



INVESTIGATING THE IMPLEMENTATION OF 21ST
CENTURY SKILLS IN TEACHING AND LEARNING: A
SURVEY AT ADNI ISLAMIC SCHOOL

BY

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ABSTRACT

As education in the 21st century shifts away from being teacher-centred, teaching and learning processes today are affected by the need to equip the young Muslim generation with necessary skills to survive and compete in a global world. Adni Islamic School has been training its teachers to adapt contemporary teaching and learning strategies in order to ensure that Muslim youth today are at par with other learners around the world. The purpose of this study is to investigate the implementation of 21st century education teaching and learning strategies in Adni Islamic school, particularly focusing on 21st century skills, which are critical thinking skills, communication skills, collaboration skills, creativity and innovation skills, self-direction skills and the skills to use technology as a tool for learning. To fulfil the purpose of this study, critical questions such as ‘How do teachers perceive the need of teaching 21st century skills to their students?’ and ‘To what extent do teachers implement these skills into teaching and learning process?’ were posed as research questions. Several learning theories and educational frameworks on 21st century education were reviewed in order to guide the study. The study adapted a quantitative approach and was conducted within the confines of descriptive and inferential paradigm. The findings of the study reveal that teachers’ implementation, as well as perception, of 21st century skills in Adni Islamic School is between low to moderate, but with positive indications of further improvement. Evidence supports that these 21st century competences might not necessarily be implemented in the teaching and learning process but, rather, are independent of the curriculum. The researcher recommends coordinated efforts to widen the scope of the study to include other research methodologies as well as exploration of other 21st century skills that relates to other educational theories. The results of the study may provide an insight to the Islamic schools around the world about the significance of these 21st century skills, so as to equip students with necessary skills in order to be able to portray themselves as Muslims who are professional.

خلاصة البحث

مع تحول التعليم في القرن الحادي والعشرين عن كونه يدور حول المعلم ، تواجه عمليات التعليم والتعلم اليوم ضرورة تزويد جيل الشباب المسلم بالمهارات اللازمة للاستمرار والمنافسة في العالم. تقوم مدرسة "عدني الإسلامية" بتدريب معلميها على التكيّف مع استراتيجيات التعليم والتعلم المعاصرة من أجل ضمان مساواة الشباب المسلم الحالي مع المتعلمين الآخرين في جميع أنحاء العالم. يعتبر الغرض من هذا البحث هو دراسة تنفيذ استراتيجيات التعليم والتعلم في القرن الحادي والعشرين في مدرسة "عدني الإسلامية" ، مع التركيز بشكل خاص على مهارات القرن الحادي والعشرين كمهارات التفكير النقدي، ومهارات التواصل، ومهارات التعاون، ومهارات الإبداع والابتكار، ومهارات التوجيه الذاتي، والمهارات اللازمة لاستخدام التكنولوجيا كأداة للتعليم. ولتحقيق هدف هذه الدراسة ، تم طرح عدة أسئلة مهمة لأسئلة البحث مثل "كيف يرى المعلمون ضرورة تدريس مهارات القرن الحادي والعشرين لطلابهم؟" و "إلى أي مدى يقوم المعلمون بتطبيق هذه المهارات في عملية التعليم والتعلم؟".

تمت مراجعة العديد من نظريات التعلم والأطر التعليمية في نظام تعليم القرن 21 من أجل تمهيد طريق الدراسة. اتبعت الدراسة النهج الكمي وتم إجراؤه في حدود النموذج الوصفي والاستنتاجي. تكشف نتائج الدراسة أن تطبيق المعلمين - وكذلك إدراكهم - لمهارات القرن الحادي والعشرين في مدرسة "عدني الإسلامية" يتراوح ما بين المستوى المنخفض إلى المتوسط ، ولكن مع مؤشرات إيجابية على احتمالية وجود المزيد من التحسن. تشير الأدلة إلى أن كفاءات القرن الحادي والعشرين قد لا يتم تطبيقها بالضرورة في عملية التعليم والتعلم نفسها ، بل قد تكون مستقلة عن المناهج الدراسية. يوصي الباحث بجهود منسقة لتوسيع نطاق الدراسة لتشمل منهجيات بحثية أخرى و كذلك استكشاف مهارات غير المشار إليها والتي تتعلق بالنظريات التعليمية الأخرى للقرن الحادي والعشرين. قد توفر نتائج الدراسة نظرة على المدارس الإسلامية في جميع أنحاء العالم وأيضًا على أهمية مهارات القرن الحادي والعشرين ، وذلك لتزويد الطلاب بالمهارات اللازمة حتى يتمكنوا من وصف أنفسهم كمسلمين محترفين.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Education.

