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PAK 21 Skills and The Challenges of its Integration During Teaching and Facilitation Session (PDPC)

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Abstract

Conventional Teaching and Facilitation Process (PdPc) is seen as inadequate in preparing modern era students to face challenges, both in their personal or professional lives. Hence, this requires Malaysian education system to move along in a fast pace in developing integrated skilled experts from various fields through application and implementation of 21st century skills. So, this study discusses a set of 21st century skills and the challenges that exist in the integration of 21st Century Learning (PAK21) during PdPc. The results of previous studies reveal that a complete set of 21st century skills including the practices of the National Chamber of Commerce & National Industry and Partnership are, namely a) Personal Skills, b) Applied Skills, c) Workplace Skills, d) Social Skills, e) Key Competencies, f) Learning and Innovation Skills, g) Media Information and Technology Skills, and h) Life and Career Skills. Therefore, acknowledging the lack of skilled manpower and excellent student, who are capable in meeting the challenges of employment sector in the future, this finding is regarded as an effort to help implementation of 21st century learning towards the development of the latest education system in order to develop the standard quality of life subsequently.

Keywords: Human Capital, 21st Century Skills, 21st Century Learning, PAK21, Malaysian Education System

Introduction

Education is one of the core sectors that contributes to the development of the country in the formation of quality human capital in terms of individuals, religions, communities, and the country. A country's progress and advancements are also depending on the success of an education system that remains relevant in facing international challenges and competitions. Hence, educational reformation is not a new thing. Based on Juan et al. (2020), the full scale and comprehensive efforts taken in this, moves further from usual norms and habits to other extensive initiatives in shaping students' readiness for the future challenging employment sector. A closer look into today's society reveals that, it is challenged with dynamic global challenges which leads to many alterations in various dimensions, particularly, highlighting on the successful and holistic development of the manpower in the labour market (Zakaria et al., 2017; Shahroom & Hussin, 2018). Thus, the students need to be equipped with a diverse

set of skills (Marope et al., 2015; Barrot, 2019) known as 21st century skills (Van & Voogt, 2018).

Subsequently, the implementation of 21st Century Learning (PAK21) was given the priority as an emphasized approach in an effort to prepare students in facing the modernity wave challenges. The significance of implementing students' 21st century skills (Iberahim et al., 2017; Care et al., 2018) in the pedagogical content delivery is referred as the "balance" (Barrot, 2019) or "harmony" (Mishra & Mehta, 2017) to complement the evolution in the development of 21st century human capital. In the present, the gap found in the schools' curriculum content, which is delivered along with the essential skills needed in the workplace and society, have to be in line with the radical changes that takes place in the world (Juan et al., 2020). Moreover, day-to-day demands from aspects of life, career and citizenship require strong human capital to compete (Darling, 2019), to manage and develop industrial revolution 4.0 (Rani, 2017). Therefore, Cardenas & Reimers (2019); Penprase (2018), explain that the best education system needs to meet the requirements of the demands in the outlook of 21st century.

This shows that the approach to equip every student with the 21st century skills educational plan, requires a big strategic action (Van & Voogt, 2018) especially starting from the school level (Sulaiman & Ismail, 2020). Recognizing the importance and potential strengths of these 21st century skills, a nation can explicitly improve the learning environment; a different one from the traditional and conventional learning environment. Therefore, the application of PAK21 is an indicator in developing a framework that emphasizes the skills, knowledge, and attitudes needed to succeed in the 21st century (Corinne, 2022), consequently, to face world challenges, stimulate motivation, educational success, healthy lifestyle and prevent aggressive behaviour (OECD, 2015). However, there are still limitations in completing the manifestation of 21st century skill development that is most relevant to current needs (Moraes & Lepikson, 2017; Tindowen et al., 2017).

Problem Statement

Although there are many studies found in the perspective of implementing 21st century skills and its adaptation, there is still a gap, where less research is done on identifying and improving new set of skills for the 21st century. Many studies have been carried out to focus on the development of 21st century skills (Hernandez & Santos, 2017; Publica, 2017) in fact, implementation studies for 21st century skills have also been carried out around the world such as the Netherlands (Van & Voogt, 2018; Tsangaratou & Rotterdam, 2022); Singapore (Tan et al., 2017; Loh & Teo, 2019), the Philippines (Barrot, 2019; Gopo, 2022), China (Cai et al., 2017), Turkey (Sumen & Calisici, 2017; Bozgun et al., 2022; Ozen, 2022), Italy (Gratani & Giannandrea, 2022), France (Celuma & Maoulida, 2022), the United States (Chu et al., 2017) as well as European Union countries and OECD countries (Bakay, 2022). As a matter of fact, this area of study has also been carried out by Latin American countries except Costa Rica (Bujanda et al., 2018) based on (Jimena, 2021). Apart from that, this study has also been conducted in our own country, Malaysia (Sulaiman & Ismail, 2020; Kamal & Hamzah, 2021).

