Chapter 1
Learning and Teaching in the Modern Age

Sara Fazzin
Xenophon College London, UK

ABSTRACT

During such uncertain and disruptive times, the future of learning requires an attentive look and careful consideration. Technologies grow at a steady pace; educators are required to upskill constantly in a race to benefit from the latest innovations. However, the question remains: Are we ready to change the way we teach, learn, and most importantly, approach education? In this chapter, the authors argue about the importance of integrating learning theories in the instructional design used to engage with students and promote their learning in a hybrid approach. Finally, they look at potential fields of research to foster innovation in the EdTech sector.

INTRODUCTION

Due to the recent Covid-19 pandemic, there has been a shift from "traditional" schooling to an online provision, where technologies are at the core both in physical and virtual classrooms (Aoun, 2017). While critics worldwide have cried out the impossibility to replicate the majority of the school experience in an online environment (among others, Ahn & McEachin, 2017; Bazzaz, 2020; Carey, 2016; Fitzpatrick, Berends, Ferrare & Waddington, 2020; Henrich, Darling-Aduana et al., 2019; Khan, 2011; Noer, 2012; Cennamo, Ross & Rogers, 2002), blended learning is not a novel concept (Bridges, 2014). Banking on the participatory culture of the Internet (Jenkins, 2009) and the flourishing affinity networks in a variety of contexts (Ito, Martin, Pfister et al., 2018), as well as the new EdTech tools that are nowadays available at a decent price, educationalists, policymakers and school leaders alike, have expressed their joy at the opportunity to reform the school system, bringing in more innovation while reducing costs, broadening access to resources and improving the quality of the teaching provision (see for example Khan, 2011; Reich & Ito, 2017; Watters, 2018). How? Borrowing the vocabulary used by Reich (2020), educational charismatics are riding the next disruptive innovation offered by technology; while tinkers are slowly building their way towards change at a much slower pace by introducing new tools in the classroom.

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Thus, we will look at the importance of learning theories when choosing and deploying educational technologies, as well as the fundamental role instructional design should be recognised to provide a better learning experience, in the modern phygital age.

THE DIGITAL LANDSCAPE

Even though there is an underlying movement of sceptical people out there (see, for example, the Beyond Current Horizons project which was run by FutureLab, and Facer, 2009), venture capitalists have opened their wallets to fund some innovative educational projects, such as Udacity and Coursera (Watters, 2018). Thus, there are infinite opportunities for effective change, if we redesign the way we think about the educational system.

As highlighted by Reich and Ito (2017), and Dede and Richards (2012) among others, technology itself cannot warrant a change, for it to happen we need the commitment of people and institutions (Haymore Sandholtz, Ringstaff & Dwyer, 1997). Teachers require new skills and time to offer personalised learning to students, rather than concentrating on searching for the right resources on the wide world web. Students do not benefit from being considered "roaming autodidacts" (McMillan Cottom, 2015) - at least not at the beginning, as much as they didn't benefit from a system based on standardisation. Leaders need to concentrate their efforts on supporting staff in their growth and should collaborate with a dedicated instructional designer for the daily management of the teaching and learning, as well as ensuring that the school's strategic vision is effectively implemented. Schools should strive to offer the best possible learning experience to all their pupils, regardless of their social, racial and economical background, and according to their learning styles (the debate is fierce on this topic, see among others Bauerlein, 2014; Campbell, Campbell & Dickinson, 2004; Ferreira, 2014; Gardner, 2006; Horn, 2010).

What we can testify is that the advent of the Covid-19 pandemic has brought in a new era for digital learning which goes beyond the mere use of additional digital resources in the traditional classroom setting. It is clear that, although technologies are developing at a rapid pace, there is nothing at the moment that can come close to replicating the skills and abilities of human teachers, in particular in the interaction with students (see, among others, Eyal, 2012). Affective technologies are being developed and tested, but their results are found lacking when it comes to understanding student behaviour (Arguel et al., 2017; Calvo, D'Mello, Gratch & Kappas, 2015). Thus, there are few if non-existing studies of new ways of reforming schools and other educational settings, whether in the UK or generally elsewhere, to cater for a unified solution on how to successfully create standards for teaching in phygital environments. Studying the way schools are coping and adapting, will help school leaders to better embrace change and innovate while making the best use of resources.

Educational technologies seem to be in rapid expansion, starting from the 19th century, with the invention of the camera and the radio, up to smartphones, social networks and wearable devices (among others, see Fazzin, 2019).

Since the past decades, academics and teachers alike have been asked to make use of technologies to inform their curriculum (Selwyn, 2013; Williamson, 2015), from online delivery to student feedback, with the aim of integrating digital mediums, skills and opportunities to enrich the learning experience (Lupton, Mewburn & Thomson, 2018; Merrill, 2002, 2007, 2013), as well as a means to disseminate knowledge (Carrigan, 2016; Gregg, 2009; Kieslinger, 2015; Mewburn and Thomson, 2013; Veletsianos and Kimmons, 2012; Veletsianos and Kimmons, 2013; Weller, 2011, 2013). The possibilities that digital

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