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Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Education.

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DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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Alhamdulillah rabbil 'alamin.

*Firstly, it is my utmost pleasure to dedicate this work to my dear parents, Encik Johari bin Maarof and Puan Laili binti Ismail and my family who granted me the gift of their unwavering belief in my ability to accomplish this goal:
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*To all my colleagues and fellow teachers of Adni Islamic School,
all Muslim educators around the world and
all Muslim youth of this 21st century – including my children,
I dedicate this humble work.*

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

In response to the enormous and continuous shifts in the process of teaching and learning today, education systems around the world are attempting to embrace the changes by embracing and adopting contemporary teaching and learning strategies and techniques. Education today emphasizes that the knowledge acquisition process should mainly be accomplished by the students themselves, while teachers' roles are more inclined towards facilitating the process. Learning today no longer supports transmission of knowledge through traditional lecturing style, which involves mainly the audial (hearing) and perhaps visual senses, but concentrates on educating students to become a well-rounded person. Research has shown that learning through memorisation and reproduction of facts is no longer suitable for the current era (Fan, 2004). Learners are better off equipped with problem solving and reasoning skills that they can use in various situations, an approach which is also encouraged in Islamic schools.

Evidences from the Qur'an and Hadith show that Islam highly emphasizes the importance of seeking knowledge and highly values those who possess knowledge (GoodReads, 2013). With regards to educating the younger generation, a Companion of Prophet Muhammad (s.a.w.), Sayyidina Ali bin Abi Talib, also the fourth *khalifah* of Islam and often acknowledged as one of the greatest leaders in Islamic history, emphasizes to Muslims regarding the way to educate the younger generation: "Do not

raise your children the way (your) parents raised you, (as) they were born for a different time.”

Qutb, as cited by Bouzarinejad, Zarpeyma, and Marandi (2017), highlighted that an Islamic school is not merely a normal education institution. Rather, these institutions are also responsible for developing today’s young generation of Muslims into leaders who will shape the future. He further emphasized that “Islamic schools help establish Islamic communities whose manners, ideas and concepts, rules and regulations, values and criteria, are all derived from the Islamic source – so that the Muslims’ way of life is an example to all mankind”. It is vital that Islam and Muslims should not be left behind in embracing these positive developments and growth in education.

Therefore, in order to optimize the outcomes of learning in meeting the requirements of today’s world, teachers need to integrate various aspects of learning in educating the students. They should address the intellectual capacities of students through all five senses. In fact, the process of teaching and learning in 21st century education celebrates the different learning styles and multiple intelligences of every individual. And to achieve all these, contemporary education practices need to be implemented and applied into the curriculum.

Implementation is defined in the Merriam-Webster dictionary as “an act or instance of implementing something” or “the process of making something active or effective”. In education terms, implementation is commonly outlined as a specified set of planned and purposeful activities designed to incorporate evidence-based practices into real-world settings (Mitchell, 2011). Effective implementation of educational approaches is able to provide significant impact on improving students’ learning outcomes.

In providing an Islamic avenue for education, teachers need to find a balance in the adoption and adaption of these new teaching and learning techniques originally introduced by non-Muslim educators into an education system and curriculum that uphold Islam as the basis. Contemporary Muslim scholars in the field of education, such as Al-Faruqi and Al-Attas, came up with the renowned concept of ‘Islamization of Knowledge,’ a philosophy which attempts to integrate and fuse together contemporary ‘western’ knowledge and ‘Islamic’ knowledge.

According to Al-Attas (1980), Islamization is done through the isolation of non-Islamic values and ideas from a body of knowledge and integrating them with Islamic teachings. It is important to note that Islamic education must be contradictory to the concept of dualism, which is defined by Yaacob and Embong (2010) as the parallel existence of two separate education systems comprising of the modern secular system and the Islamic religious system. Hence, in producing Muslim graduates who are able to compete with the necessities of the 21st century, it is imperative for Islamic education systems to be able to incorporate 21st century skills into the school’s curriculum without jeopardising Islamic teachings and values nor the acquisition of knowledge.