Findings of these studies also showed that the application and execution of 21st century skills in teaching are at the moderate level (Lay & Osman, 2018; Sulaiman & Ismail, 2020). This is supported by several studies that have seen the practice of 21st century skills education in schools around the world. It is revealed that the practice is still at a low level (Vivekanandan, 2019). This is due to the poor curriculum design that is in practice. The previous curriculum designs have scrutinized and focused on conventional practice, where teaching is given

utmost priority rather than learning. Thus, this has not encouraged and perceived the need for students to develop independent ideas and concepts (Publica, 2017). It is observed that the Teaching and Facilitation (PdPc) practices that are not in line with the current needs, have a higher impact on students in equipping and developing the skills needed in the 21st century. The students' needs in terms of acquiring and equipping themselves with the 21st century skills must be met so that every student is able to prepare themselves to face the current and future challenges.

Furthermore, in line with global challenges, competence and competitions, a list of unrecognised and unnoticed skills needs to be delineated in detail to help teachers plan lessons. This is to assure and enable students to gain comprehensive knowledge and skills. Findings from other studies show that these unrecognised and unnoticed skills are additional skills that will always be improved from time to time. This will rectify the shortcomings in producing a balanced human capital in all aspects. In addition, the underlying principles in the formation of this human capital, require students to remain competitive and explore along with acquisition of existing skills. Hence, these skills need to be constantly developed as a strategic initiative in contributing to the successful development of competent and holistic human capital. Therefore, these unrecognised and unnoticed skills need to be explored and emphasized, to ensure that they are always relevant in the education system in the past, present and future.

Additionally, the national education system needs to be defined and set out in aiding the development of the physical, emotional, spiritual, and intellectual aspects of students. This is to ensure fulfilling the developing countries' agenda towards the development of ideal human capital, because conventional PdPc elements, do not help in encouraging and preparing them for the modernized era challenges. As such, to ensure effectiveness in forming effective and ideal human capital in an increasingly complex society in today's global economy, each student needs to be equipped with critical thinking, effective communication, ability to be working with peers who come from diverse background to solve complex problems, practicing wide range of thinking skills and mastering information and communication technology (Vivekanandan, 2019).

Following that, this article was outlined and set out to bridge the gap in identifying and characterizing appropriate 21st century skills to current global environmental changes. Therefore, this study is important, not only focussing on adaptation of human capital changes with the latest 21st century skills, but also providing a holistic and detailed challenges faced in improving the practice of PAK21.

Research Purpose

In the process of improving 21st century skills development, the centre of attention is given to students' groups because of their different individual needs, besides, their complete dependence to develop their potential via feasible curriculum and pedagogy. This is to ensure that they get the best education to equip themselves with competent skills. Therefore, this study aims to;

1) Delineate a detailed set of 21st century skills
2) Analyse the challenges that exist in the integration of 21st Century Learning (PAK21) in Teaching and Facilitation process (PdPc)

Literature Review

Skills for 21st Century

The 21st century defines and describes human capital produced by our education system, as people who have ability, potentials, and competence mandatorily. As they are expected to be equipped with the skills of the 21st century, in order to face the ultimate challenges that awaits them in the near future. It is agreed that the best education provided, indeed fulfils the needs from the demands of life, work and citizenship in the 21st century (Darling, 2019). As the changes in society becomes obvious, the skills to adapt to the challenges in life also changes accordingly (IAB, 2017). This is to improve and determine the required skill for the 21st century, and to whether it needs to be retained, modified or drafted through restructuring in developing PAK21 (Sulaiman & Ismail, 2020). This is relevant to the current learning process. The learning process is expected to not only focus on academic achievement, but the holistic development of human capital. And, in line with the 21st century planning and execution to develop a balanced human capital, this has changed the course of human life as a whole, from all aspects involving the mastery of various skills, for a more effective and impactful life in the future (Nason & Hanapi, 2019).

