CHAPTER I

Nothing Is Constant Except Change
Academia's Digital Transformation

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'Nothing is constant except change', said the Greek philosopher Heraclitus, yet for a long time this quote appeared not to be applicable to higher education, with universities and other educational institutions considered highly reluctant to change. This, however, changed overnight with COVID-19, shaking up the sector, compelling it to move courses and entire programmes into the online sphere, in many cases overnight. Thus academia proved adaptable and flexible when there was a need.

Beyond its digitalisation process, higher education has been confronted with a series of profound challenges for some time now, such as an increase in worldwide competition, a decrease in financial means and (public) funding, as well as a more general questioning of its overall mission and broader role within society (Kaplan 2014; Pucciarelli and Kaplan 2019). Moreover, its digital transformation – some even speak of disruption – began long before the pandemic. As early as 2012, the *New York Times* solemnly proclaimed the Year of the MOOC (Massive Open Online Course; Kaplan 2017), predicting that online courses taught on platforms such as Coursera or Udacity would have the potential to disrupt the entire higher education sector (Kaplan and Haenlein 2016). Until now, this had not been the case; but the dynamic launched by COVID-19 might be a game-changer.

In this book's first chapter, I will show that with the pandemic's arrival, actually 'Everything has changed but nothing has changed' at all. Furthermore, consistent with the saying 'Nothing changes if nothing changes', the author espouses digitalisation as demanding real innovation beyond simply transferring offline courses into the cybersphere. At the same time, we should also avoid altering everything, as 'All change is not growth, as all movement is not forward'. Finally, this chapter focuses on the quote 'Things do not change; we change', advocating for academia's need to make a few changes to be able to definitively benefit from its digital transformation (Kaplan 2020, 2021).

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'Everything Has Changed, Yet Nothing Has Changed' – Mark Hamill

You might have heard claims that COVID-19 enabled higher education's digitalisation, which is valid to a certain extent. However, we must be clear that the necessary technology making online teaching and learning possible has existed for a long time. MOOCs, SPOCS (Small Private Online Courses), SMOCs (Synchronous Mass Online Courses) and SSOCs (Synchronous Small Online Courses) have been on the market for years now (Kaplan and Haenlein 2016). Artificial intelligence (AI) has already entered higher education via adaptive learning or AI-driven teaching assistants, such as Georgia Tech's Jill Watson (Kaplan 2021).

However, what changed due to the pandemic was the mindset of administration and faculty, who were largely reluctant to stand in front of a camera and go digital. Even hard-line enemies of online teaching and adamant opponents were compelled to take their first steps into the newly imposed digital world of pedagogy. Several among them are 'converts' from such entrenched opposition to digital instruction to being strong advocates of online pedagogy's possibilities. Even the most vehement adversaries among university administrators have been compelled to accept the new digital era of higher education and by now understand its many advantages and benefits (Kaplan 2020). So ultimately, at hand is a simple change of heart as much as a change in technologies. Therefore, we can state on this level: 'Everything has changed but nothing has changed.'

'Nothing Changes If Nothing Changes'

In our new era, higher education should avoid other sectors' mistakes and understand that 'going digital' means much more than merely moving an offline course onto a digital platform. Or to quote Radamiz, 'Nothing changes if nothing changes.' To truly benefit from academia's digitalisation, genuine pedagogical innovation is needed; changes on the margins will not suffice (Thibierge 2020). To give just one example, think of programmes wherein first-year students attend online courses to acquire the respective domain's basic knowledge while working part time at a company. The programme then could continue with a full-time on-campus period during which the students would dedicate their time to in-class discussions, the hands-on application of previously learned concepts and exchanges between fellow students in and outside the classroom, to add a networking perspective. Finally, the programme's last year could

subsequently be spent working at the company, with the university still providing online tutoring and coaching (Kaplan 2020).

An additional application concerns multi-campus institutions, such as my employer and alma mater, ESCP (European School of Commerce Paris), which, as its name indicates, originated in France but now has campuses in Berlin, London, Madrid, Turin and Warsaw (Kaplan 2014, 2018a). Applying virtual elements could foster an additional connection between such campuses (Kaplan 2018b), as one could imagine, for example, core courses simultaneously taught at multiple sites bringing together students from various physical locations remotely working on group assignments as team members. Nurturing such a sense of closeness enabled by digital technology (Mucharraz and Venuti 2020) is also applicable to further contexts such as international exchange periods, where students physically spend time at partner institutions all over the world, or during internship periods, during which universities often lose contact with their students, who, nonetheless and ironically, spend many hours online.

'All Change Is Not Growth, as All Movement Is Not Forward' – Ellen Glasgow

A second mistake higher education should avoid besides merely transferring offline courses onto online platforms and thinking they're done (Kaplan 2009; Kaplan and Haenlein 2010) is to go to the other extreme and seek to digitalise everything. The quote 'All change is not growth, as all movement is not forward', is pertinent in this context, as aforementioned, the online world demands genuine pedagogical innovations. In other words: going digital has to make sense. There are more than a few situations where a live course is far more appropriate and efficacious than is an online course. Moreover, let's not forget that higher education is not only about learning and teaching but also about exchanging ideas with fellow students and faculty, as well as creating lifelong networks and friendships.