1.2 STATEMENT OF THE PROBLEM

In recognition of the necessity of Islamic education for the future generation of Muslims, Adni Islamic School was established in 1994 in Kuala Lumpur, Malaysia based on an integrated education concept called Integrated Holistic Education System (IHES), where “education is aimed at a balanced growth of personality through *tarbiyyah* of the spirit, the intellect, the emotions and the physical; willingly and joyfully for the sake of Allah (s.w.t.)” (Ismail, 2018, p. 54).

Adni Islamic School consolidates two streams of academic curriculum – the local curriculum offered by the Malaysian Ministry of Education, known as *Kurikulum Standard Sekolah Menengah* (KSSM); as well as Cambridge International Curriculum. Given such options, at the end of the secondary school term, students can opt to sit for either the Malaysian school-leaving examinations known as *Sijil Pelajaran Malaysia* (SPM) or International General Certificate of Secondary Education (IGCSE); in many cases, students opt to sit for both examinations. In addition, further to its aspiration to provide an integrated education for the future generation of Muslims, Adni Islamic School does not merely teach Islamic Studies as a standalone subject; in addition, the school also incorporates Islamic teachings and values in all other subjects, wherever applicable and possible.

The school aspires to be at par with other global education institutions and, to date, has produced students who received Cambridge International Examination (CIE) academic recognition awards such as ‘Best in Malaysia’ and ‘Top in the World’ for IGCSE. Adni Islamic School was also chosen to participate in 2015 Programme for International Student Assessment (PISA). The school’s noteworthy academic performance record is one of the reasons for the researcher’s decision to select this school as part of the research.

In the 21st century, knowledge itself is growing ever more specialized and expanding exponentially. Information and communication technology are transforming how humans learn, how work is conducted, as well as the meaning of social relationships. Pacific Policy Research Centre (2010) highlights that students’ success is now measured by their ability to communicate, share, and use information to solve complex problems, in being able to adapt and innovate in response to new

demands and changing circumstances, and in being able to harness and expand the power of technology to create new knowledge.

In response to the emergence of the 21st century education as well as the contemporary teaching and learning strategies, the school has embarked on a programme called Efficacy Learning Programme (ELP), to provide teachers with trainings to empower them with the knowledge and skills of 21st century teaching strategies, and also enhancing students' development through self-regulated learning skills and cross-curricular activities which go beyond classroom walls that includes various 21st century learning skills such as problem-based learning and cooperative learning approaches.

Hence, Adni Islamic School believes that new standards for what students should be able to do must be implemented in order to equip students with necessary skills that are replacing basic skill competencies and knowledge expectations of the past. To meet this challenge, Adni Islamic School must continue to transform its teaching and learning methodologies, especially the school's curriculum, in ways that will enable students to acquire the creative thinking, problem solving, collaboration and innovative skills that students will need to be successful, both in work and life.

The 21st century skills are found to be important to be implemented in the educational system in order to prepare student for the real world. However, there's no standardized technique to measure the implementation of these skills by teacher in the classroom. Since teachers play a huge role in implementing these related skills, it is crucial to understand and discover from teachers' point of view how 21st century skills been implemented in the classroom and what outcomes have been produced from such efforts.

1.3 PURPOSE OF THE STUDY

Recent advances in technology have tremendously changed the way humans live, interact with one another, and learn, resulting in youth who are born in the 21st century to perceive the world in a way that is radically different from those born in the previous century. Phillips (2015) stated that education technology has the potential to completely and positively transform educational systems in schools. Teachers today must attempt to combine technological, pedagogical and content knowledge in order to seize some essential qualities needed to become effective teachers. Today, teachers must be able to guide students and nurture them to be capable of standing in a global community, which is driven by analytical thinking, problem solving and creativity. Above all, it is a necessity for youth today to be self-directed and well-equipped with communication and collaborative skills.

