moore et al., 2011 p. 131) and it is no longer relevant within definitions of online learning (Singh & Thurman, 2019). However, both the Open University (2020) and Techtargget (2020) support its place within online learning.

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Moore, Dickson-Deane and Galyen (2011) attempt to set out the differences between online learning and distance learning. They suggest that online learning involves interaction with students on a regular basis whilst distance learning has little or no real-time interaction. Often the intention of online learning is to design a blend of different types of learning whilst distance learning intends to be delivered solely online.

The above definitions of online, blended and distance learning highlight a range of characteristics that are commonly used to distinguish between the different types of online L&T. These include: location, technology, timing, interactions and level of flexibility.

Models of Online and Blended Learning

Similar to the definitions of online and blended learning, models of online and blended learning emphasise different aspects of learning such as the pedagogical or psychological characteristics (Garrison, 2016), the design of the blend (Twigg 2003; Staker & Horn, 2012), the delivery, implementation, and evaluation (Khan, 2005), and the development of skills, attitude, and competence (Valiathan, 2002). These models provide direction for creating and developing learning experiences with consideration to the design, delivery, implementation, and evaluation of online learning.

The Community of Inquiry Framework (Garrison, 2016) stresses the pedagogical or psychological characteristics and approaches to the design of blended learning from a collaborative constructivist approach. The community of inquiry framework describes three types of presence (cognitive presence, teaching presence, and social presence) and argues that the effective integration of these promotes student engagement and learning.

Twigg (2003) identified at least five different models of blended learning including: the supplementary model (basic structure of traditional course is retained with some technology-based activities added to encourage student engagement); the replacement model (reduction in classroom-based time is replaced with online, interactive learning activities); the emporium model (students can choose when, what and how they access and work through learning materials); the fully online model (involves more time teaching online) and; the buffet model (allows student to choose from a variety of offerings e.g. lectures, study sessions, homework, projects, placements).

Staker and Horn's (2012) model identifies at least four types of blend. The rotation model involves rotation between learning modalities in which at least one includes online learning. The flex model is where content is delivered primarily online, and the schedule of learning is customised to individual learners' needs. There is also the self-blend model where one or more online courses supplement traditional courses and the enriched-virtual model where time is divided between attending campus and learning remotely in an online setting. This model emphasises the blend's design similarly to Twigg (2003).

Khan's Octagonal Framework (2005) stresses the design, delivery, implementation and evaluation of e-learning. The framework introduces eight dimensions of blended learning: pedagogical, technological, interface design, evaluation, management, resource support, ethical and institutional. According to Khan (2005), each of these elements needs attention in order to deliver an effective approach to e-learning.

Valiathan's (2002) blended learning model facilitates the development of skills, attitude and competence consisting of skills-driven, attitude-driven and competency-driven learning.

These models emphasise different aspects of online development. For example, Twigg (2003) and Staker and Horn (2012) focus on different types of blended learning whilst Valathian (2002) focus on skills, attitude and behaviour. Khan (2005) provides a holistic approach to online development with consideration at an institutional levels and includes areas such as management, technology and resource support. Hence, this model guided understanding at a strategic level. The Garrison (2016) model focuses more on the design of the online L&T at a teaching, cognitive and social level. Hence, this model guided understanding at an operational level. This research also provided the opportunity to apply Garrison's (2016) model to a business focused environment rather than purely e-learning (Stenbom, 2018). The following section will summarise the key characteristic of different modes of online learning to emerge from the literature review.

Characteristics of Different Modes of Online Learning

Drawing insight from the review of the literature and the range of online and blended learning models, this study differentiates the modes of online L&T and the characteristics that each of them have from the perspective of location; technology; timing; interactions; level of flexibility; online community) (see Table 1).

Table 1: Characteristics of the different modes of online L&T

Type of L&T Characteristics of L&T	Technology Enhanced	Blended Learning	Online Learning	Distance Learning
Location (Campus v Online)	All campus-based (face to face) but enhanced with some online	Mixture of campus-based online-based	All online-based	All online-based
Use of Technology	L&T enhanced with technology	Some L&T delivered using no technology and some using technology	Technology used for L&T	Technology used for L&T
Time Zone (Synchronous v Asynchronous)	Synchronous (face to face) with some Asynchronous (online)	Synchronous (face to face and online) and Asynchronous (online)	Synchronous (online)	Asynchronous (online)
Interactivity: Lecturer to Student Student to Student Immediacy of feedback	High High Immediate	Medium Medium Moderate	High High Moderate	Low Low Delayed
Flexibility	Limited Flexibility	Moderate flexibility	Limited flexibility (location but not timing)	High flexibility (location and timing)
Online Community	Limited potential	Moderate to High potential	High potential	Limited potential

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Tables 1 builds on spectrums such as Graham et al (2013) and highlights that technology is actually only one of six characteristics to be considered in defining online learning. The table provides insight that will allow academics and students to better understand the variety of online L&T and will support them in developing a more understood and engaging online provision.

