Chapter 1
Preparing 21st Century Teachers for Teach Less, Learn More (TLLM) Pedagogies

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ABSTRACT

Higher education institutions face much disruption in the Fourth Industrial Age. The rapid changes in the workplace demand that university graduates exhibit competencies beyond discipline-specific knowledge. To thrive in a complex world filled with rapid advancements in knowledge and technology, graduates must possess lifelong learning skills, think critically and creatively, be socially intelligent, resilient, and adaptive. The demand for these transferable skills requires universities to re-examine their curriculum design, assessment, and delivery methods to ensure learners know, develop, and culminate these skills upon graduation. This chapter explains how this can be achieved through a paradigm shift in the teaching and learning approach by reducing face-to-face teaching to enable greater interaction in the classroom, opportunities for expression, the building of character and other life skills whilst promoting more self-directed and independent learning. Lecturers should revolutionize the way they teach and develop the 21st century competencies skills among the students.

HIGHER EDUCATION IN THE 4TH INDUSTRIAL AGE

There is a storm of change coming our way. The discourse by policy makers, industry leaders and academics in higher education often centre around the impact of the 4th industrial revolution (4th IR) on the world of education and employment - how artificial intelligence, advancements in robotics, virtual reality, cloud technology, big data, the internet of things and other technologies will engulf human creation, human creativity and the future of employment (Park, 2016). The fusion of technologies and the blurring of the lines between the biological, digital and physical aspects of life will likely transform the way we work, learn, and live. The 4th IR is also predicted to transform the work environment from tasks based learning to the human centred approach. Jobs will demand social intelligence, as much as IQ and there

will be high job mobility across different sectors, in different countries. Research in the past 35 years has shown that, there is a steep decline in number of jobs where levels of social and communication skills are unimportant (Gill & Group, 2019b). By far, the greatest growth has been in jobs requiring high social skills, because, interpersonal asset is the most prized factor for occupations and career highest in demand in our current economic model where creative cooperations will create multiplier of wealth. The spectre of a significant percentage of the population losing their jobs in the 4th industrial age raises more debates about the preparedness level of university graduates to face a volatile, uncertain, complex and ambigious (VUCA) world (Gill & Group, 2019a). Today, many parents and students still focus on higher education programmes that will help them secure jobs, but such jobs may not exist in the future. The Institute of the Future argues that instead of focusing on future jobs, students in institutions of higher learning must look to develop future work skills - proficiencies and abilities required across different jobs and work settings.

Learning and Teaching in the Digital Era

We can examine the present dilemma in higher education from two diverging perspectives. Do we teach our students "about change" or "for change"? Most education curricula tend to teach "about change" - teaching the item that changes itself, for example, "here's how we used to do things, but in recent years, this is how we do it". If we take the trajectory of thinking from Industrial Revolution 1.0 through to 4.0, our curricula always lag the change, as we cannot teach something new until change itself takes place. Teaching "for change" however has a different perspective; it talks about change from a chronological or genealogical perspective – change is anticipated by looking at it and one anticipates change as it happens. Teaching our students from this perspective may be less easy to achieve but many scholars today argue that the discourse should focus on how education systems can produce "competent graduates" who possess a set of transferable or portable skills instead of only "informed graduates"(Bromley, 2018). Are there ways for us to create this perennially 'evergreen' or 'everfresh' graduate?

Educators often find that the key reason for students' failure is their lack of problem solving skills and therefore application to excecute the tasks given as the mismatch (Deng, 2010). As teachers, one of our key responsibilities is to ensure that at the end of the day, our students have learnt to learn, and if not, we have failed in our duty to teach. Educators therefore often bear the burden to provide students with the necessary skills and knowledge so that they are able to execute tasks with increasing autonomy (Bromley, 2016). The days when our primary role was to inform students and help them to pass their examination is over now. We need to create learners who constantly strive and evolve as the situation around them change. So learning for life (or lifelong learning) becomes a primary goal for both learners and teachers in a learning institution.

Most lecturers today were born before the smart technology revolution and were brought up in an age that had limited access to online information and knowledge which are easily accessed by the present generation. Hence, they may struggle to keep abreast or be reluctant to accept or embrace the digital world. Many may feel frustrated and less effective in producing desired learning outcomes when interacting with students, who are digital natives. In most higher education institutions today, didactic teaching remains the pedagogical mainstay of lectures and tutorials. A predominantly directed learning approach makes students heavily reliant on the presence of lecturers and is less likely to promote key future ready skills such as critical thinking, creativity, problem solving, social competencies as well as one's lifelong learning ability. Currently, the information age enables students to learn effectively from

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