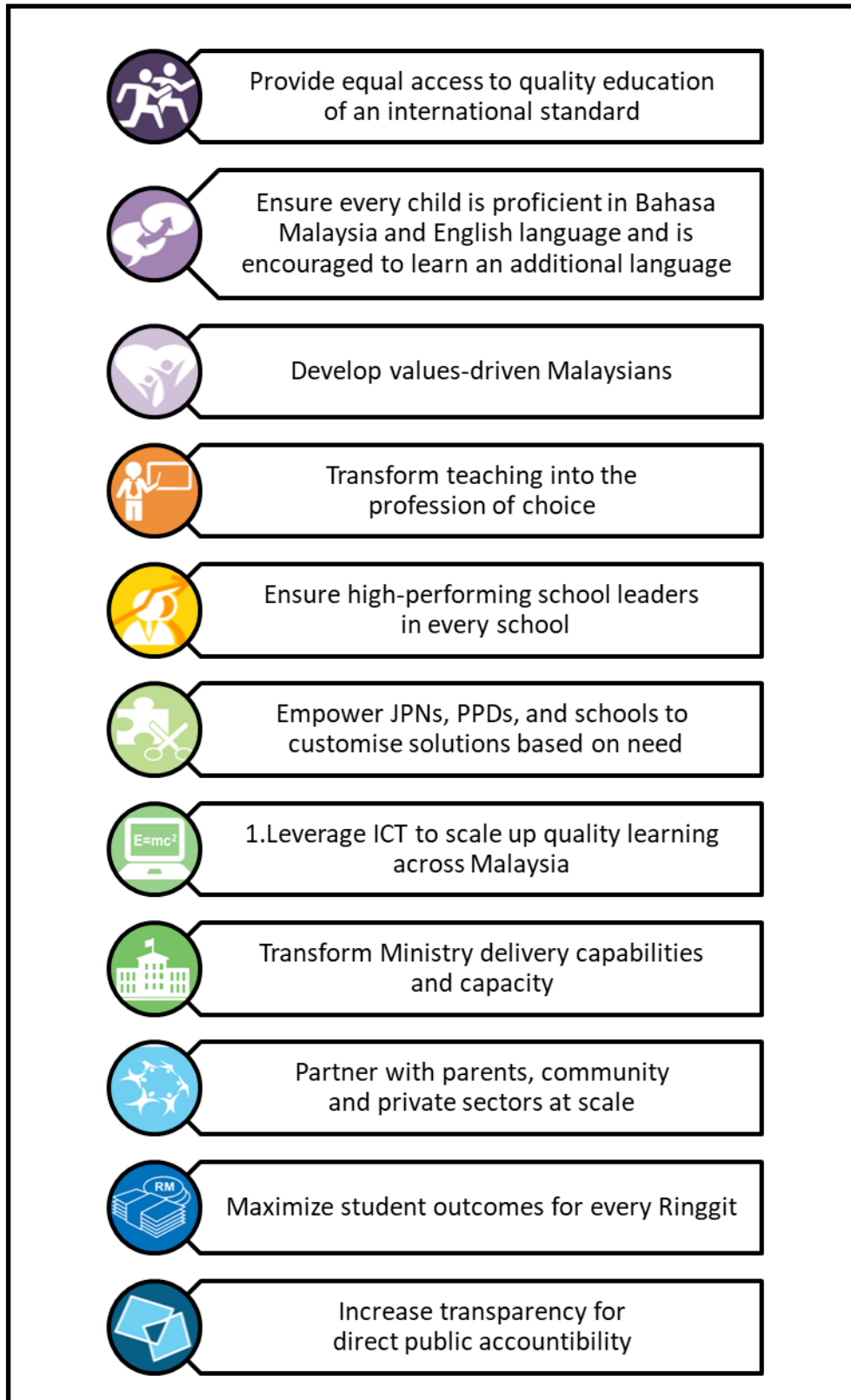


Figure 1.1 Malaysian Education Blueprint - 11 Shifts to Transform the System

The Malaysian Education Blueprint 2013-2025 highlighted several implementations to transform the Malaysian education system, as illustrated in Figure 1.1. These implementations are to go alongside with the above-mentioned vast shift of the world's education paradigm, several of them which are closely related to this study and are listed below:

- i. Provide equal access to quality education of international standard
- ii. Develop value-driven Malaysians
- iii. Transform teaching into the profession of choice
- iv. Leverage ICT to scale up quality learning across Malaysia

Therefore, in context with the education of Muslim youth in this country, this study will explore the recent practices and perception of teachers in Adni Islamic schools. The recent level of implementation of 21st century teaching and learning strategies within these education institutions need to be assessed and analysed in order for future Muslim youth to be able to hold a place in the huge global education arena.