The remaining aspects of this study set out the methodology, findings and discussion, key recommendations for future online L&T and, finally, the conclusions and implications for academics and practitioners.

Methodology

Context of study

The pedagogical philosophy of Glasgow Caledonian University (GCU) is underpinned by “inspirational approaches to learning, teaching, and assessment which embrace innovation and the imaginative use of learning technologies.” where there is a blend of classroom based approaches and technology-enhanced learning. The strategy for learning is, however, currently being updated to reflect a shift to a greater level of digital learning and more up-to-date and emerging online principles, practices and opportunities. This research was conducted across the three online programmes operating within the Glasgow School for Business and Society (GSBS), at GCU. The programmes included: Graduate Apprenticeship (GA) in BA (Hons) Business Management; ALC Mauritius; MSc Risk Management. None of the programmes within the School offered a purely online learning model. However, prior to COVID-19 the GA in BA (Hons) Business Management offered a mixture of face to face learning (over two days) followed by a mixture of online learning and distance learning. The ALC programme was based on blended learning in partnerships between two institutions. The Risk Management programme was largely distance learning. During COVID-19, there was a shift in all three programmes to a greater level of online learning. Therefore, all four modes of online L&T (identified in table 1) were included within the empirical research.

Approach

This study follows a qualitative and interpretivist research philosophy in the design, methodology and data collection process. The key focus of the research was to explore the following aspects of online L&T:

- What is online L&T?
- What is the current online L&T approach?
- What is working well (enablers)?
- What is not working well (barriers)?
- What can be learned and what can be improved for the future?

In-depth interviews were designed and informed by online and blended learning models (Garrison (2016) and Khan (2005)) and GCU research ethical considerations were taken into account. Data collection methods were approved by the GSBS Ethics Committee. Data was collected from 42 participants including: senior managers; programme leaders; module leaders: students and; learning technologists (see Table 2). Perspectives of programme leaders, module leaders and students from each of the three programmes (identified in the context above) formed a key part of the empirical research. The majority of the staff and student interviews took place from Dec 2019 to March 2020. Due to availability issues, a small number of student interviews took place in the early stages of COVID-19 (April – May 2020).

Table 2: Total Number of In-depth Interviews

Senior Managers Responsible for developing and implementing the overall online L&T strategy.	3
Programme Leaders Responsible for programmes ensuring appropriate academic quality standards.	3
Module Leaders Responsible for delivery of modules ensuring appropriate academic quality standards.	12
Students Have firsthand experience of online L&T.	22
Learning Technologists <i>Support staff in the use of technologies</i>	2
Total Number (Interviews)	42

The in-depth interviews were fully transcribed. Transcriptions were analysed using thematic analysis (Braun & Clarke, 2006) following a deductive approach in an iterative and reflective manner as devised by Lorelli, Nowell, Norris, White and Moules (2017). The process included the following steps: familiarizing ourselves with the data; generating initial codes; searching for themes; reviewing themes; defining and naming themes and; producing a report. This research aimed to produce a robust, trustworthy and complex insight into the various stakeholder's perspectives. The next section of this paper will present the findings and discussion of the data gathered and outline the significant outcomes of this research.

Findings and Discussion

The data analysed in this study represents five focus areas identified in the methodology section.

Definitions of Online and Blended Learning

All participants in this study were asked to define online and blended learning. Our data shows what one person or group referred to as blended learning, may be referred to as online learning or distance learning by another. Senior management were reluctant to provide a definition but recognised that a wide spectrum of online, blended and distance learning provision exists. There was some consistency in the understanding of online and blended learning by programme leaders, module leaders and students but there was still a lack of clarity and detail. This is exemplified by the following quote from a Module Leader:

Online teaching is delivered solely online whereas blended learning is defined as a mixture of online and face to face contact.

