

Twenty-first Century Education: Are Malaysian Educators Ready for Implementation?

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It has been argued that today's Malaysian graduates are lacking in possessing the very much needed 21st century workplace skills - critical thinking skills, problem-solving skills, and communication skills. Reports indicate that this could be due to the current education system that has not facilitated the educators' preparatory abilities to engage in 21st century teaching systems. Although most educators are equipped with pedagogical knowledge and have some professional training in teaching, the 21st century education demands, however, are more than merely teaching through chalk and talk. In the Malaysian Education Blueprint for Higher Education 2015 to 2025, ten shifts to transform conventional teaching were highlighted. While the blueprint provides a holistic overview of the Malaysian government's aspiration for the future workforce of this nation, questions such as whether old school educators are able to grip with the fast pace of technological advancement and whether institutions of learning are well-equipped to embrace the technology by means of the physical classroom environment and the virtual platform that is available for use today, is still evasive. This paper, therefore, intends to address the issues underlining the Malaysian educators' readiness for 21st century education bearing in mind the national education agenda and the students' techno-savvy abilities compared to their educators. Suggestions and recommendations are also discussed to provide for Malaysian educators who are better equipped to handle the changing scene of education in this 21st century.

Keywords: *21st century education, educators' readiness, 21st century skills, national agenda.*



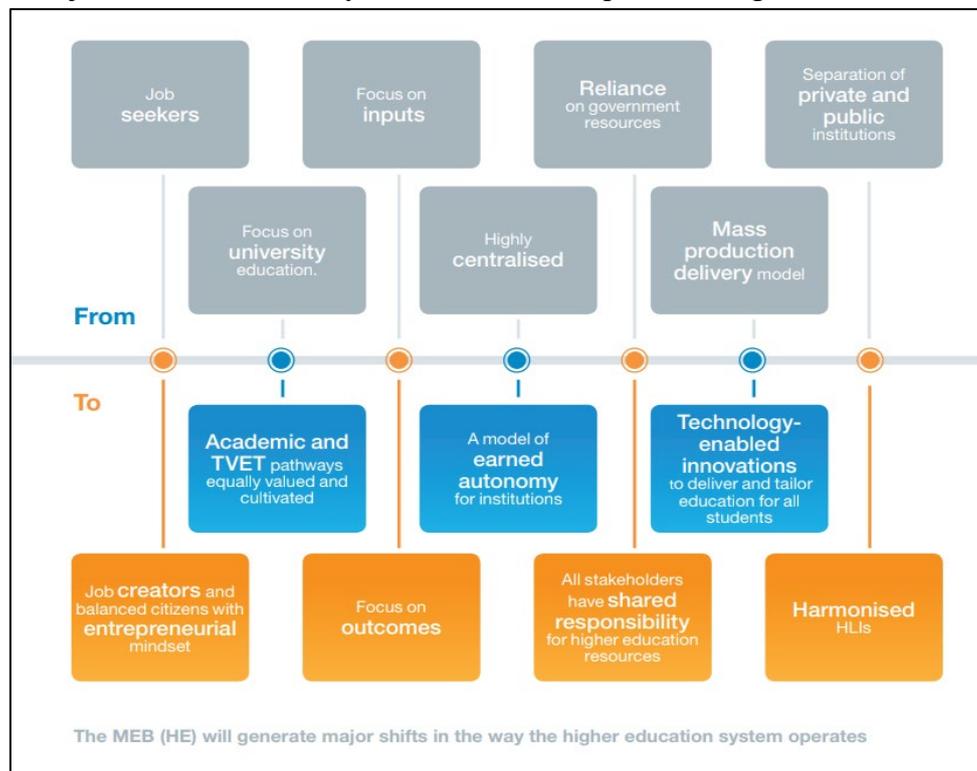
Introduction

In this digital age, the question of educators' digital abilities in relation to their pedagogical skills and knowledge is very much in a debate (Soo, 2018). Most educators today were taught before the boom of technology and therefore struggle to keep up with the present technology and the task of educating learners who are digital natives of technology. This gap, forced by technological advancements, has the potential to eventually widen if educators do not keep up with the present digital environment.

In keeping ahead with globalisation, digitalisation has become inevitable. The 4th Industrial Revolution (IR 4.0) demands advancement in the digital economy, robotics and autonomous transport, artificial intelligence and machine learning, cutting-edge materials, biotechnology and genomics (Gray, 2016). In relation to this, learners have to be equipped with skills for the 21st century dubbed as “super skills for the 21st century”. This includes complex problem solving, critical thinking, creativity, people management, coordinating with others, emotional intelligence, judgment and decision making, service orientation, as well as negotiation and cognitive flexibility (Wan Mohamad & Abdul Majid, 2017). According to *The Star* (June 12, 2016), graduates seeking employment have been found to lack such skills. Although they have high academic qualifications, they are still found to be lacking in career-readiness (ACTE, 2014).