Moreover, the term "Economy Knowledge" was coined to show the development of various skills that need to be formed, to produce a workforce who are capable of working with different ideas, people or systems, rather than with physical things through various new jobs (Breslow, 2015). As in this case, skills can be referred to as the ability to practicing and performing a job well. In addition, it is also described as abilities developed through training and experience that are considered useful in the job market. Based on Barrot (2019), a balanced strategy framework helps to support the development of each skill through the implementation of a curriculum with clearly stated objectives, as well as manifesting each of those skills dynamically. To further support this statement, the implementation of the *Program Sekolah Transformasi 2025* (TS25), has helped in developing five pillars in forming human capital, involving the development of active students and proactive teachers. (Sulaiman & Ismail, 2020). Through the implementation of this program, it is seen that the application of 6C as a competency in learning has helped to form the skills needed in PAK21 such as critical and creative thinking, communication, collaborative and character, and citizenship.

In the recent times, many of the 21st century skills developed are to meet the needs of current demands as a complement aspect to a balanced human capital. A closer look at the 21st century skills, reveals that the current generation need different set of skills and knowledge (Marope et al., 2015). As such, Ibrahim et al (2019) stated that every child needs to be equipped with the elements of 21st century skills, such as creative and innovative thinking, wise decision making, adaptability, communication and collaborative abilities. Some have also focussed on critical core areas to develop through 21st century skills, namely 1) Collaboration and teamwork, 2) Creativity and imagination 3) Critical thinking and 4) Problem solving (Seman et al., 2019; Huang & Iksan, 2019). Likewise, in the Core Skills (CS) model that was introduced, which forms 21st Century skills based on six skills by adding elements of communication, citizenship, digital literacy, leadership and personal development that can offer a balanced strategy for each skill (British Council, 2016).

In addition, students who excel in a complex work and life environment will begin to learn 21st century skills, through three main areas which are learning and innovation, digital literacy skills and personal and professional life skills (4C) that involve communication,

collaboration, critical thinking and creativity in the field of learning and innovation (Sahrir et al., 2020).

The combination of various 21st century skills through reading assignments or group research helps trains students to work in teams, producing proactive leaders who are willingly adapting to various ideas expressed, responsible, critical in solving problems and disciplined (Perdue, 2020). There are also three 21C categories that are introduced that include learning skills, namely critical thinking, creativity, collaboration, and communication (Ball et al., 2016). Flexible surviving skills, leadership, initiative, productivity, social skills, and the literacy skills that involve the ability to develop and combine critical ideas are needed in the 21st century (Frankel et al., 2017).

Following that, Perdue (2020) stated that 21st century skills have categorized "human-based" skills such as social skills and intellectual skills such as creativity and critical thinking. In this aspect of skills, students are required to acquire critical thinking as this skill is an essential skill in PAK21 based on the design specifications developed to build PAK21 competence. This is aimed in producing critical thinkers (Hussain et al., 2019) in developing a sustainable society, able to make decisions, be independent and take appropriate actions to solve problems. So, skill development in the curriculum that emphasizes critical thinking skills, problem solving, creativity, collaboration, communication, digital literacy and technology can be regarded as a determinant for success in education and in career paths (Asnida & Mohamed, 2017) while helping students to solve problems and encouraging lifelong learning.

Furthermore, these 21st century skills can be linked to the development of personal and social skills of individuals as it acts as a platform to actively engage in sharing information, values and knowledge for society as the digital environment changes (Lozano et al., 2017). A study by Ananiadou & Claro (2009) has outlined problem solving skills, collaborative skills, efficient communication and information technology skills, teamwork practices, ethics, flexibility, initiative and motivation as additional characteristics that are required in completing workforce needs (Arbaa et al., 2017), compared to existing skills such as thinking skills, interpersonal relationships, ability in technology development as well as personal qualities (Shariff & Puteh, 2018). This is supported, based on the M-21 CSI instrument which explains five elements of 21st century skills, namely digital era literacy, inventive thinking, effective communication, high productivity, and spiritual values. Based on Figure 1, in the study of Osman et al (2010) showed that a conceptual framework was formed using a pentagon that showed an integrated approach that supports all skills in forming a balanced human capital.