Many participants appreciated that the different types of online learning appeared to be on some kind of spectrum and each of them have different features (Moore, Dickson-Deane & Galyen, 2011). Online learning was regarded as having an element of synchronous and asynchronous learning as articulated by several studies (Oblinger & Oblinger, 2005; Carliner, 2004; Sharma, 2010; Allan & Seaman, 2010; Cronje, 2020). Other characteristics that emerged from the responses included online learning being related

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to the flexibility of learning, the level of interactivity and the use of IT, online environment and resources. Technology itself was not mentioned as frequently as there was an underlying assumption that blended and online learning could not take place without technology. Within GCU, the characteristics of different types of learning is consistent with Table 1. However, it is interesting to note that at a strategic level, senior management recognise the complexities in offering one definition within a dynamic sector (Singh & Thurman, 2018). This is partly attributed to the fact that online learning is always evolving (especially in a COVID-19 era) and definitions will have to be continually updated. At an operational level the distinctions were a little clearer and the characteristics identified for the different type of online learning were consistent with table 1. However, the meaning of online learning and the different types need to be “more clearly articulated” along with the “responsibilities” of the different stakeholders. This table could guide the design and development of online programmes in GCU but could also be used by other universities within the HEI sector.

Current online L&T approach in GCU

Programme Leaders were asked to describe their current online learning provisions. Out of the three programmes examined, none of them adopted a purely online learning model (as outlined in the context section under methodology). For example, the GA in BA (Hons) Business Management offered a mixture of face to face learning over a two-day period (which was technology-enhanced), followed by a mixture of online learning (synchronous) and distance learning (asynchronous). The ALC programme took the format of blended learning in partnership between two institutions (some L&T used technology and some used no technology). The Risk Management programme was largely distance learning. This programme offered no synchronous interaction between the lecturer and students and also between students, but there was a high level of flexibility for the students which allowed them to undertake the L&T within their own time. The programmes embraced a range of different online learning provisions achieving different learning goals, meeting the requirements of individual programmes and students and developing unique strategies of learning (Staker and Horn, 2012). The research revealed that the mixture of online L&T approaches offered at GCU, showed evidence of each of the different characteristics summarised in Table 1.

A Programme Leader suggested that whilst the university was “moving in the right direction”, there was “little guidance at a strategic level on pedagogy, technology and interface design”. When it came to developing online L&T, schools, programmes and module team members had a tendency to go off on different pathways depending on their interpretation and experience. The digital strategy needed to be more clearly and systematically embedded at each level.

One member of the senior management team highlighted that whatever format the online L&T took, the most important thing was that it should be “market-driven”. The key issue is:

delivering the right type of learning for a particular type of student. The student experience needs to be an appropriate and a positive one. Different groups of students, different discipline areas, different countries will want different things (Senior Manager).

This would suggest that understanding student’s learning needs is central to the design process and can be supported by an evaluation of the characteristics identified within Table 1.

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The analysis also showed that 'Digital Champions' were evident within GCU. Pockets of online L&T academics were emerging and developing skills through self-learning, support from Learning Technologists and peer support from across the school and wider university. They embraced new tools and technologies whilst experimenting and promoting new online L&T methods. Academic staff were engaging with a wider variety of technologies ranging from: Padlets; discussion forums; video clips; blogs; web links; business simulations; multiple-choice tests; online quizzes; narrated PowerPoints; more advanced presentation tools; and online authoring software.

However, the uptake from staff in online L&T was varied. Some staff "are very keen to learn" whilst "others are not confident and feel intimidated". There are many reasons for this, including not feeling as if they have sufficient direction, top management support or the time to develop the required skills. A member of staff highlighted that:

I had limited time to develop online teaching and did not feel I had the necessary skills.... however, the learning technologists provided support on a weekly basis. More guidance on the design of online learning would have been useful.

The research, up to this point, emphasised the need for strategic direction for online L&T (at a university, school, departmental and programme level and for it to be tailored appropriately for different markets), top management support and clearer lines of responsibility. Moreover, digital champions should continue to be encouraged whilst support is required in the development of skills and attitude (Valiathan, 2002) and the design of teaching presence for the majority of academic staff (Garrison, 2016).

What is working well (Enablers of online learning)?

There are a number of elements of the online L&T environment that appeared to be working well. At an institutional level, there was strong indication that online L&T provided further opportunities for widening participation, continuing professional development, part time delivery, GA programmes, international markets (e.g. transnational education) and more flexible L&T. A Programme Leader also spoke out about the potential for developing new online pedagogies and applying online learning, teaching and assessment in new and innovative ways:

you could use online L&T for developing linkages with industry. This could take the format of an online networking events involving industry experts, academics and students. Alternatively, it could be a virtual tour of a workplaces or allow for the option of developing a work-based assessment.

