

AN INVESTIGATION OF 21st CENTURY PEDAGOGICAL ELEMENTS AND THE NAQLI-AQLI KNOWLEDGE IN PRE-SERVICE TEACHERS AT SELECTED PUBLIC SECONDARY NATIONAL SCHOOLS

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Abstract: 21st Century Learning has commonly been directed to optimise learners' acquisition of knowledge and skills. However, less emphasis is placed on the 21st century skills needed by the teachers, particularly in the teaching of Islamic Religious Studies which emphasises the integration of Naqli and Aqli knowledge. Saavedra and Opfer (2012) propose these nine pedagogical elements of 21st Century Skills required for the 21st Century Teaching; Making it relevant, teaching through the disciplines, developing thinking skills, Encouraging learning transfer, Teaching students how to learn, Addressing misunderstandings directly, Treating teamwork like an outcome, Exploiting technology to support learning and Fostering creativity. This paper investigated the knowledge, skills of 21st Century learning and the Naqli-Aqli knowledge that teacher trainees impart in their practicum training. Analysis is based on 21 Reflective Journals written by 21 pre-service teachers during their 4-month Practicum Training in public secondary national schools. Through rich and exclusive data, findings indicate that the teacher trainees to some extent did adopt some of these pedagogical elements as well as the integration of Naqli-Aqli knowledge. It is hoped that this paper is able to reveal some insights in understanding the issues of implementing 21st Century Learning and integrating the Naqli-Aqli knowledge in classrooms.

Introduction

Among the challenges faced by teachers in the 21st century teaching and learning context is their capabilities to become adaptive, innovative and engaging in providing the experience and learning opportunities needed. Apart from keeping abreast with the latest online learning tools, teachers must also constantly keep updated with the current pedagogical approach for their classrooms. This also includes the ability to implement the Higher-order thinking skills (HOTS) in their teaching and learning activities that involves the learners' abilities to appreciate values, and learning opportunities to analyse, explore and innovate during the classroom activities. This is in-line with the government's Malaysia Education Blueprint 2013-2025 (Kementerian Pelajaran Malaysia 2013) that emphasises the use of technology and Higher order thinking skills in Malaysian classrooms.

Additionally, emphasis on the students to acquire vast knowledge, exhibit exemplary character, as well as being ethical and intelligent have been the aspiration in the teaching for Islamic Education in the national curriculum of the country. It is important that the aim outlined in the Islamic Education system which aspires to educate and develop individuals who have faith and *taqwa* in Allah S.W.T (Wan Khairudin & Ab. Halim, 2008) can be achieved. Subsequently, it is crucial that the activities in the classrooms also provide opportunities to explore both the religious sciences of knowledge (*naqli*) with the social and physical science of knowledge (*aqli*). Integration of these two aspects of knowledge will result in developing individuals/students who are not only intellectually and physically competent, but also spiritually and emotionally balanced in contributing to the betterment of the nation at large as aspired in our National Education Policy (Kementerian Pelajaran Malaysia 2001).

This paper explores and investigates how 21st century-skills knowledge and the *Naqli* and *Aqli* knowledge were imparted in classrooms by a group of pre-service teachers who were undergoing their 4-month Practicum Training in public secondary national schools. Data were collected based on the reflective journals in the attempt to understand the approach and techniques adopt by these teacher trainees to support and foster learning in classrooms. In doing so, it is hoped that the knowledge gained not only will contribute to the literature, but also provide insights of the alternative approaches for teachers to produce excellent *khalifatullah* among the students or more specifically the young generations of the nation.

Literature Review

Alongside the 4th Industrial Revolution, today's young generation lives in a world of technology. They belong to generation Z or Alpha, who are obsessed with gadgets and technology. This obsession affects the way they learn and their preference in studying. However, the teachers in schools nowadays may be of an earlier generation, belonging to generation X, Y or even baby boomers. The difference in generation among students and teachers may affect the way teaching and learning take place, and thus may result in unsuitable teaching approach for the students. Although there may be some who have migrated and thus mastered the wonderworld of technology, many others are still struggling.

It is significant for teachers to be updated with the latest development in teaching and learning. The Ministry of Education, Malaysia, has introduced the concepts and documents that advocate technology in education, which is the 21st century learning concept and also the Malaysia Education Blueprint (2013-2025) and the Malaysia Education Development Plan (Higher

Education) (2015-2025). The 21st century learning concept includes the “3 Rs” – content areas like reading, writing and arithmetic which are now crucially supported by the new “4 Cs”- critical thinking and problem solving, communication, collaboration, and creativity and innovation and most importantly information literacy. This leads to a framework characterised by a symbiosis between core subject knowledge and creativity, collaboration, critical thinking and communication skills; life and career skills; and information, media and technology skills. The 21st century learning is also in line with Shift 7 in Malaysia Education Blue Print (2013-2025): *Leverage ICT to scale up quality learning across Malaysia* and Shift 9 in the Malaysia Education Development Plan 2015-2025 (Higher Education): *Globalised Online Learning*.

In this 21st century learning, educators can leverage technology to create an engaging and personalised environment to meet the emerging educational needs of learners. Learning need not be confined to the classroom or restricted to one-size-fits-all. With 21st century education, learning will ultimately be ‘learner-driven’ and is defined by modern learning using modern tools. ICT will be a ubiquitous part of life, with no urban-rural divide, and with all staff and students equipped with the skills necessary to use this technology meaningfully and effectively. The electronic tool discussed in this present study is the embodiment of the ‘modern tool’ that is personalised to the practicum needs of teacher-students, delivers information, provides the constant social interaction with easily shared digital content and is accessible 24/7. In short, this electronic tool is a virtual classroom that aspires to meet the requirements of 21st century practicum learning process and the government aspirations.

