Chapter 9
Gamification Meets Mobile Learning: Soft-Skills Enhancement

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ABSTRACT
Higher education in the era of Industrial Revolution 4.0 (IR 4.0) has given a brand new drive on Malaysian educational transformation. The impact of a numerous technology innovations in ICT towards Malaysian education is noticeable. Some existing jobs will be eliminated in this era, but more new jobs that require digital literacy are going to be created. Therefore, Education 4.0 must be able to produce graduates with excellent communication and collaborative skills. However, Malaysian Digest states that fresh graduates lack soft skills. Several approaches have been proposed by the Ministry of Higher Education for the purpose of enhancing students’ soft skills. Therefore, by having technologies to help overcome this problem is sought after. This chapter describes the utilization of mobile learning and gamification in enhancing learner’s soft skills. It elaborates the effectiveness of using gamification in mobile learning technique to develop learners’ higher order thinking skills to help them succeed in a global economy.

INTRODUCTION
The term “Industry 4.0” or known as the fourth Industrial Revolution (4IR) was initially introduced in Germany and became publicly known in 2011. It is comprised of many components that refers to the shift towards digitalisation, as advancements in technology such as the Internet of Things (IoT), cloud computing, big data, mobile, data communication technologies, programmable logic controllers, sensors and actuators all play a key role. 4IR is a broad vision with clear framework mainly characterized by bridging of physical industrial assets and digital technologies in so-called cyber-physical systems (CPS) that produce smart industry and ecosystems of industrial innovation and collaboration. This is a new era where the CPS alongside IoT interconnect in a way where the combination of Artificial Intelligence (AI), and automation are poised to dramatically change the way we live our lives. 4IR is set to...
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send ripples of change throughout the world, and will require both big and small businesses to innovate, to stay relevant and competitive in the global market or risk becoming defunct. These emerging technologies will no doubt have a negative impact on employees and there will be a focus on companies to look at how workers and machines can work together symbiotically. Looking to the changes that will be sparked by the rapid advancements in technology, the education sector is likely to undergo a difficult period of adjustment. Therefore, it is important for us to look at what needs to change in education to ensure it is as effective and accessible as possible in order to develop the skills to work in the future.

In Malaysia, the theme “Higher Education 4.0: Knowledge, Industry and Humanity” created by the former Higher Education Minister, Datuk Seri Idris Jusoh as a recognition that the fourth industrial revolution will have an impact on our Higher Education system. There will be a requirement for a skill change where higher education must be prepared to train graduates to embrace the fourth industrial revolution and handle new technologies (Zulita Mustafa, 2018). Hence, higher education in the fourth industrial revolution can potentially transform society for the better. Datuk Seri Idris Jusoh said that the ministry will implement the Professional Development Programme 4.0 for lecturers. This programme aims to have 30 percent of teaching and learning at public higher education be aligned to the fourth industrial revolution by 2020. The ministry also targets to transform public universities into smart campuses (Rozana Sani, 2018)

It is estimated that 65% of kids enrolling in primary school today will end up working in jobs that haven’t been created yet (Study Malaysia, 2018). This means that the number of job opportunities in the new industries will continue to increase relative to the increasing number of young people in the future even if the traditional jobs begin to disappear. Despite having all technological changes in terms of production and delivery in these new future industries, business will still be run by people. The business will still be owned, managed and directed by people. Customers, the organisations, staff who produce products and services will always be people. No matter how many robots or computers there may be in a factory, it must be handled by people. A as result, to only possess hard skills such as e-literacy and e-skills that can come from experience and formal education seems not sufficient enough to land someone a job. Therefore, soft and social-skills are also a demand. These are crucial skills for students to succeed in their life after the classroom. Students must be able to create and share knowledge, communicate and socialize in their workplace, maintain motivated with their work.

However, Malaysian Higher Learning Institutions have been held accountable for the perceived unsatisfactory development of soft skills leading to an increase in graduate unemployment by not meeting the globalized 21st Graduate skills requirement since 2006 (Chelvi Murugiah, 2015). Despite of the growing demand for graduates with high hard (technical) skills, one of the main complaints from the industry is the lack of soft (personal) skills. The requirement skill-set for the “jobs-of-the-future” would transform so fast. Technical skills alone are no longer enough for employees especially in this highly competitive marketplace of the 21st century. Hence, the need for individual capabilities specifically soft skills is greater than before. Personal attributes such as soft-skills embraces many other significant skills. The skills that has taken on heightened importance are including problem-solving skills, ‘taking charge’ attitude, leadership, oral and written communication, teamwork, sense of urgency, time management, and attention to detail (Emmer & Brunhoeffer, 2017). These abilities really give great influence towards one’s motivation, achievement, and is probable to work harder, participate and pursue challenging objectives, and able to complete task successfully (Multon, Brown, & Lent, 1991; Bandura, 1997). Some experts referred these abilities as 21st century skills which falls into higher-order thinking skills category by means deeper learning outcomes.
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