It would be fatal to believe that physical university buildings are a thing of the past owing to digitalisation. For the most part, socialising is still easier to do live than it is virtually, so future buildings will need to adapt to our new reality. Instead of large lecture halls, more space will be dedicated to teamwork as well as interfacing between fellow students, professors, alumni and the entire community built around a university. Accordingly, buildings need to foster a stimulating student life and radiate an enjoyable ambiance and climate. Only then will they motivate students and faculty to physically come to university, a sine qua non for their developing a strong attachment to their alma mater (Kaplan 2021).

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'Things Do Not Change; We Change' – Henry David Thoreau

To conclude, while the COVID-19 pandemic has inarguably accelerated academia's digital transformation, as aforementioned, it was actually a change of heart that spurred this, more than a modification of the environment or possibilities enabled by digital technologies. Thus 'Things do not change; we change' is a particularly relevant sentiment. It also must be stressed that there is still much to do. Although universities put their entire curricula online in almost no time, it did not mean that course quality was perfect; rather, the opposite was the case. However, during lockdown, few students complained about course quality, being instead grateful for universities' pivoting in these extraordinary times. Not only that, but surprisingly few faculty members requested clarifications about intellectual property rights or remuneration policies concerning teaching online. This atmosphere will definitely evolve in the future, and universities worldwide will face relevant academic, budgetary, legal and operational questions (Kaplan 2020).

Universities will have to reflect upon these questions very seriously in order to transform COVID-19 into a genuine opportunity and not find themselves threatened by the ongoing digital transformation and potential disruption of the higher education sector. On the one hand, higher education's digitalisation will generate new potential revenue sources, as the market will become even more global than currently is the case (Kaplan 2017). However, as a logical consequence, the higher education environment will also become more competitive (Kaplan and Pucciarelli 2016; Pucciarelli and Kaplan 2016) with online courses demanding considerable resources for their production, to mention just some of the issues that higher education institutions will be facing.

This book's intention is to respond to some of those questions, to elucidate further points of matters essential to undertake, as well as to foster and encourage constructive discussion among the field's research community, leadership teams, higher education institutions worldwide, investors and edtech (educational technology) actors, teaching professionals and employees within the sector but also the broader public with a stake in (higher) education's future. I hope you enjoy this compilation as much as I enjoyed putting it together. I hope you find the various authors' contributions as exciting and inspiring as I believe them to be, being more than grateful for their valuable insights and input. In brief, I hope you like this book as much as I do.

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PART I

(R)evolution of the Higher Education Sector

Higher Education's Digitalisation
Past, Present and Future

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The events following COVID-19 catalysed a transformation in the higher education sector, with many institutions forced to rapidly embrace the digital domain. However, as discussed in Chapter 1, this can be viewed as the acceleration of trends that have been observed for several decades (Weller 2020). It could even be argued that the development of distance learning supported by technology has been occurring for centuries, since the invention of the printing press (Kaplan and Haenlein 2016). Research in Technology Enhanced Learning (TEL) has explored how technological affordances can aid learners when judiciously introduced to learning settings. Examples include TEL being used to aid learners in regulating their learning (Zhang and Quintana 2012) and scaffolding dialogue (Murphy, Coiro and Kiili 2019). Due to these affordances, higher educational institutions have for many years been increasing their use of TEL. Nevertheless, the pace at which universities across the world introduced technology to enable distance and blended learning was unprecedented following COVID-19, and there is a need to consider whether and how it is likely to have changed the landscape of higher education forever. As universities embrace TEL, there are many lessons that can be learnt from past attempts at innovation. This chapter discusses three pressing topics that represent continuing debates in the TEL research community. We will use projects from OpenTEL (an Open University strategic research initiative) to illustrate state-of-the-art approaches to these topics. The chapter concludes with reflections on the relationship between universities and TEL post-COVID.

The Open University and OpenTEL

This chapter will detail projects from the OpenTEL research group. For context, a short introduction is provided here to the Open University (OU) and OpenTEL. The OU was founded in 1969 and has a mission to

be 'open to people, places, methods and ideas'. In line with this mission, there are no minimum academic qualifications needed to start a degree with the OU. Since its inception, the OU has taken learning to learners, wherever they are, using an evolving range of technologies, supporting learners from across the United Kingdom and, more recently, across the globe (Cross et al. 2019). The university has pioneered new approaches to teaching in response to the needs of its diverse set of students who are learning at a distance. This has been especially prevalent in science, technology, engineering and maths (STEM) subjects, where learners have not had access to a traditional laboratory. A range of technologies are used to support learners, ranging from broadcasting information via the BBC, to using augmented reality to practice presentations (McFaul and FitzGerald 2020). At the start of 2021, courses at the OU predominantly used a blended approach, combining online study and, where appropriate, posted materials. Prior to COVID-19, it was the practice of the OU to also support learners by organising in-person and online tutorials held by hundreds of associate lecturers across the United Kingdom. During COVID-19, these tutorials were all moved to an online format.