Pedagogical Elements Of 21st-Century Skills

Saavedra and Opfer (2012) propose nine pedagogical elements of 21st Century Skills required for the 21st Century Teaching. The elements are proposed as they relate to how students learn 21st century skills and how pedagogy can address their needs. Lessons that involve 21st century skills are transfer, metacognition, teamwork, technology and creativity.

Make it Relevant

For any curriculum to be effective, it needs to be relevant to students’ lives. Transmission and rote memorization of factual knowledge can make any subject matter seem irrelevant. This limits students’ development of 21st century skills because lack of relevance leads to lack of motivation, which leads to decreased learning. Thus, teachers need to make curriculum relevant by beginning with topics that relate to learners and teachers such as food, holiday spots etc. To choose these kinds of topics, teachers need to consider many issues like whether the topics connect to the reality of students’ lives and interests. Both teachers and students benefit from the use of generative topics and reinforcement of relevance. Teachers like this method because it allows for the freedom to teach creatively. Students like it because it makes learning feel more interesting and engaging, and they find that understanding is something they can use, rather than simply possess. In response to the importance of relevance in fostering student engagement in learning (Saavedra & Opfer, 2012).

Teach Through the Disciplines

According to Saavedra and Opfer (2012), learning should take place through the disciplines, including—but not limited to—native and foreign languages, hard and social sciences, mathematics, the arts, and music. As Howard Gardner argues, students

Need an education that is deeply rooted in... what is known about the human condition, in its timeless aspects, and what is known about the pressures, challenges and opportunities of the contemporary and coming scene. Without this

double anchoring, we are doomed to an education that is dated, partial, naïve, and inadequate.

Learning through disciplines entails learning not only the knowledge of the discipline but also the skills associated with the production of knowledge within the discipline. Through disciplinary curriculum and instruction students should learn why the discipline is important, how experts create new knowledge, and how they communicate about it. Each of these steps map closely to the development of 21st century skills and knowledge.

Similarly, through historical study, students should learn how to pose a problem they have realised through familiarity with the historical knowledge base of a given topic. To solve the problem, they must collect, distill, and synthesise information from oral, written, and visual primary and secondary sources. They must know where to look for information, which information will help them to construct an argument, how to interpret the information they find, how to structure complex causal relationships, how to account for source biases, and how to compare and contrast their findings with what has already been presented as historical fact. They must also learn how to communicate their findings and practice communicating them to diverse audiences. For learning to continue, students need to be deeply familiar with a knowledge base, know how to use that knowledge base, articulate a problem, creatively address the problem, and communicate findings in sophisticated ways. Therefore, mastering a discipline means using many 21st century skills. Other 21st century skills that can be developed are leadership, adaptability, and initiative.

Simultaneously Develop Lower and Higher Order Thinking Skills

Saavedra and Opfer (2012) also mention that students can and should develop lower- and higher- order thinking skills simultaneously. Lower-order exercises are fairly common in existing curricula, while higher-order thinking activities are much less common. Higher-level thinking tends to be difficult for students because it requires them not only to understand the relationship between different variables (lower-order thinking) but also how to apply—or transfer—that understanding to a new, uncharted context (higher-order thinking). *Transfer* (which we will discuss in more detail below), tends to be very difficult for most people. However, applying new understandings to a new, uncharted context is also exactly what students need to do to successfully negotiate the demands of the 21st century.

Encourage Transfer of Learning

Students must apply the skills and knowledge they gain in one discipline to another. They must also apply what they learn in school to other areas of their lives. This application—or transfer—can be challenging for students. Transfer involves three variable components, as shown in Figure 1:

- 1) What skills, concepts, knowledge, attitudes and/or strategies might transfer?
- 2) To which context, situation, or application?

3) How can the transfer take place?

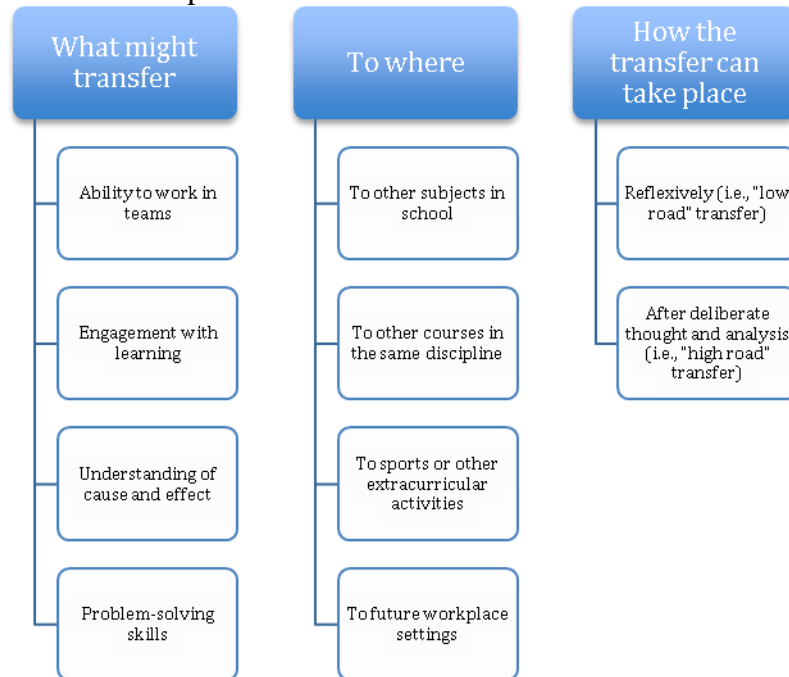


Figure 1: How Transfer Work

Examples of “What” might include ability to work in teams, engagement with learning, understanding of cause and effect, problem solving through trial and error, and so forth. Examples of contexts include to other subjects, to other courses within the same general discipline, to sports, to future workplace settings, etc. And transfer can take place in one of two general ways. “Low-road” transfer functions reflexively. There are a number of specific ways that teachers can encourage low- and high-road transfer. To encourage low-road transfer, teachers can use methods like the following:

- Design learning experiences that are similar to situations where the students might need to apply the knowledge and skills
- Set expectations, by telling students that they will need to structure their historical argument homework essay in the same way that they are practicing in class
- Ask students to practice debating a topic privately in pairs before holding a large- scale debate in front of the class
- Organise mock trials, mock congressional deliberations, or other role-playing exercises as a way for students to practice civic engagement
- Talk through solving a particular mathematics problem so that students understand the thinking process they might apply to a similar problem
- Practise finding and using historical evidence from a primary source and then ask students to do the same with a different primary source

The purpose of each of these activities is to develop students’ familiarity and comfort with a learning situation that is very similar to a new learning situation to which they will need to transfer their skills, concepts, etc.

