2.3 How to encourage academics to embrace change and new academic practices.

This module focuses on the way institutions may recognize and encourage engagement with technology-mediated teaching and other innovative activities.

A rapidly changing world

The rapid development and widespread adoption of digital technologies are contributing to change almost every aspect of people's lives. This phenomenon is directly linked to what has been defined as the "fourth industrial revolution", or 4IR (Schwab, 2016): a process which entails the automation of traditional manufacturing and industrial practices using modern smart technology. Digital transformation is a process involving several digital technologies, including large-scale machine-to-machine communication (M2M), 5G, artificial intelligence, Internet of Things (IoT) and Blockchain. These technologies form an ecosystem through which future economic and social changes will arise (OECD, 2019). The COVID-19 pandemic all but accelerated this process, causing a forced technological revolution in HEIs (higher education institutions) worldwide.

In the previous century, change came at a reasonable pace. People had time to adapt, and acquired skillsets generally retained their usefulness for the duration of the career. Digitalization, on the other hand, advances much faster. Society, law and people cannot keep up with the technological breakthroughs we have observed in the last years. Therefore, it is of paramount importance that college students are exposed to potentially disruptive, state-of-the-art technologies, and more importantly, acquire conceptual and inquiring critical thinking, creativity, and integrative learning skills essential to improve their decision making and humanics capabilities (Aoun, 2017; Crittenden & Crittenden, 2016). HEIs should not only act as knowledge providers but also aid students to learn how to accept responsibility for their learning, to develop enough self-control in their use of technology and to learn how to synthesize and access available information with critical sensibility. Generally, HEIs are where innovation is planned, tested and implemented; therefore, a continually interdependent relation between them and technologies should be considered. To increase their potential for success, HEIs should therefore combine strategy with technology at all levels. Recent studies (Wilms et al. 2017; Bond et al. 2018; Seres et al. 2018; Curaj et al. 2018) show that universities and similar institutions should provide learners with the skills and knowledge they need for a very different future, supporting this point even more.

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Embracing change

There is now widespread acceptance that increased investment in technology, digital tools and online teaching is needed. The benefits of such investments can be numerous: greater flexibility and access for students; increased efficiency through the modernization of back-end systems and improved student learning outcomes through analysis of predictive models, among others. By going digital – or hybrid – institutions can break free from physical limitations, such as availabilty of classrooms or other spaces (offices, etc.): entire buildings can also be reimagined to encourage more engaged, communal learning. Lecture halls can be repurposed into maker spaces or collaborative learning labs, and new buildings can be designed with fewer classrooms and offices and more shared spaces. In short, as institutions embrace digital transformation, the physical spaces they do have become less about basic operations and more about community.

As students take courses entirely online − or do more of their work using online tools and platforms − the institution is passively capturing a digital record of their learning. Without any additional effort on the students' part, these records can be memorialised in a set of badges, microcredentials or portfolios that follow them into the working world. This allows learners and employers to easily identify the knowledge, skills and abilities that underlie a specific individual's degree. That's the idea behind the push for comprehensive learning records, which would bring together digital information on formal education with co-curricular learning, work-based training and experiences.

Side-effects such as these are in some ways the most revolutionary thing about digital transformation, creating major opportunities to improve efficiency and student success. They show that when technology is truly embedded in the enterprise, it moves from being a cost item to an asset. To begin to realise that effect, colleges and universities don't have to make large investments, they just need to start small, and as technology and online learning become a more routine part of their work, the benefits start to accrue. In the not-so-distant future, policy makers will look up and realise that digital transformation has not only increased flexibility and access, but also changed higher education for the better in ways that they never expected.

Although some evidence indicates digitalization has the potential to be a distraction during classroom activities (Hembrooke and Gay, 2003; Fried, 2008), the answer may not be to oppose technology but rather to fully embrace it. It is quite clear now that digitalization is not going away: it has grown to become a central part of how young (and even middle-aged) people communicate and process information as well as how they view the world and themselves in it. This process is radically changing the learning experience, much in the same way as it is changing the relationships between businesses and customers. Institutions that do not allow students to access and use digital devices can make the learning process bothersome: Athanassiou, McNett, and Harvey (2003) suggest technology is an extension of who college students are and that students appreciate technology's conceptual richness when used in accordance with a viable learning taxonomy. Given recognition of life-long learning, HEIs will not be in a position to ban technology from their students' future lives, and thus it behooves such institutions to help students learn to accept responsibility for their education and to develop self-control in their use of technology. Furthermore, HEIs that do integrate digital tools in the classroom serve as role-models, and modeling behavior is a central part of social learning theory (Bandura, 1971). Accordingly, HEIs that embrace the usage of digital toolsets and provide opportunities for the application of digital activities will enhance overall learning while also developing skill-based methods (Cauley, Aiken, & Whitney, 2009).

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During the COVID-19 pandemic, one of the biggest hurdles universities face is encouraging understandably sceptical academics who perhaps lack the time, confidence or knowledge to embrace digital learning, so whichever route is chosen, robust professional development is clearly needed. According to the UK's Jisc 2019-20 Digital experience insights survey, 74% of teaching staff in UK colleges and universities said they had never taught in a live online environment before lockdown and only 20% gave personalised digital feedback. This is unsurprising, as only 34% of teaching staff said they had had regular opportunities to develop their digital skills. Furthermore, Broadband infrastructure is still developing in the European Union: overall connectivity has improved, both as far as demand and supply are concerned. In 2019, next generation access (NGA) coverage increased to 86% of households compared to 83% in 2018, while fixed very high capacity networks (VHCNs) are available to 44% of households[1].

New Academic Practices

As previously mentioned, digital transformation is a constant, complex transition, where numerous education stakeholders (learners, teachers and administrative staff) , as well as the community as a whole, must work together in a coordinated manner. In order to meet the demands of the future, HEIs must evolve and be driven by competition (Pucciarelli and Kaplan 2016), profit (McCowan 2017; Sperling 2017), customer experience and agility (Zervina and Stukalina 2019), and especially by a strong focus on students (Curaj et al. 2018, Orr et al. 2019). It is of paramount importance that educators continually innovate the learning experience with digital curriculum delivery systems and with practical digital tool usage (Crittenden & Crittenden, 2015). Faculty members, along with students and practitioners, might be overwhelmed by the plethora of choices in pedagogical and practical digital tools. In this regard, educational conferences and pedagogical journals can provide useful insights. Additionally, attending tech industry conferences can be highly informative and help create a useful network for business partnerships (e.g., expert guest speakers, early product access, etc.).

Until recently, digital transformation in academia could be regarded as a relatively novel topic, but the COVID-19 pandemic changed this drastically by forcing everyone to embrace digital environments in our day-to day life. Given the dynamism and the spread of individual actions taken and services offered, it is important for national actors to map and constantly monitor recent developments to get a clear picture of what works and what does not in an attempt to promote good practices and peer learning, including from international peers.

Taking also into account the quick and progressive digitalization of our economy, it is imperative that educators be at the forefront with curriculum and practical tools and in the transformation of our students into employees with the critical thinking, creative and inquiry skills needed to add value in a world in which machines will work alongside human professionals. By wholly embracing digitalization in a way that enhances learning and provides interactive activities and experiences, HEIs can get ahead of this technological storm.

[1] Digital Economy and Society Index Report 2020 – Connectivity. https://digital-strategy.ec.europa.eu/en/policies/desi-connectivity. Retrieved Sept. 1, 2021.

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