Online L&T allow HEI to take advantage of emerging opportunities within the wider marketplace. Also, the application of online T&L, to areas such as industry or work-based settings, provides an important understanding and insight for students that they may not otherwise have experienced. This suggests that the learner's needs have to be fully understood before developing an online L&T pedagogy.

There was also clear evidence of positive social, teaching and cognitive presence within online learning (Garrison, 2016). Some MLs reported very high student engagement. Techniques that appeared to encourage higher levels of student engagement included the ML being "passionate about their module" and giving "an impression of always being there".

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Many students interviewed, reported “friendly and supportive environments” and “positive and rewarding experiences” and highlighted the fact that “you could always have contact with someone for support and questions which was reassuring”. One student expressed the view that:

The online L&T environment is very supportive. It exceeded my expectations. I have never experienced that mode of learning before but the provision provided from induction right through the whole duration of my online programme was excellent. It really suits my lifestyle, I never felt alone.”

Another said:

It varied depending on the module leader. Some module leaders just left you after the induction whereas others would send an email or regular prompt which helped motivate your level of engagement. There is a balance between allowing students to self-pace and being motivated by the lecturer.

Students identified with modules which were well-organised, provided regular communication and included comprehensive content. Some MLs “provided clear signposting” which allowed students to easily locate materials. One student commented:

It's a good stable platform, all of the information is in one place. My Module Leader uses a clear menu structure which enables me to find information quickly. It is fairly consistent and there is an ease of navigation.

One Module Leader carefully designed their L&T environment and activities to:

provide a stimulating environment which encapsulated a broad spectrum of opportunities for investigation and analysis, discussion and collaboration and putting theory into practice.

Online links to books, journals, reports and other resources were also being used to encourage students to undertake independent research. One module leader said:

I include links to books, academic papers and videos to support relevant content. I like to encourage interactivity through methods such as Padlets, online quizzes and discussion board for questions. These were all included within the design of the module.

Other techniques used by Module Leaders included: regular announcements and notes of encouragement; shorter presentations rather than hour long lectures; ice breaking activities; using interactive media such as videos and podcasts and online quizzes and providing formative feedback. One student said her level of engagement was encouraged by:

The use of interactive tools such as visual aids, Padlets, and discussion boards. YouTube videos are the way forward and quizzes are very helpful for checking knowledge. There are a lot of different digital platforms. I like that all tutors use different tools for communicating and sharing information and resources and no one module is the same.

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A number of key reflections emerged from the empirical data. Amongst these are the range of opportunities available to universities through the use of online L&T. Staff support, module organization and appropriate design of online L&T activities with applicable technologies are all positive ingredients in online L&T and are aspects which should continue to be developed. All of these points demonstrated that there were higher levels of engagement within online and blended learning models which focused on appropriately combining different technologies, balancing face to face and online learning whilst having a focus on the quality of learning (Sharma, 2010; Hrastinski, 2019).

What is not working well (Barriers to online learning)?

There are also elements of the online L&T environment that appeared to not be working so well and were presenting themselves as barriers for staff and students.

Firstly, a number of PLs and MLs emphasised they needed “top management support and strategic direction” if they were expected to shift from a traditional to an online L&T environment. Secondly, there needed to be more technological investment in “sophisticated hardware and software” and further information on the different tools and technologies available, the pros and cons of each of these tools and how they could be deployed appropriately within online L&T. One Senior Manager stated that:

if we bring in new technologies we need to help staff understand the technologies and how they can be used to enhance their L&T. Otherwise it will be a waste of resources as no one will either use the technologies or exploit them to their full potential.

Thirdly, there was a requirement for further resources and support. A Programme Leader expressed the need for staff to have “time and head space for developing online programmes and modules”. This should also be supported by performance reviews and training programmes as many staff had little experience of online L&T. In many cases, there was a need to have a wider online L&T skills base to technically support staff. For example, many staff simply didn’t have the expertise in developing online content and required the support of professionals such as online content developers. Staff also had no access to exemplars of online L&T practice or insight into what more experienced staff were doing. One ML suggested that the university could perhaps “build and develop staff communities in order to share best practice”. Overall, there appeared to be a lack of guidance on wider issues such as accessibility, ethics, legalities, equality and diversity issues and the implications they have for online L&T indicating that not all dimensions of Khan’s (2005) framework have been applied effectively.