Teachers can use other methods to encourage high-road transfer. For example:

- Explicitly ask students to brainstorm about ways in which they might apply a particular skill, attitude, concept, etc. to another situation
- Ask students to generalise broad principles from a specific piece of information, such as a law of science or a political action
- Ask students to make analogies between a topic and something different, like between ecosystems and financial markets
- Ask students to study the same problem at home and at school, to practice drawing parallels between contextual similarities and differences
- Ask students to think explicitly about their own thinking, (a process known as metacognition, which we discuss below)

Transfer is hard and students need support from teachers and practice at school to ensure that it happens. Fortunately, we know enough about how to develop students' ability to transfer and we have a common sense understanding of its power. The importance of transfer brings us back to the fundamental rationale for learning 21st century skills in the first place—so that students can transfer them to the economic, civic and global 21st century contexts that demand them.

Teach Students to Learn

There is a limit to the skills, attitudes, and dispositions that students can learn through their formal schooling. Therefore, educating them for the 21st century requires teaching them how to learn on their own. To do so, students need to be aware of how they learn. Not only is learning to learn a critical skill in itself, activities that develop metacognition also help students to learn skills, knowledge, strategies, and attitudes more effectively. Teachers can develop students' metacognitive capacity by encouraging them to explicitly examine how they think. In a debate setting, teachers might ask students to prepare their own argument and prepare to rebut the other teams' arguments in an organised way that considers different arguments and potential responses. Then students can explicitly document why it was helpful to develop their own argument and rebuttals in advance. Teachers can also reinforce students' metacognition by modeling it on a regular basis and talking through their own thinking as they address an example problem and then asking students to reflect on the teachers' model.

Address Misunderstanding Directly

Another theory is that learners have many misunderstandings about how the world really works, and they hold onto these misconceptions until they have the opportunity to build alternative explanations based on experience. This process generally requires explicit guidance and takes time. For example, children believe that the world is flat until they learn otherwise, and even college students who have studied the solar system may still hold onto an incorrect explanation of why seasons change. Misconceptions develop from the process of creating explanations based on what we see and hear, and while many of these explanations may be correct and serve as useful building blocks, others are incorrect and do not take into account complicated causal relationships.⁶¹

To overcome misconceptions, learners of any age need to actively construct new understandings. Think of how many times you have thought you were absolutely certain of something, even if someone told you the contrary was true. It is human nature to need to “find

out for ourselves. Thus, teachers face the important challenge of identifying misunderstandings and giving students opportunities to learn the facts for themselves.

Teamwork is an Outcome and Promotes Learning

The ability to collaborate with others is an important 21st century skill. Collaborating is not only a desirable outcome but also an important condition for optimal learning. Students learn better with peers. In typical transmission-model classrooms, students do not learn from and with their peers. The teacher and textbook transmit information, and the student engages in a one- to-one interchange with the teacher. Through this type of interaction, students lose the opportunity to learn from each other and to develop the skill of working with others. Further, working in pairs or groups is an ideal way for students to develop their metacognition and communication skills, to replace their misunderstandings with understandings and to practice low- and high-road transfer.

There are many ways in which teachers can design instruction to promote learning with others. This includes allowing students to discuss concepts in pairs or groups and share what they understand with the rest of the class, develop arguments and debate them, role- play, divide up materials about a given topic and then teach others about their piece. There are many ways in which teachers can design instruction so that students learn from and with others, developing both their ability to work in teams and their other 21st century skills.

Exploit Technology to Support Learning

Technology offers the potential to provide students with new ways to develop their problem solving, critical thinking, and communication skills, transfer them to different contexts, reflect on their thinking and that of their peers, practice addressing their misunderstandings, and collaborate with peers—all on topics relevant to their lives and using engaging tools. There are also many other examples of web-based forums through which students and their peers from around the world can interact, share, debate, and learn from each other.

The Internet itself also provides a forum for students' development of 21st century skills and knowledge. The nature of the Internet's countless sources, many of which provide inconsistent information and contribute substantive source bias, provide students with the opportunity to learn to assess sources for their reliability and validity. It gives them an opportunity to practise filtering out information from unreliable sources and synthesising information from legitimate ones. Once they know where to look for legitimate information, students can use the Internet as a reference source in countless ways. Beyond its pedagogical potential, there are many other ways that technology can affect education. Teachers can use it to develop and share best practices. Technology also provides greater opportunities to use student data for formative and summative purposes and to assess students' understanding

Foster Students' Creativity

A common definition of creativity is “the cognitive ability to produce novel and valuable ideas.” Creativity is prized in the economic, civic, and global spheres because it sparks innovations that can create jobs, address challenges, and motivate social and individual progress. Like intelligence and learning capacity, creativity is not a fixed characteristic that people either have or do not have. Rather, it is incremental, such that students can learn to be more creative. Creative development requires structure and intentionality from both teachers and students and can be learned through the disciplines. Creativity grows out of intrinsic motivation, which relevance fosters. If students find lessons relevant to their lives, they are

more intrinsically motivated to learn and use their newfound knowledge and understanding creatively. When students frame their ability to learn in a positive light and view failures as learning experiences, they are more open to developing creatively. Learning and practicing disciplinary skills like problem posing and solving, transfer, complex communication, and familiarity with a given knowledge base can also develop creativity.