When employers demand 21st century skills, most fresh graduates in Malaysia can only be proud of their paper qualification. This shows that something is amiss with the education system. The question is whether teachers should be blamed or whether the curriculum content is inadequate for learning such skills to take place. With reference to this, the Ministry of Education in Malaysia has been proactive and has taken steps to deconstruct the education system and redesign it to provide for the challenges ahead in the field of education. This gave birth to the Malaysia Education Blueprint for Higher Education 2015 - 2025. The blueprint outlines the importance of having 21st century skills integrated in higher learning institutions and the shift of the education system in Malaysia as shown in Figure 1.

Figure 1. Major Shifts in the Malaysia Education Blueprint for Higher Education 2015-2025



Nevertheless, despite the emphasis, the teaching of 21st century skills is not always reflected in the classroom. Some educators may not be aware of the skills, while others may only want to focus on completing the syllabus, tests, and assessments rather than teaching the skills. The present paper, therefore, aims to focus on the pedagogical knowledge of tertiary educators and the support provided by universities to facilitate 21st century learning as learners need the guidance of educators who are knowledgeable in the 21st century learning to complete their studies.

In the next section of this paper, a glimpse of recent developments in 21st century education in relation to the Malaysian Education Blueprint for Higher Education in Malaysia will, therefore, be considered.

Education in the 21st Century

The concerns for 21st century education is interwoven into the Malaysia Education Blueprint for Higher Education 2015 - 2025 as transformative efforts are put forth towards digital learning. Education in the 21st century emphasises learning of skills rather than content with the use of ICT facilities. Fong, Sidhu and Fook (2014) found that although postgraduates articulated success in using ICT skills, collaborative skills and lifelong learning, they lacked critical and creative thinking as well as communication skills. The study also found that they were unable to reason and analyse effectively, having a limited conceptual understanding of

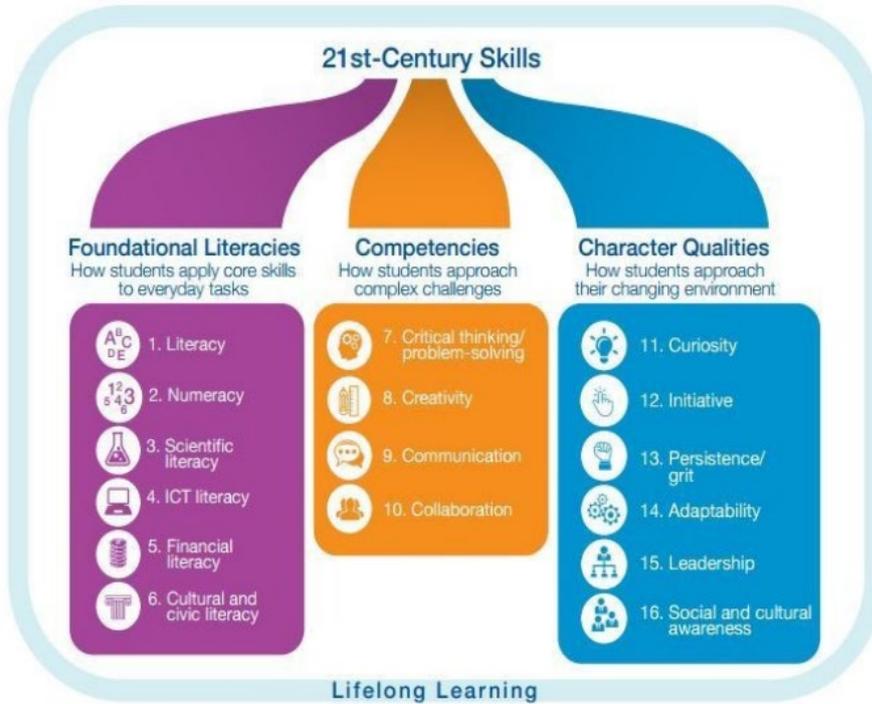


issues and concerns discussed in class. It was also found that postgraduate students were not creative problem solvers. Thus, it was concluded that it was imperative that educators and universities provide knowledge and understanding of 21st century skills (Miles, 2014). This could be done by creating learning environments within which high-quality learning was facilitated. Such learning environments include: classroom setting, learning materials, learning activities and teaching strategies (Kivunja, 2014).