The staff and students also expressed concerns around the social, cognitive and teaching aspects of the online L&T. Staff often found the level of student engagement across modules to be challenging. One Module Leader highlighted that:

Some students do not engage with tasks for reasons including a lack of interest, a commitment, being worried about being judged or they are hesitant to express their own ideas.

Whilst another expressed their concern that:

the online T&L environment does not appear to suit all learning types. Some students don’t want to be the first to speak and some are reluctant to verbalise their ideas.

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There were very mixed views about whether in fact student engagement should be compulsory and if it should be part of university policy and practice.

The experience of students was varied across modules. Some students “had little understanding of what was expected from them”. Others “didn’t have a clear understanding of the purpose of online activities, the key learning outcomes and the links to the assessment”. A further student said that “some of the online activities did not inspire them nor encourage them to engage, explore and grapple with the materials”.

Whilst some modules appeared to be well organised, there was a “lack of consistency” regularly highlighted across modules, even within the same programme. A student highlighted that:

There was also a lack of house style across the programmes which makes it hard to find things but also conveys a sense of their being a lack of professionalism.

Furthermore, another student spoke out about there not being much of an online learning community. He said that:

Sometimes other students don’t comment and engage. It can be demoralizing! I feel that I can often learn from other people’s comments but some people just don’t add to the discussion.

There was concern that there were few activities that encouraged “more personal relationships” (e.g., post a photo of yourself with information on your background). A senior manager stated that:

whilst many lecturers are trying to replicate the classroom experience they still don’t have much experience of creating ‘a sense of belonging’ nor ‘sense of personalities’ within the online learning environment.

Overall, these reflections highlighted the need for institutional direction, top management support, technological infrastructure and training and support as part of a holistic approach to online development (Khan, 2005). The issues of appropriate infrastructure and technical support are key factors affecting the adoption of online education within a COVID 19 environment and therefore require careful consideration (Chavda, 2021). They also highlighted a range of operational aspects of the teaching, social and cognitive environment (Garrison 2016) that were falling short of staff and student expectations and requirements eg staff guidance on interface design (eg instructions and exemplars), module organisation, level of engagement with L&T activities and effective learning communities. These strategic and operational limitations are potentially the reason that some online L&T is naturally taking more of a distance learning approach rather than a blended learning approach to online learning.

The models of online learning provide a useful guide for overcoming some of the online L&T challenges (Garrison, 2016; Khan, 2005). However, they do not always reflect current online L&T environments and experiences nor fully consider the contemporary perspectives and position of the university, staff and students. That in itself is a key challenge to overcome in developing effective online L&T.

What can be learned and what can be improved for the future?

There are many online L&T lessons that should be learnt and improved upon from this study. These will be discussed under the following three headings: university; staff and; student.

University: At the university level, there is a need for clearer definitions, a transparent digital strategy, top management support and distinct lines of responsibility. For example, who is taking the strategic lead in embedding online L&T strategy across the various schools and programmes? The university needs to invest in a range of appropriate online tools and technologies and build the skill base for developing online content and resources. The university needs to continually seek out and harness online L&T opportunities and digital champions should continue to be encouraged to explore innovative ways of working and take key initiatives forward.

Staff: At the staff level, there is a requirement for online L&T training and guidance. There should be measures put in place to improve staff awareness and understanding of available tools and technologies and for encouraging a culture of sharing good practice (e.g. peer support staff communities). Guidance should be provided in the form of L&T models, module templates and online L&T exemplars. There should be agreed minimum standards for online content. When developing modules, staff need to carefully plan the organisation of their module ensuring consistency and focus on designing interactive and engaging L&T activities. Staff should have sufficient development time and be rewarded for their efforts.

Student: From the student's perspective, there is a necessity for a strong induction programme covering online learning expectations and support on the use of tools and technologies. Students need to be aware that staff regularly monitor the online environment and are available for support and feedback. Student engagement can be encouraged through the use of interactive learning activities and a regular level of communication. The purpose of online activities should be transparent along with the key learning outcomes and links to assessment (this often helps motivation levels). There may even be the occasion for rewarding online participation. Online L&T environments should promote 'communities' and a 'greater sense of belonging (eg using Padlets, discussion boards) along with a 'better sense of personality' (eg. post your photo or background information).