Teachers can also directly enhance students' creativity by encouraging, identifying, and fostering it. Encouragement helps students to develop positive mental models about their ability to develop their creativity. Identifying creativity can help students to recognize their own creative capacities when they might not otherwise. And like metacognition, teaching directly about the creative process and what animates or suppresses it contributes to creative development. While there are common elements across cultures, there are variations in the spectrum of conceptualizations of the meaning and value of creativity. Fostering and teaching creativity should account for these cultural differences.

Islamic Education

Over the past few decades, many universities, faculties, schools and departments of higher education in many parts of the world have been undergoing a significant pedagogical shift from the traditional teacher-centred approach to a student-centred approach to teaching and learning. The traditional teacher-centred approach focuses on the teacher as the expert in transmitting knowledge to the students, who are the novice. In the context of Islamic Education, the relation between teacher and his students is very close through *Talaqqi* process that enables knowledge transmitted from the teacher to his students with certain rules and regulation. The learning session conducted in face-to-face mode with the teacher like the chalk-and-talk method has a supreme power in controlling the class.

One of the most important agents to guarantee the success of Islamic education in bringing peace in Muslim society is teacher. Teacher plays an important role in delivering understandings of religious aspects including doctrines, practices, and history to students. As for a teacher, an honoured profession in Islam, he or his position was an example for students which makes the existence of this profession more crucial. Such ideal was mostly based on philosophical basis of Islamic education which sees student as subject that throughout the teaching process should be a 'whole person' in his or her 'physical, intellectual, moral, and spiritual dimensions' (Daun & Arjmand, 2005). In other words, Samsuddin (2012) states that the Islamic education purposes are to sharpen students' mind and soften their heart.

As Mirza and Bakali (2010) note, teachers today need to have proper knowledge about Islam and its basic teachings as well as current affairs its adherers face especially in the aftermath of September 9, 2001 event which have brought Muslims and the world a new way of life. Proper understanding is required by teachers so that the religion can be accurately described when it is addressed to students.

In contrast, the student-centred approach places the student at the centre of the learning process and is generally intended to provide students with the autonomy to actively seek out and construct meaning from information and previous experience. This shift in teaching and learning from a teacher-centred approach to a student-centred approach is crucial; instead of concentrating on instruction (teacher-centred approach), the student-centred approach addresses the construction of learning from the student's own discoveries and focuses on student learning outcomes.

This new role of students and teachers reflects student-centred learning notions as summarised by Huba and Freed in Ahmad Darmadji (2015) :

In student-centred learning, learners are actively involved and receive feedback; learners apply knowledge to enduring and emerging issues and problems; learners integrate discipline based knowledge and general skills; learners understand the characteristics of excellent work; learners become increasingly sophisticated learners and knowers; professors coach and facilitate, intertwining teaching and assessing; professors reveal that they are learners too; and learning is interpersonal, and all learners-students and professors are respected and valued.

In USIM, we offer Bachelor of Education (Islamic Education) that aims to provide professional and competent school teachers throughout Malaysia in the field of Islamic Education, who would have high morals credibility as educators. An education programme at the bachelor level aims to provide learners with in-depth knowledge and skills, simultaneously nurturing capacities of a high degree of professional and intellectual autonomy, adaptability and versatility in teaching and learning. Such a programme also aims to provide advanced education and training with blended approaches that include managerial and administrative knowledge in operating schools, kindergarten and coaching centres, based on an understanding of theoretical underpinnings of education. The students will have a special 16-week training in selected secondary schools to teach Islamic education subjects. They are advised to adapt the integration of *Naqli-Aqli* Knowledge as well as using technology and innovation in their training process.

Teaching Practicum

Much ink has been spilled in stressing the importance of teaching practicum for students undergoing an education degree. It has been looked at from many different angles. Faizah (2008) highlights the use of reflective journals as an implementation of Outcome-based Education while Melor et. al. (2010) list down the challenges faced by the teacher trainees during their practicum months. In a similar vein, Klassen and Durksen (2014) emphasise that they do not just face the practicum-related problems, but they are also undergoing a personal transformation from being a student to becoming a teacher. This is seen picked by Coffey and Lavery (2015) as they suggest the implementation of pre-practicum session to prepare the teacher trainees for the real practicum at the end of their education programme.

It is a current practice for the teacher trainees to undergo ROS (School Orientation) before they go for their teaching practicum. ROS is conducted to expose these neophytes to the school environment and organisation. Then, in the final semester of their study, the teacher trainees go for their practicum that is usually for 16 weeks. During that exercise, observation is a must. Usually, for a 16-week practicum, there are three (3) observations done. For each, there is a need for pre-observation and post-observation. In the former, the teacher trainees share their teaching plans while the latter is a feedback session. They are also requested to share their experiences in doing practicum as a reflective activity. This is done via Google form after the first month into the practicum exercise.

Integration of Naqli-Aqli

Universiti Sains Islam Malaysia (USIM) stands as the 12th public university in Malaysia and the objective of USIM is to advocate and channel Islamic Education into the mainstream of National education. In its thrust to nurture the generation of AlAbrars, USIM introduced the integration of *Naqli* (Revelation Knowledge) and *Aqli* (Human Knowledge) elements as part

of the syllabus. USIM is unique because it is the only institution that upholds the philosophy of integration of *Naqli* and *Aqli* into the curriculum and governance. The excellence of USIM as an educational institution has also been recognised by Cambridge University when they described USIM as the latest leading Islamic university guided by a unique and progressive vision and mission.