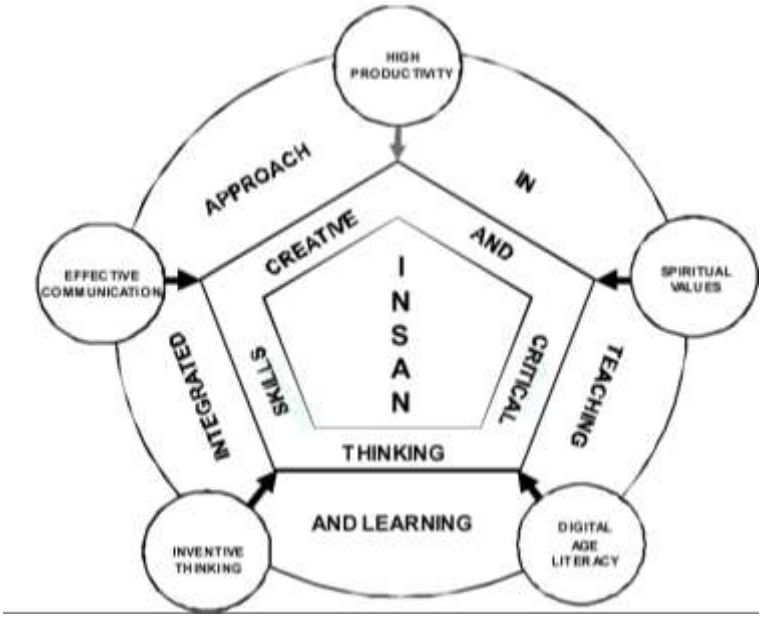

Figure 1: Instrument M-21 CSI
Adaptation from Kamisah Osman et al (2010)

Next, the development of Information and Communication Technology (ICT) skills makes 21st century skills unique and different from 20th century skills (Rusdin & Ali, 2019). The enGauge report asserts that the competition and rapid development factors require workforce to be equipped with soft skills that can help students to adapt to changes in technology and organizational structure. Education in this respective, focuses on the development of "industrial education" (Croft, 2019). This makes the economic and social evolution to necessarily transform the structure in technological progress that leads to a healthy competition in the job market, leading to changes in various skills, as a platform to compete effectively in the global economy (Radin & Yasin, 2018). There are also studies that support that a collaborative environment through technology, can foster a culture of learning among students (Jeong & Silver, 2016; Gonzalez et al., 2020). Therefore, various skills need to be extended to learn, communicate, collaborate and solve problems through digital environment (Juan, 2020).

Based on Nazir et al (2016) view, information skills, communication and social ethics, are the most important dimensions in the development of 21st century skills through ICT. In fact, changes in the current environment are seen to prioritize technology (Dwijuliani et al., 2021) as an approach that helps in the development of 21st Century skills both in career development and work guidance (Wrahatnolo & Munoto, 2018; Ali, 2018; Almerich et al., 2020) as well as citizenship and sustainable development (Lozano et al., 2017; Ahmadi & Besancon, 2017; Kucirkova, 2017; Foucrier & Wiek, 2019). Moreover, critical thinking skills and problem-solving skills, become an integral part of PAK21 skill formation which is complete, through interpersonal relationships by communicating and collaborating in groups to develop innovative and creative people (Saido et al., 2018).

Keane et al (2016) stated that 21st century skills should have 2 components including, ICT skills involving pedagogy and ethics as well as collaborative skills which are critical thinking, creativity, problem solving, self-learning, communication and collaboration. Parallelly, the 2019 Skills Survey Report shows that the digital environment can help students'

self-learning (Salinas & Benito, 2020) as well as contributing to meaningful lifelong learning (Agudelo & Salinas, 2015; Phang, 2020). Meanwhile, Ibrahim et al (2019); OECD (2019) have outlined four 21st century skills components in digital game design including learning and innovation skills, information, media and technology skills, life and career development skills needed based on cognitive, psychomotor and affective learning domains besides being able to generate and stimulate creativity. So, the inclusion of these ICT skills in PAK21 has indeed been implemented as an element to change into the 21st century education environment that is effective for students, as well as meeting the needs of individual development.