The recommendations for future online L&T, as discussed from these three different perspectives, are conceptualised in Figure 1 below.

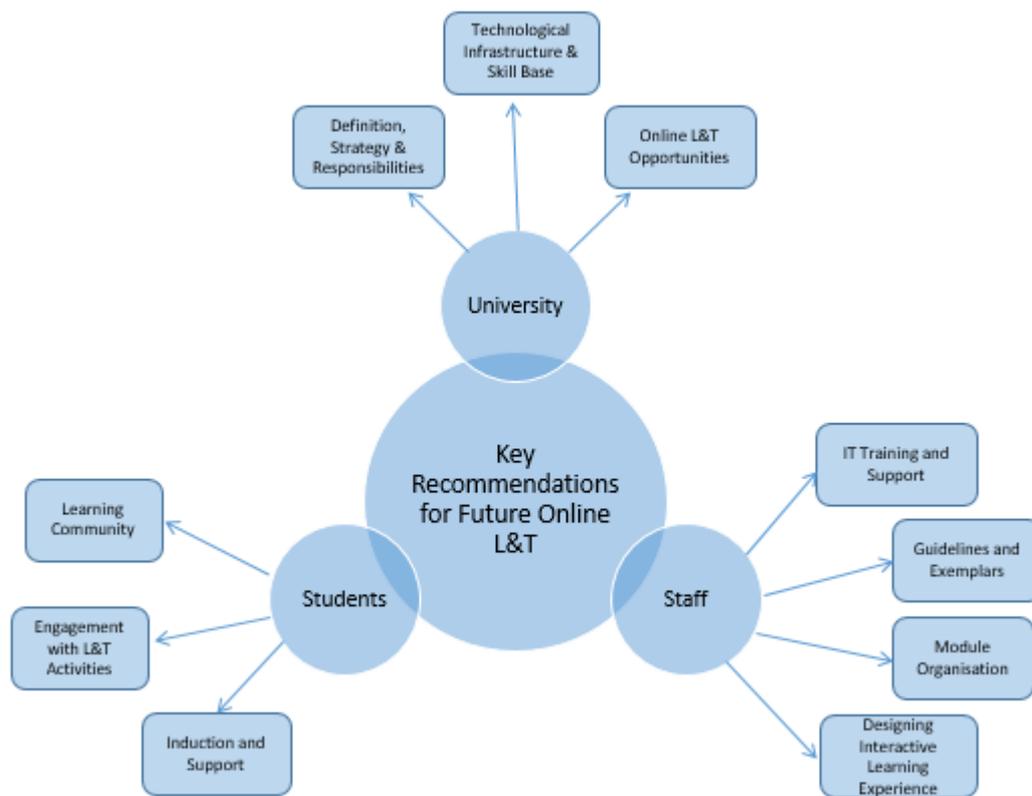


Figure 1: Key Recommendations for Future Online L&T

Conclusions

This paper contributes to the body of research on online L&T and provides insight and practical guidance for academics and practitioners, working within online environments, across HEI. This paper has examined the different definitions of online learning and explored various online and blended learning models. The empirical research has also focused on current online L&T practices, what is working well and what is not working well. Two key outputs have come out of the study: Table 1 which outlines the characteristics of the different types of online L&T and Figure 1 which presents the key recommendations for future online L&T.

Many HEI have been forced into delivering online learning as a consequence of COVID-19. The current pandemic has forced the education community into instant adaptation, coming from teaching face to face to sharing the learning setting via online services and educational practices (Burgos, 2020; Huang et al., 2020). However, in the process, many challenges to the development of online learning have been revealed, including poor online teaching infrastructure (Zhang, Wang, Yang & Wang, 2020), lack of mentoring and support and issues in competences when using digital formats (Judd, Rember, Pellegrini, Ludlow & Meisner, 2020).

This research identifies ways of developing more engaging and high quality online L&T and tackling some of the barriers which are impacting on the effectiveness of current practice. Table 1 should be used by HEI to determine, understand and communicate the different models of online learning offered by their institution. Figure 1 should be used to develop and improve online learning at a strategic and operational level within GCU. However, the majority of the recommendations will be applicable to other HEI but may need to be tailored or adapted for their respective context or environment. The model is also likely to evolve during the COVID-19

era and of course during the post COVID-19 period to allow for further emergent forms of online learning. Both of these outputs are timely, however, given the current COVID-19 situation and the necessity for HEI to respond quickly and effectively.

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