In line with USIM aspiration to integrate *Naqli* and *Aqli* knowledge to transform and create value for country, ummah and humanity, the teaching and learning material should guide the students to this vision (Jamilah et al., 2014). An attempt to develop and implement the *Naqli* and *Aqli* curriculum outline for each course was made by faculties since 2013, but not many documentations on the integration of *Naqli* and *Aqli* knowledge reported in literature review especially in Islamic Education.

At the global level, USIM with the aim to become a referred, respected, and relevant institution has heightened the spirits to turn it into a reality. It is hoped that the aspirations and vision of this institution to become a regional reference university in 2016 and become the world's top university in the integration of *Naqli* and *Aqli* knowledge by 2025 will be achieved. The process of integration highlights the attributes that a learner would feel submissive to Allah with better understanding of the Islamic values.

Therefore, to become one of the world's leading universities, USIM initiates the implementation of its integration of *Naqli* and *Aqli* knowledge gradually within the next 5 years. In fact since 2014 USIM has aligned the decision to embrace the philosophy of *Naqli* and *Aqli* knowledge integration in all aspects including teaching and learning, research and innovation, administration and management, internationalisation, student and staff personal development, financial sustainability, community engagement as well as governance and policy based on four (4) fundamental levels of *Naqli* and *Aqli* knowledge integration as suggested by Mohd Rushdan (2013) that the integration is specifically formed based on the four Mustawa (levels); M1– Al-Nusus (Ayatization), M2 – AlMuqaranah (Comparative), M3 – Al-Taqqim (Adaptation) and M4 - Al-Tafaquh (Internalising).

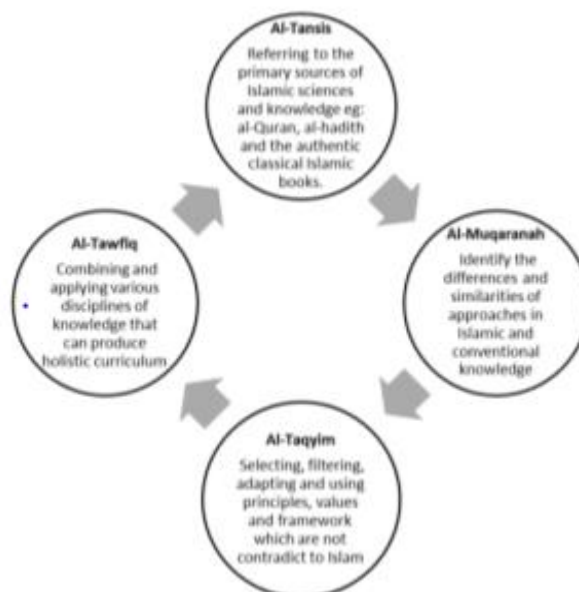


Figure 2: Four (4) Fundamental Levels of *Naqli* and *Aqli* Knowledge Integration. Each of These Levels Can Serve Either as an Entity That Is Independent of Other Levels or as Stage in A Process That Influences Other Levels.

As for the subject of Islamic Education, it is axiomatic that the main content is based on the *Naqli* knowledge. Thus, in upholding the amalgamation of the two types of knowledge, this paper shows how the teacher trainees utilise the *Aqli* knowledge in terms of the nine (9) pedagogical skills for 21st century in the teaching of the *Naqli* knowledge in the Islamic Education subject.

Problem Statement

The advent of technology, the new generation of people, and the rise of 4th Industrial Revolution have given birth to the 21st century skills which emphasise on student-centredness. Additionally, the ability to apply the 21st century skills also would exhibit the teacher trainees *Naqli-Aqli* knowledge that is aspired by USIM in its graduates. Being future teachers of the Islamic Studies, it is then crucial that the teacher trainees not only be competent with the 21st century pedagogical approaches and educational tools, but also to portray the competency to explore the religious science of knowledge (*naqli*) with the social and physical science of knowledge (*aqli*) in their classrooms. Thus, this becomes the main aim of this study to explore how the teaching of Islamic Education is implemented in the current situation by the teacher trainees whom are themselves from the Z generation. This study is then guided by the following research question:

1. How do the teacher trainees (pre-service teachers) adopt the nine (9) pedagogical elements of 21st century skills (Saavedra & Opfer, 2012) in their teaching practicum?

Methodology

This paper presents part of the findings of a larger study which looks at the pedagogical experience of the teacher trainees of USIM Bachelor of Islamic Studies and Education in selected public secondary schools. It is qualitative in nature, which employs the use of student teachers' reflective journals to facilitate their learning during a teacher education practicum. Twenty-one student teachers undertaking a Bachelor of Education (Islamic Education) programme submitted monthly journal entries during their 16-week practicum about their educational practices and beliefs. In the general education literature, reflection and reflective practices are widely noted, described and documented as essential attributes of competent professional educators who are well-equipped with various teaching skills (e.g. Bain, Ballantyne, Packer & Mills, 1999; Kim, 2018).

Research Design

This study employs a case study design where the focus is on a cohort of students undergoing their practicum exercise for 16 weeks. Their reflections were examined, and mapped against Saavedra and Opfer (2012) nine pedagogical elements of 21st Century Skills required for the 21st Century Teaching. Data analysis was done using textual analysis. The instances were recorded and also sent for validation to three experts in the field of education. Although the study is mainly qualitative in nature, the findings are reported in two ways – simple percentages to show the frequency of occurrences and also narrative where excerpts from the journals are put forth to provide evidence of the pedagogical elements. The students remain anonymous as the excerpts from their journals are indicated by the use of S1 to S21.

Findings and Discussion

The evidence reported in this paper includes the frequency and percentage of the nine pedagogical elements of 21st century skills entailed for the 21st century teaching proposed by Saavedra and Opfer (2012), which were employed by the student teachers when they underwent their teaching practicum. The nine elements are: 1) Making it relevant, 2) Teaching through the disciplines, 3) Developing thinking skills, 4) Encouraging learning transfer, 5) Teaching students how to learn, 6) Addressing misunderstandings directly, 7) Treating teamwork like an outcome, 8) Exploiting technology to support learning and 9) Fostering creativity. Following that, the researchers provide the instances of the student teachers' practices of each category in the classroom during their practicum.