To complete the network in 21st century skills, there is unrecognised skills that is namely, socio-emotional (Belfield et al., 2015) including aspects of motivation, perseverance, social skills and self-control, being seen as a support to develop the competence of 21st century students with mature emotional skills (Corriveau & Winters, 2019; Cross et al., 2019; Dinsmore & Fryer, 2019; Dixson, 2019). The need for these skills is as an ultimate complement to develop the student's ability to manage emotions, needs and respect others, after acquiring other 21st century skills. With these socio-emotional skills, students can learn to adapt to the needs of the 21st century society which allows them to build confidence, autonomy and proactiveness in learning. This is beneficial for students' overall cognitive abilities such as focus, reflection, perspective and mental control (Frank, 2020) which helps in supporting the development of education, career and life (Hasbullah et al., 2020; Mensih et al., 2021). These socio-emotional skills can be used as additional skills to meet the needs of the new 21st century skills. As such, these unrecognised skills can indeed form a constructive set of behaviours, attitudes and skills that enable students to attain the necessary 21st century skills.

In addition, the findings of Lozano et al (2017) stated that along with the development of 21st century skills, sustainability education is indeed developing a comprehensive Global Citizen (EGC) for future human capital. This learning practice offers meaningful student-centred learning, motivation formed through interconnectedness, flexibility and autonomy at the same time, helping to develop students' self-learning. In fact, this sustainability education in PAK21 is indeed a process of developing a sense of responsibility to find a balance between human well-being and future economic development. The significance of integrating sustainable education through 21st century skills, is seen to help develop a bright future for students to work in a more sustainable environment. This transition shows a commitment to a sustainable economy besides conserving the earth and its resources (Khatijah & Peruma, 2016; Lozano et al., 2017).

However, the findings of this study showed that the development of sustainable education is seen as two different educational elements within 21st century skills. In fact, there is no consistent determinant through pedagogy for its implementation in the curriculum (Juan et al., 2020). Based on Table 1, it shows 2 different elements of 21st century skills required between Chamber of Commerce & Industry and Partnerships for attaining 21st century skills. The combination of these 2 rubrics brings connotations as a complement of a 21st century skill, focussing on the individual's life as a citizen that focuses on skills such as health, civic literacy and the environment is not new and fresh compared to the rubric from the Chamber of Commerce & National Industry which prioritizes skills in workplace (NNBIA, 2014). Looking at the rubric that was formed, it displays the entire skills that are demanded and needed to be developed in PAK21, including the skills that are needed, in forming the efficiency of a skilled workforce in line with the challenges of today's society.

Table 1
National Chamber of Commerce and Industry of Malaysia & 21st Century Skills

National Chamber of Commerce and Industry of Malaysia	21st Century Skills
Personal Skills • Integrity • Initiative • Dependability and Reliability • Adaptation • Professionalism Applied Knowledge • Reading • Writing • Mathematics • Science • Technology • Critical Thinking Workplace Skills • Planning and Organizing • Problem Solving • Decision Making • Business Knowledge • Customer Centred • Handle Tools and Technology Social Skills • Cooperation • Communication • Respect	Key Competencies • Global Awareness • Financial Literacy, Economics, Business and Entrepreneurship • Civic Literacy • Health Literacy • Environmental Literacy Learning and Innovation Skills • Creativity and Innovation • Critical thinking and Problem Solving • Communication • Cooperation Media Information & Technology Skills • Information Literacy • ICT Media Literacy (Information, Communication, Technology) • Literacy Life and Career Skills • Flexibility and adaptability • Own initiative and direction • Social and cross-cultural skills • Productivity and Accountability • Leadership and Responsibility

Challenges

Looking into current developmental changes, the Industrial Revolution Era 4.0 and the 21st century have influenced and brought in changes to human life that require everyone to adapt to the latest advancements. This inevitable transformation is a necessity for the betterment of their lives. Nevertheless, while executing various paradigm shifts, there are challenges that had to be faced while implementing 21st century skills among students to develop human capital that is complete and competent with the demands of current needs.

Major challenges faced are in terms of increasing levels of difficulty and uncertainty, individual and social diversity, rapid economic and cultural development, deterioration of the quality ecosystems which are exposed to natural and technological hazards (UNESCO, 2016). Another challenge as stated in Jimena's study (2021), supports the main challenge that focuses on the framework of the education system, in planning and implementing ideas and policies that can meet the needs and encourage students' involvements. The insights on teachers' perception revealed that they face difficulties in integrating this 21st century framework (Sajidan et al., 2018). The integration is influenced by the notion and perception of the needs, guided by the ability of students to learn (Jimena, 2021), and as well as

assumption that 21st century skills are not included in the current curriculum content taught (Breslow, 2015).