In another study by Ahmad, Mohamed Yunos, Amiruddin Othman and Sulaiman (2018), it was found that using a student-created video-based learning approach as a learning activity to promote 21st century learning skills in a Management Accounting class had positive results. The majority of the students found that the video-based learning project enhanced their learning and stimulated their interest in the subject. Further, the results revealed that students were able to utilise and explore their capabilities in applying creativity, planning and collaborative skills which are skills enforced by 21st century education. In relation to this, Tripp and Rich (2012) asserted that utilising student-created video as a teaching tool provides a better learning experience and helps them reflect their learning process. As Hofer and Swan (2005) reiterated, 21st century learners who are also known as millennial students, prefer active learning activities involving technology rather than attending lectures and taking down notes from instructors. Recognising this symptom is essential for educators to enable them to plan their class lessons more effectively.

In a recent seminar on 21st century learning and skills in higher education, Abdul Majid (2018) states that to succeed in the evolving digital economy, students require 16 skills listed in Soffel (2016) for the 21st century lifelong learning which are divided into three fundamental categories: (1) Foundational literacies, (2) Competencies and, (3) Character Qualities. The list of 16 skills for 21st century learning is shown in Figure 2.

Figure 2. 21st century learning skills



Source: Soffel (2016)

Figure 2 shows the list of skills that educators need to impart to their students in order for them to function adequately when they are absorbed into the job market. In the first category, foundational literacies are tackled so that students can apply core skills to everyday tasks. The skills include literacy, numeracy, scientific literacy, ICT literacy, financial literacy, and cultural and civic literacy. In the second category, competencies are stressed so that students are able to handle complex challenges. This includes critical thinking and problem-solving skills, creativity, communication, and collaboration. In the third category, character qualities are highlighted to help students adapt to their changing environment. This includes curiosity, initiative, persistence, adaptability, leadership and social and cultural awareness. These sixteen 21st century skills should provide for lifelong learning.

So, while the basis for 21st century learning has been set to transform and revamp the education system in Malaysia, some very serious matters need to be addressed such as, whether the change is too dramatic for learners especially in rural areas, whether the learning environment, which is technology-driven, is conducive for 21st century learning and most importantly, whether educators themselves, who are the motivating force of such change, are ready to make the move towards 21st century education. While all these issues are vital towards the success of implementing 21st century education as laid out in the Malaysian education master plan namely, the blueprint for higher education, this paper will mainly focus on educators' readiness for 21st century education. Without the educator's implementation of

the education reform, 21st century learning skills would potentially fail to be imparted and cultivated. As such, it is vital to address the readiness of educators to first understand and accept the task they have and the important role they play as key to the success of the Malaysian Education Blueprint for Higher Education.

Thus far, this paper has discussed the Malaysian Education Blueprint (MEB) for Higher Education and its relation to 21st century education. From the discussion, it can clearly be seen that the MEB supports 21st century education and is paving the way for greater use of technology in education either as a medium for information, classroom activities or restructuring of delivery. As it is, online-based learning and blended learning are nothing new in most universities. In effect, disruptive classroom learnings are being practiced and this includes week without walls, online home-based courses, flipped learning and many others. Bearing this in mind, it is now essential that the rest of this paper focuses on the readiness of educators to accept their evolving role from teacher-centred educators to facilitators of education and developers of learning skills.

Educators' Readiness

There is a common misconception that embracing 21st century education as stipulated in the MEB would lead to educators losing their jobs in the future. This is because technology is advancing so fast and is capable of doing so many tasks meticulously that some educators feel that their jobs are at risk and they would soon be replaced by machines (Soo, 2018). In view of this, some educators seem less enthusiastic about accepting change. Soo (2018) asserted that transformation in education is bound to take place with or without readiness from educators as the change is global in all aspects of daily lives. If educators are not up to the challenge then they would be left behind.

History dictates that most educators today have been trained to teach and manage classrooms in an era where technology was not widespread. Educators in their 40s, born in the 1960s and 1970s have witnessed the evolution of technology in their lives as digital immigrants of technology. Students born in the year 2000 onwards, however, are digital natives of technology with early exposure to the widespread use of technology. Hence, in order to be able to teach in this techno-savvy environment, there is no choice but for educators to keep up with the technology.

Abdul Majid (2018) in explaining future job trends, argued that while 60 percent of jobs today will become obsolete in the future, others will grow in the fields of multi-dimensional freelance jobs, automation and digitisation, multi-intelligence, mental health, robotics, and creative disciplines. In effect, the best possibilities for future job trends are those that combine technology with human abilities. As machines are unable to function without humans, it was also concluded that educators, therefore, cannot be replaced by machines.