Table 1: The Frequency & Percentage of 21st Century Pedagogical Elements utilised by Student Teachers

21st Century Pedagogical Elements	Frequency (n)	Percentage (%)
1) Making it relevant	12	22.0
2) Teaching through the disciplines	21	39.0
3) Developing thinking skills	4	7.4
4) Encouraging learning transfer	2	3.7
5) Teaching students how to learn	2	3.7
6) Addressing misunderstandings directly	1	1.9
7) Treating teamwork like an outcome	3	5.6
8) Exploiting technology to support learning	5	9.3
9) Fostering creativity	4	7.4

Table 1 shows the frequency and percentage of the 21st century pedagogical elements utilised by the student teachers. Generally, being future Religious teachers, most of the teacher students were found to use 'the teaching through disciplines' element (39%), i.e. related knowledge pertaining to the Islamic Education discipline such as reciting the Quran, in their classrooms. This is followed by the 'making it relevant' element (22%) as a means to capture the interests of their lessons in the classrooms.

In comparison, the lowest elements utilised by the student teachers is related to 'addressing misunderstandings directly' (1.9%), followed by 'encouraging learning transfer' element and 'teaching students how to learn' element, both at 3.7%. Being future teachers in training, it is common for them to have difficulties to conduct activities involving developing their learners thinking skills. However, although the percentage is small, it is found that the student teachers do show some attempts to teach their students to use high-order thinking skills in their learning process.

Below are the examples of the student teachers' pedagogical practices which are aligned with the nine pedagogical elements of 21st century skills entailed for the 21st century teaching proposed by Saavedra and Opfer (2012):

Making It Relevant

Saavedra & Opfer (2012) state that an effective curriculum, which is one of the main components of a good education system, "must be relevant to students' lives", as the lack of it will lead "to lack of motivation, which leads to decreased learning" (p. 7). Among the examples extracted from the reflective journals of the student teachers, who specialises in Islamic Education, include:

- "... mengenal pasti serba sedikit kenapa mereka bertindak sedemikian. Kerana kebanyakan anak murid saya mempunyai latar belakang keluarga sendiri..." ("... identifying why students behave certain ways. Because most of my students have unique family background") (S6).
- "... dari sekecil-kecil perkara cikgu kena ambil tahu tentang sekolah dan murid" ("... teachers need to know almost everything about school and the students") (S11).
- "... sama-sama berfikir dan membuat inovasi untuk subjek Pendidikan Islam" (... together thinking and innovating [things] for the Islamic Education subject") (S15).
- "... menggunakan kreativiti saya untuk mempelbagaikan bahan bantu mengajar untuk proses PnP" ("... using my creativity in order to modify and diversify teaching aids for PnP processes") (S17).

In addition, it is suggested that in order to make the curriculum relevant, teachers are advised to start with wide-ranging topics—those that “have an important place in the disciplinary or interdisciplinary study at hand and resonate with learners and teachers” (Saavedra & Opfer, 2012, p. 8). This can be seen in one of the student teacher’s journal which records the use of a story about *Dajjal* in his class which has made his students excited and eager to learn.

- "... macam cerita pasal Dajjal... semua segar semula" ("... like stories of *Dajjal* ... everybody becomes wide awake again") (S3).

Teaching Through the Disciplines

The second important pedagogical element of the 21st Century is teaching through the discipline. According to Saavedra and Opfer (2012), “Learning through disciplines entails learning not only the knowledge of the discipline but also the skills associated with the production of knowledge within the discipline” (p. 9). From the student teachers’ reflective journals, this is visible when many of them impart their knowledge through related Islamic Education disciplines such as reciting the Quran. In addition, students can learn “why the discipline is important, how experts create new knowledge, and how they communicate about it” (Saavedra & Opfer, 2012, p. 9), which promote many 21st century skills such as critical thinking, creativity, collaboration and communication (<https://www.aeseducation.com>) in the students.

- "... memilih pelajar yang berbakat dalam Tilawah al-Quran" ("...selecting talented students in the Quran Recitation contest") (S4).
- "Setiap hari Jumaat pelajar membaca Yaasin dan para ustaz perlu mengetahui bacaan Yaasin tersebut" ("Every Friday students will recite Yaasin verse, and teachers need to lead the recitation") (S4).
- "... terlibat dalam pelbagai program yang dianjurkan oleh sekolah... memilih pelajar yang berbakat dalam Tilawah al-Quran" ("...involved in many programmes organised by the school... selecting students who are talented in Quran Recitation contest") (S10).

Teaching through disciplines too will enable students to apply many 21st century skills like flexibility and productivity (<https://www.aeseducation.com>) since the continuous learning in a discipline demands the students to master the basic knowledge, know how to use it, express

and deal with the problem, alongside to convey the findings maturely (Saavedra & Opfer, 2012). From their reflective journals, it could be seen that the student teachers have employed the pedagogical element through, among others, activities like peer teaching, sports, leadership programmes and extra-curricular activities, as evident in the journal excerpts:

- "... membantu kawan lain ketika aktiviti dijalankan"
(... assisting other friends during activities" (S9)
- "... melatih atlit dalam sukan sepak takraw untuk mewakili sekolah..."
(... training athletes for 'sepak takraw' to represent the school") (S4)
- "... program kepimpinan untuk pengawas..."
(... leadership programme for prefects...) (S4)
- "... menguruskan majlis persaraan, sukan sekolah dan banyak lagi program asrama"
(... managing retirement events, sports day and other hostel programmes") (S13)
- "... SETIAP HARI Rabu semua pelajar berpakaian lengkap untuk badan uniform masing-masing..."
(... EVERY Wednesday, all students wear complete uniforms according to their uniform bodies") (S14)
- "... melatih pelajar-pelajar yang akan mewakili sekolah untuk pertandingan pantun"
(... training students representing the school in rhyme/poetry recitation") (S14)
- "... mengadakan program motivasi ..."
(... organizing motivational programmes") (S15)
- "... menyertai aktiviti di luar sekolah"
(... joining activities out of school) (S16)