Furthermore, the ability to develop a comprehensive curriculum that helps to make up for the shortcomings in the implementation of current pedagogy, needs to be implemented alongside forming and including the necessary 21st century skills. The lack of access, resources, training, support, beliefs and attitudes of teachers (Keane et al., 2016; Liyew et al., 2017; Rusdin & Ali, 2019; Yahaya et al., 2019; Silva & Lazaro, 2020) have greatly affected their confidence to plan, integrate, and implement 21st century skills in PdPc (Lubis et al., 2017). This implies that teachers' ability to develop 21st century skills through an integrated curriculum needs to be planned and executed through research in order to rectify shortcomings and challenges faced (Corinne, 2022). Teacher's competence in analysing and integrating 21st century skills, can influence the improvement of the high quality and comprehensive teaching and facilitation session, as supported by (Radzi & Muzammil, 2018).

Additionally, looking at the large number of students in a classroom, the less conducive learning environment and limited teaching facilities and resources have also played a major role in the challenges of implementing 21st century skills-based teaching and learning session (Radzi & Muzammil, 2018; Ismail & Ismail, 2018). This challenge is combined with the lack of time for the teachers, in focusing and planning lessons based on the desired objectives for every individual (Harding et al., 2017). Focussing on these challenges, it is noted that a teacher's role is to ensure the continuing implementation of the curriculum, based on various methods and strategies to ensure, the goals, objectives and selected domains, are in accordance with the needs of students in developing 21st century skills. This requires the teacher to be prepared with a lesson plan that matches the skills and resources, materials to enhance the learning. As this will certainly help in achieving the objectives that have been set, for a topic or subtopic taught (Yahaya et al., 2019). This also allows teachers to prepare in advance by selecting and fixing the appropriate PdPc approach as expected during the lesson delivery. The role of teachers as an implementing group, who are skilled in pedagogy and its delivery simultaneously has led to various curriculum and cross-curricula designs and practices.

On the other hand, Mishra & Mehta's (2017) study, was conducted to analyse teachers' understanding of 21st century skills and knowledge. Interestingly, in this study, the lack of support, responsibility, and active involvement of the stakeholders, namely the Ministry of Education, towards the implementation of the new curriculum (NC), has been revealed to have impacted teachers' integration and implementation of 21st century skills.

Based on Amran & Rosli (2017); Rusdin & Ali (2019), they have stated that the lack of teachers' teaching strategies to teach skills is seen as a challenge. In order to develop 21st century skills, there is a need for training, especially for the teachers, that is relevant to current needs and to meet the needs of students in the 21st century. This also shows the need for training, in which facilitators are expected to help improve teaching to a more effective PdPc session. This is due to a fact that a high level of competence among teachers, in addition to mastering the curriculum, teaching skills, empathy and technology skills (James, 2017; Omar et al., 2021), makes Singapore able to face the challenge of developing 21st century skilled teachers (Tan et al., 2017). Therefore, the focus should be highlighted on the improvement and shift to the development of quality teachers first, before focusing on the production of human capital that helps cultivate 21st century skills.

In conclusion, more challenges are focused on teachers as an implementing group rather than students. The efficiency of teachers is in carrying out their duties as planners and

implementers, and in showing their efforts in the successful development of a curriculum that is a combination of efforts to instil solid PAK21 skills. Their ability, involvement, and support in helping to develop every skill needed in the classroom is essential. (Van & Voogt, 2018). As this strategy helps the implementers group to be more systematic (Nor & Kamarudin, 2017; Sahrir et al., 2020), as well as execute clear pedagogical objectives (Barrot, 2019; Mishra & Mehta, 2017), to meet the demands of students for the 21st century. This clearly shows that teachers have a variety of repertoires that hold a role of manager in their skill-based teaching, as well as being able to give the best education that every student needs and deserves. Thus, these challenges in implementing 21st century skills, need to be enhanced and improved, because it can affect the implementation of the best PdPc sessions. This could also limit the students' knowledge exploration and a wider learning environment for students to get their learning material and resources.