Within the OU, OpenTEL has a unique position as a research group dedicated to the use of TEL in a manner befitting the OU's mission. Researchers have argued that TEL as a field is inherently applied and multidisciplinary (see, e.g., Scanlon and Conole 2018). Increasingly, the complex cross-disciplinary difficulties presented by technological and pedagogical challenges demand new approaches, a rich set of theoretical perspectives and innovative research methodologies. In response to the complexities of effectively using TEL to support learners, OpenTEL is an interdisciplinary group of researchers with backgrounds including educational technology, STEM, social science and organisational studies. The wide diversity of group members' backgrounds allows the exploration of openness and TEL in ways that can feed into the OU's teaching.

In 2021, OpenTEL had six main research areas:

- learning in an open, connected world and at scale,
- design and analytics in learning,
- language learning landscapes,
- citizen science,
- inclusion,
- professional and digital learning.

These areas represent aspects of TEL that are central to how the OU provides distance education.

The following sections present three questions that span these research areas. Example OpenTEL projects are used to demonstrate current thinking related to each question. The questions are as follows:

- What role will universities play in supporting lifelong learning in the future?
- How inclusive is open learning?
- What do technological and pedagogical innovations promise for science education?

What Role Will Universities Play in Supporting Lifelong Learning in the Future?

A Google Scholar search for articles on 'lifelong learning' published in 1990 returns around 3,000 results. The same search for articles published in 2020 returns around 41,000 results. In the thirty years between 1990 and 2020, learning technology has been truly transformed. The development of search engines, video hosting platforms and Massive Open Online Courses (MOOCs) has made knowledge more accessible to anyone with a stable internet connection. At the same time, the pace of technological change has meant that workplaces are constantly adapting, as new software and hardware is introduced to help employees perform tasks more effectively. In order to remain competitive, workplaces have needed to engage their employees in professional development, often involving TEL. The expansion of academic research on lifelong learning is a reflection of changed societal views, that is, increased expectations for people to continue growing their skills and knowledge throughout their lifespan. As demonstrated by standalone business-oriented courses offered by higher educational institutes (e.g., https://business.edx.org/), universities are starting to use TEL to offer professional qualifications alongside more traditional degrees. In 2021, micro-credentials are increasingly being offered by higher educational institutes (e.g., www.futurelearn.com/programs). The European MOOC Consortium – Labour Market (EMC-LM) exemplifies higher educational institutes engaging with MOOCs in the labour market, either by developing MOOCs that are aligned with continuing professional development or by carrying out research in this area (Farrow 2020).

TEL is also starting to be used to tackle global workplace issues, going beyond the sphere of formal learning. The Learning From Incidents and Implementing Action (LFIA) project examined how companies in the

energy sector used TEL to learn after incidents and prevent major disasters. After an incident investigation, energy companies leverage TEL to allow individual workers to learn using a summary of an incident, reflecting on how that incident is relevant to their own work practices (Littlejohn et al. 2017). Teams of workers are guided through the events of an incident and its implications by a team leader. For these 'learning sessions' to result in safer behaviour, the way in which workers are guided through the material must be based on pedagogically sound principles (Murphy 2020). While research suggests it is not currently playing this role, TEL could be used to provide structure and underpinning pedagogy to these learning sessions. As with all settings, LFIA demonstrates the need to judiciously consider what affordances of TEL can help learners to achieve their goals.

The Fleming Fund: Tackling Antimicrobial Resistance (TAMR) is another example of an OU research project that examines how TEL can be utilised to educate a large population and change workplace behaviour. Antimicrobial resistance is one of the world's current biggest threats. Tackling this issue requires co-operation and exchange of knowledge across multiple professions and at local, national and global levels (Charitonos and Littlejohn 2021). In the energy sector, technology was used to support learning through the creation and distribution of learning materials, with the greatest opportunities relating to embedding effective pedagogy. In contrast, TAMR aims to use TEL to educate professionals in low-to-middle income countries; the biggest value of TEL could be seen as delivering a consistent experience across diverse settings. There are many barriers to successful implementation of TEL in such a varied context, such as internet access (Charitonos and Littlejohn 2021). TEL can provide a flexible learning environment that allows the same material to be presented in multiple ways, allowing learners to make use of whatever is available at the time. A full-blown learning management system could be supplemented by a mobile text message–based system to deliver the same content. Both LFIA and TAMR highlight the potential for TEL to contribute to educating workforces to address issues of global importance. However, the purpose of TEL in workplaces varies greatly, and consideration must be given to how the cultural and social norms of diverse groups of people will influence its use (Cole and Engeström 1993). Universities are uniquely placed to provide guidance and support on how to use TEL in a pedagogically effective manner with adult learners.

Outside of the workplace, TEL is evolving to support lifelong learning for those who need to learn new skills quickly, especially for those who have limited resources. Mobile phones in particular have the power to