Developing Thinking Skills

The next pedagogical element of the 21st Century is to develop lower- and higher-order thinking skills. To be able to live, work and function effectively in this era of 4IR, students need to be taught how to think. Although the lower-order thinking skills are somewhat common in many present curricula, the higher-order thinking skills are rather rare (Saavedra & Opfer, 2012). However, it is found that the student teachers do show some attempts to teach their students to develop thinking skills. This can be seen from the instances below:

- "... train budak syarahan untuk MTQ..."
(... training students for the elocution contest") (S2)
- "... murid aktif dan suka bertanya pelbagai soalan terutamanya dalam topik pembelajaran"
(... students are active and love to ask variety of questions, especially in the topics learnt") (S17)

The activities highlighted above could simultaneously inculcate other 21st century skills like initiative, productivity and also social skills.

Encouraging Learning Transfer

The fourth pedagogical element (learning transfer) is the most challenging task for the student-teacher. Fogarty, Perkins and Barell (1992) conclude that the transfer process is 'hard' as it requires lots of support from teachers and hands on practice by the students, to enable them to succeed in it (p.12). Not only must they know what (skills, concepts, knowledge, attitudes, strategies etc.) to transfer, they must also consider the context, situation or application for the learning transfer to take place. In addition, the method (How?) for such transfer should also be made clear to the student. As recorded in one of the journal entries:

- "Guru yang mengendalikan pelajar-pelajar ini telah berkongsi ilmu dengan saya. Setiap kali program saya juga diberikan tugas... saya dapat melaksanakan dengan baik."
("Teachers at school have shared their knowledge in conducting school programmes. Every time I have been entrusted with a task, I've successfully delivered"). (S14)

During teaching practicum, the student teacher (S14) has had the opportunity to get support from the 'Teachers at school' whom have shared their knowledge and experience in conducting co-curriculum activities (learning transfer). The student teacher then apply the input gained (hands on practice of knowledge and skills) by training her own students to represent the school in a competition.

- "Saya juga merasai pengalaman melatih pelajar-pelajar yang akan mewakili sekolah untuk pertandingan 'PANTUN'."
("I've experienced training students who are going to represent the school in a 'PANTUN' competition) (S14)

Teaching Students How to Learn

The fifth key of 21st century pedagogical elements involves metacognition and lifelong learning. According to Flavell (1976), metacognition is known as "one's knowledge to learn and defined as, "one's knowledge concerning one's own cognitive processes or anything related to them" (p.13). In other words, metacognition allows students to learn to be critical as well as various skills, knowledge, strategies, and attitudes more effectively. Therefore, educating them in the 21st century goes beyond chalk and talk, using textbooks and teacher-centered, that is the students develop their own metacognition and the pedagogy is student-centered in nature.

- "Saya juga perlu memikirkan aktiviti apa yang perlu dilakukan sebelum masuk ke kelas memandangkan pdpc kini adalah berteraskan PAK21 (student-centered) dan perlu menyediakan bahan yang secukupnya untuk aktiviti tersebut".
("I have to plan my teaching activities beforehand as the pedagogy is 21st Century (student-centered) and I have to prepare teaching materials for the activity (teaching)" (S12)
- "... saya belajar bagaimana untuk mengawal pelajar di dalam kelas dan berusaha untuk mengekalkan perhatian pelajar. ... jika pelajar kelihatan mengantuk, saya akan membuat aktiviti seperti brain gym untuk menarik kembali perhatian mereka..."
("... I've learned on how to control students in class and tried hard to keep their focus... if they are sleepy, I will do activity such as brain gym to get back their attention"). (S12)

As for lifelong learning, the student teacher has thought various interesting ways (for e.g brain gym) as means to engage her students' focus in classroom.

Addressing Misunderstandings Directly

In the 21st century teaching and learning environment, oftentimes teachers shall encounter difficult moments in identifying misunderstandings as faced by their students. In countering these misunderstandings, teachers should resort to ways such as “teaching generative topics deeply, encouraging students to model concepts and providing explicit instruction” (Saavedra & Opfer, 2012, p. 15). In other words, the teachers have to give students a chance to rectify their earlier misunderstandings.

- “... Ketua Bidang pantau dan komen, dia bagi tahu budak sekolah dia ni kena mengajar guna kaedah syarahan dulu baru boleh suruh buat perbincangan dalam kumpulan. Sebab subjek Pendidikan Islam kena banyak penerangan.”
 (“... Subject Teacher monitored and comment, she told me that the students of the school need to be taught using lecture method first, then group discussion. Islamic Education subject needs a lot of explanations (lecture).” (S7)

Explicit guidance from the Subject Teacher to the student teacher (to use lecture mode in teaching Islamic Education subject) has in a way addressed the misunderstandings of the students on Islamic Education topics. The Subject Teacher's advice that student teacher teach certain topics of Islamic Education in depth to the students first before instructing them to a group discussion has proven to be one of the effective ways to counter misunderstandings. “Teaching topics deeply gives students time and space to familiarize themselves with ideas that contradict their intuitive misconceptions” (Saavedra & Opfer, 2012, p. 15).