Computer technology can essentially provide for big data generation through technological disruptions. Analytics of such data for company improvements and developments are important. However, social skills such as persuasion, emotional intelligence and teaching others cannot be done by machines. This, therefore, suggests that technical skills will need to be supplemented by strong social and collaborative skills. These are skills crucial in the Industrial Revolution 4.0 drive and in the MEB to develop graduates fit for future employment. Educators today cannot be complacent if they are to remain relevant and functional in contributing to the education system.

Chai and Kong (2017) asserted that current technology trends have raised many challenges to didactic teaching and learning in traditional classrooms. In citing Bennett and Lemoine (2014), on the volatile, uncertain, complex and ambiguous state of current society, they concluded that both what is to be learned and how learning or knowledge construction should happen needs serious reconceptualisation. Many educators are now turning to and advocating 21st century learning. Key to this dimension of learning promoted by various 21st century learning models includes collaborative learning, the use of ICT as a tool for knowledge construction and co-construction, critical and creative thinking, and authentic problem solving (Chai et al., 2015; Howland et al., 2012; Voogt & Roblin, 2012).

According to Chai and Kong (2017), the key for transformation in education to take place is professional development for educators. They explained that professional learning in the 21st century is about employing existing knowledge to frame emerging phenomena and create and test new knowledge to see if they can be meaningful. Tsai and Chai (2012) stated that developing educators' competencies for 21st century teaching and learning would include transforming their knowledge, beliefs, and design capacities for the benefit of learners. Kong and Song (2013) advocated that a professional learning community should be set to enable educators to experience co-construction knowledge to experience.

Examining e-learning among teachers in Hong Kong, Singapore, Taiwan and China, Kong et al. (2016) found that in Singapore and Hong Kong, a teacher learning community was used in advocating e-learning. In Taiwan where educational research is vibrant, teachers' collaboration with university professors helped in advancing e-learning. In China, however, self-directed e-learning was used as a means to promote teachers' learning.

In summary, it is then evident that teacher readiness is essential for the promotion of 21st century education. Asian countries, such as Singapore, Hong Kong, Taiwan, and China, are already ahead in making sure that professional development is given to educators so that they can effectively conduct teaching and learning in a technology-driven environment.

Conclusion and Recommendations

This conceptual paper intended to look at the different issues in the implementation of 21st century education in the Malaysian scene where the Malaysian Education Blueprint for Higher Education has drawn out plans for the education system from the period of 2015 to 2025. As Higher Education stands as a hallmark for providing human capital for the future development of the country, it is important that the education system is able to equip undergraduates for the workforce in the 21st century environment. Several issues such as techno-savvy facilities and environment, learner motivation and abilities and educator readiness have come to surface in the implementation of 21st century education. However, for this paper, the aim is to mainly consider educator readiness in the implementation of 21st century education.

Firstly, considerations have been made in the 21st century employment environment where employers have moaned at the state of graduates seeking employment who are ill-equipped for the workplace although their academic grades are excellent. Employers are seeking skills rather than paper qualifications. This led to considerations on literature about 21st century education skills. Sixteen skills for 21st century education in line with the Malaysian Education Blueprint were discussed at length. The literature showed that educators have to shift from teaching content and giving knowledge to teaching skills regardless of the subject matter.

Further, teachers' readiness was discussed. The literature showed that education is evolving towards a digital techno-savvy educational environment. Educators, therefore, cannot be complacent as numerous studies have found that e-learning has in recent times been the trend. Educators are important key players for the success of the implementation of 21st century education. In Malaysia, the government has also been abreast of the transformation as seen in the Malaysian Education Blueprint. Various e-learning has been incorporated such as blended learning, online learning and so forth.

In implementing e-learning, it has also been found that Asian countries have been keeping abreast with the change. Some methods and strategies used by these countries include teacher learning community, teacher and professor collaboration as well as self-directed e-learning. It can, therefore, be concluded from the literature presented that educators have to be ready to embrace the changing and vibrant environment of the evolving education scene. In order to do so, the government has to provide professional training to educators in order to effectively carry out their tasks in line with the changing needs of the workforce.

In view of this, it is recommended, as in other Asian countries, that a professional development community is set up to discuss issues of this new change to provide enough room for educators to have creative and collaborative learning and sharing to teach



effectively. This study is actually a part of a larger study on 21st century education and studies on other issues arising from 21st century education can also be considered for research. At present, literature found in this area of the study shows that there is potential for deeper considerations of issues arising in 21st century education implementation. These considerations are important as they can help policymakers and educators in their role as important players of the education system in Malaysia.

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