Summary

As a matter of fact mentioned that current industry is based on knowledge and skills. In view of this fact, the focus is on exposing the current generation with high thinking skills and foundation of advanced mind by having characteristics that are different from previous generations in terms of knowledge, high skills, norms, values, cultural elements and beliefs. Therefore, the findings of the study show that 21st century skills have been developed through two parts adapted from the practice of the National Chamber of Commerce & National Industry and Partnership for 21st century skills. Looking at the findings from the rubric of the National Network of Business and Industry Associations (2014), it shows a complete set of 21st century skills in skilled workforce elements such as personal skills, applied knowledge, workplace and people skills. Meanwhile, for the comprehensive development of students in the 21st century, it consists of the key competencies development, learning and innovation skills, media information and technology skills as well as life and work skills. So, this finding focuses on the development of 21st century students as skilled workers and excellent students who are capable of meeting the needs of the employment sector in the future. In fact, there are also values developed especially in forming spiritual values that become a symbol of manners and decency (Ibrahim et al., 2019).

In addition, from the research findings obtained, it is revealed that social-emotional skills are unrecognized skills as additional skills to improve the new skills needed to complete the 21st century skills rubric. According to, Mahamod & Rahman (2020) this improvement process can contribute to the formation of human capital of the generation of first-class minds in various aspects of life, which can lead to competition at the global level, in line with the changes in education in the Industrial Revolution 4.0. This involves adapting students to be ready with the expectations of the society when they are in the outside group in the future. Moreover, looking at the relationship of multi-racial society in Malaysia makes these social-emotional skills in the 21st century skills as an important skill that can bring a shift in harmonious Malaysian cultural elements, as well as patriotic spirit in the community. Interestingly, in the transfer of social-emotional skills, the change from passive individuals to active individuals in society can form the knowledge base that experiences the necessary progress.

The positive impact on students in following effective teaching towards PAK21 is more meaningful when using technology. Findings from this literature review show that the use of technology is the best and most effective teaching method as the main medium to meet the needs of students in PAK21. Furthermore, in order to ensure the effectiveness of the

implementation of the teaching process as well as the achievement of success required in PAK21 using TMK, the researcher found that sustainable education is an additional element as a complement to the whole combination of 21st century skills that are interconnected with each other. This is because, being aware of the country's challenges and changes in the wave of technology, this sustainable education is an important requirement as a respect for natural resources, in addition to balancing the need for conservation and preservation of the environment. If these 21st century skills are applied to students in a sustainable education, students will work towards a more sustainable future. Interestingly, the opportunities given to students through this sustainable education, can guide and motivate students for future behaviours such as concern and values. However, there are findings that show it as two different elements.

In conclusion, the researcher found that the shift of PAK21 has brought in transformation from conventional learning to self-directed learning that can form the basis of knowledge that has stages of advancements. This paradigm shift that is implemented through the development of 21st century skills include all holistic aspects and relevant to the current and future needs which are expected to influence the way of life and work to develop balanced human capital in line with the National Education System's principles and goals. Although these changes are fundamentally found to be insufficient in existing pedagogical practices, yet these changes precede innovations that are far ahead of the evolution of current developments. In the effort to produce human capital who are ready for the challenge, the application of these 21st century skills depend on the capabilities of teachers to choose and plan pedagogical approaches through strategies and methods that are relevant to current needs while implementing competent teaching and facilitation session. This is to ensure that every student acquires skills that can strengthen and consolidate learning, skills, and knowledge, besides developing talents and generating income through the mastery of balanced 21st century skills.

In the recent times, various types of research, programs and curriculum are formulated and enacted. This is to assure the implementation of the 21st century skills during the teaching and facilitation session. The introduction of some new skills through implementation strategies and learning approaches will allow people to use wide range of knowledge and talents they have, to navigate the future challenges. Furthermore, changes are also seen in the recent times. The preference and priority are given to learning instead of teaching as the conventional method does not encourage students to develop ideas and concepts, as well as rejecting the learning needs of students to develop ideas. It also does not offer comprehensive training and only focussed on academic subjects (Publica, 2017). Through extensive review of PAK21 that is evolving and becoming fundamental, it is noticed that the teacher's responsibilities are more than just teaching in a classroom. Their role of being the sole disseminator of knowledge is changed. They are required to be a facilitator, problem solvers, act as a catalyst and encourage self-directed learning (Azman & Nor, 2017). Therefore, the role of teachers as an implementing group is one of the catalysts for successful implementation of a feasible 21st century curriculum to help students achieve the level of mastery and at the same time, making the Malaysian Education System, an effective channel to achieve the nation's goals.

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