Treating Teamwork like an Outcome

Next, the seventh pedagogical element (Item No. 7) lays out that teamwork is an outcome and it promotes learning. Saavedra & Opfer (2012) highlight that [students] “learn from each other and develop the skill of working with others” (p.16). Teachers can promote learning with others and allow students to discuss concepts in pairs or groups. Apart from sharing what they understand, they can develop arguments and debate them. Based on a given topic, students can divide up materials and teach others (peer teaching) about their assigned piece. For instance:

- “...train budak syarahan untuk MTQ”
 (“... training students for the elocution contest”) (S2)

The coaching for debating teams as carried out by these trainee teachers paves way for the implementation of Item No.7 where Teamwork is central. In debates training, students usually work in groups to work on debate topics; working together to define topics and opinions, brainstorming ideas, constructing arguments and counter-arguments. The processes that the students went through during their debates training matches the 21st. Century skills needed and fortifies the essence of teamwork, simultaneously informs, triggers and expanded the students' understanding and learning in many critical ways. As summarized by Saavedra & Opfer (2012), students work through a given issue, talking through their thinking process while the others comment.

- “Murid dalam kelas ini sangat aktif dan suka bertanya pelbagai soalan terutamanya dalam topik pembelajaran”

(“Students are very active and like to ask many questions regarding the learning topic”) (S17).

Following accordingly to this key element in Item No.7, that perceives teamwork as a product that promotes learning, the trainee teachers reported that their students became invested in the big group discussions; participated and interacted actively in thinking and exchanging queries. In this way, listening to others’ questions and comments in the classroom promotes the idea of learning from peers/each other, which are pertinent 21st. Century skills that students need to acquire to communicate effectively.

Exploiting Technology to Support Learning

The 8th key element (Item No. 8) as proposed by Saavedra & Opfer (2012) is through the exploitation of technology so as to support learning. Technology offers the potential to provide students with new ways to develop problem solving, critical thinking, and communication skills, transfer them to different contexts, reflect on their thinking and that of their peers, practice addressing their misunderstandings, and collaborate with peers—all on topics relevant to their lives and using engaging tools...that has the look and feel of a video game...virtual environment,...web-based forums through which students and their peers from around the world can interact, share, debate, and learn from each other (16). For instance:

- “Kemudahan di sekolah ini amat bagus untuk mempraktikkan pa21”
 (“Schools with good access to technology”) (S3)

However, to this student teacher (S7), with limited access to technology equipment has somehow prevented her from imparting the 21st century classroom pedagogy.

- “...penggunaan teknologi dalam kelas tidak digunakan sangat sebab peralatan teknologi terhad”
 - (“Schools with limited access to technology”) (S7)

Therefore, item 8 of the Model suggests how teachers can utilize the platforms made possible by technology to increase the quality of their students’ learning and their teaching repository and networking. Most government fully-residential schools are equipped with good facilities that support technology in classrooms, thus students from these schools have better opportunities to engage and learn with technology is better, thus acquiring the 21st. Century skills faster and more efficient. However, details of the tools utilized or activities conducted through the use of technology was not given by the trainee teacher for the study to ascertain which element(s) of technology were being utilized in the classrooms. Conversely, for schools with limited access to technology and resources at the student-teacher’s school; the idea of using technology to aid teaching & learning was not able to be carried out successfully.

Fostering Creativity

The last key element (Item 9) by Saavedra & Opfer (2012) concerns the need to foster students’ creativity. Being creative is a skill that can be acquired by students. If students find lessons relevant to their lives, they are more intrinsically motivated to learn and use their newfound knowledge and understanding creatively (p.17). From the journal entries:

- “...pelajar...ni suka benda baru. Kalau ajar dalam buku je...Memang mengantok... kalo...cerita pasal dajjal... Semua segar semula...”
 - (“... the students love new insights... if we just use textbooks... they would be sleepy...”

stories or information about “Dajjal” or “The False Messiah”... they would be alert and pay attention”) (S3)

Intrinsic motivation as building blocks to students’ creativity as highlighted in Item No.9, played a role in motivating the students’ interest during the trainee teacher’s class. Stories or information about “Dajjal” or “The False Messiah” are nevertheless related to the students’ understanding of Islam, though may not be directly tackled in their present syllabus. This particular story’s functions to ‘transfer’ the students’ interest and focus back to the classroom is an important point of learning and opportune moment for these students to initiate more efforts at learning and understanding that subject matter more meaningfully.

Conclusion

This study investigated the knowledge, skills of 21st Century learning and the *Naqli-Aqli* knowledge that teacher trainees impart in their practicum training. It also highlighted the application of nine pedagogical elements of 21st-Century Skills required for the 21st-Century Teaching in the teaching of Islamic Religious Studies.

Teacher trainees’ reflections exercise is one of the most powerful techniques for them to look back at what they have done in the classroom and encourage them to re-think and design their teaching pedagogy and learning activities. In this study, the reflective journals are a useful tool to record or report their teaching experience. Their journals provide rich and meaningful information regarding the implementation of nine pedagogical elements 1) Making it relevant, 2) Teaching through the disciplines, 3) Developing thinking skills, 4) Encouraging learning transfer, 5) Teaching students how to learn, 6) Addressing misunderstandings directly, 7) Treating teamwork like an outcome, 8) Exploiting technology to support learning and 9) Fostering creativity among teacher trainees. Clearly, based on the findings, they showed the ability to apply all elements during practicum training. This study also found that they strongly practised the elements of teaching through discipline and made it relevant in the classroom. This indicated that Islamic Religious Studies is a unique subject that emphasises on students’ prior knowledge and skills to achieve learning objective. Besides, they also integrated the *Naqli-Aqli* knowledge, from Quran and Hadith in their teaching activities to make the Islamic Religious Studies curriculum relevant to their student.

The findings presented in this study suggest that teacher training programme needs improvement as the pedagogical elements of 21st Century Skills required for the 21st Century Teaching has become an important part in today’s classroom and they benefit students. The programme should incorporate new and improved pedagogical practice that works best in helping teacher trainees to improve teaching methods and their students’ learning and test scores particularly in Islamic Religious Studies.

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