1.4 RESEARCH OBJECTIVES

In line with the need to shift the education paradigm to be learner-oriented, Adni Islamic School has made it compulsory for all teachers to undergo a series of professional development training modules named Murobbi Development Programme (MDP), whereby one of its major components is to train teachers to teach effectively by adopting and utilizing contemporary teaching strategies and tools. This programme also exposes teachers to 21st century teaching and learning skills as part of the Efficacy Learning Programme (ELP), hence it is important to explore teachers' perception and practice of the skills.

In supporting the above quest, the objectives of this research are:

- i. To determine the level of implementation of 21st century skills in teaching and learning at Adni Islamic School;
- ii. To identify the perception of Adni teachers on their attempt to develop and assess students' acquisition of 21st century skills;
- iii. To investigate differences in the implementation of 21st century skills and the assessment of the skills between subjects taught; and
- iv. To discover the relationship between teachers' practice on the implementation and perception of students' acquisition of 21st century skills in teaching and learning.

1.5 RESEARCH QUESTIONS

In order to achieve the above-mentioned research objectives, the following research questions are formulated for this study:

- i. What is the level of implementation of the 21st century skills in teaching and learning process at Adni Islamic School?
- ii. What is Adni teachers' perception on their attempt to develop and assess students' acquisition of 21st century skills?
- iii. Is there any difference in the implementation of 21st century skills and assessing students' acquisition of the skills between subjects taught?
- iv. What is the relationship between teachers' practice on the implementation and their perception on students' acquisition of 21st century skills in teaching and learning?

1.6 THEORETICAL FRAMEWORK

Industrial Revolution 4.0 indicates that computers, robots and artificial intelligences are gradually replacing human workforce in various industries. This fact leads to a very important question: What is the purpose of educating human today, if it is not to ‘produce a good citizen’ to be a vital part of the global society?

These rapid technological advances highlight the need to shift the education paradigm to be more dynamic and to prepare students to go beyond merely being able to perform a specific set of tasks that can easily be accomplished by computers and robots. Education today must gear towards learner-centred learning, which instigated by many learning theorists such as John B. Watson in his theory of behaviourism; John Piaget in his theory of constructivism; and subsequently, Lev Vygotsky and his theory of social-constructivism. In the education expedition, it is believed that the ideas and principles behind behaviourism, cognitivism and constructivism overlap in many fields (Erisen, Çeliköz, & Şahin, 2016).

The behavioural learning theory was introduced by John B. Watson, as cited by Weegar and Pacis (2012) where the theory highlights that the process of learning is directly affected by changes in behaviour of the learner, whereby given the right environmental influences, all learners acquire identical understanding and that all students can learn. Behaviourists believed a learner’s behaviour play a huge role in the process of acquisition of new knowledge (Overskeid, 2008). Knowledge is not forced into the learner’s acceptance but rather the reception of knowledge by the learner happens as a reflex towards external environmental condition, causing the process of learning to take place naturally and effortlessly.

Jean Piaget's theory as cited by Lefa (2014) focuses on development and learning theories where a person's cognitive development is based on the learner's capabilities and the learning focuses on the realization of such capabilities. According to Bruner (1957), cognitivism lies in the process of achieving important outcomes of learning which does not just include the concepts, categories, and problem-solving procedures previously invented by others, but also the ability to "invent" these things for oneself. Cognitive growth involves an interaction between basic human capabilities and the ability to invent technologies that could amplify these capabilities to a greater extent.

Lev Vygotsky, as cited by Jones and Araje (2002), argues that a child constructs and attains knowledge as a result of socialisation, which is comprised of three elements: (i) social interaction, (ii) the more knowledgeable other, and (iii) the zone of proximal development. Vygotsky's social development theory involves teachers and students both teaching one another, such as peer collaboration and apprenticeship programs.

In a nutshell, this study recognizes several learning theories, namely, behaviourism, constructivism and social-constructivism, that can be used as the basis in explaining the six elements chosen in the conceptual framework that follows.

1.7 CONCEPTUAL FRAMEWORK

What are 21st Century skills? To date, there is no single widely accepted definition of '21st century skills'. There is a wide range of descriptors of the skills set, including interpersonal skills, applied skills, non-cognitive skills, life skills, and workforce skills (Silva, 2009).