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Theory of Change: A Success or a Failure for School Improvement, A Discussion Base on Malaysian Context

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Abstract: The study aims to review Michael Fullan's research of Theory of Change in 2006 base on Malaysian context. In his research, he had discussed based on 3 sections which are flawed change theories, theories of action with merit and the prospects for future of these theories of change in knowledge. This study proposes to look into the educational background of Malaysia relating it with Michael Fullan's research of changes that should be in the education setting. The study aims to expand the knowledge of all concerned base on what had been achieved, what we are trying to achieve presently and what needs to be achieved in future in Malaysian education. The study opted for a viewpoint study. In each section, the researcher had taken examples of schools and colleges in Malaysia and discussed base on Malaysian education background. In the components of flawed change theories, discussion was based on reform initiatives, professional community and the development and retention of quality leaders. Malaysia has undertaken many reformation initiatives, some had been fruitful while some are still in the ongoing process, under the professional community, training and development they are provided in each educational level to produce the required workforce in line with the Malaysian Blueprint in 2013. The study provides insights about how changes are brought in the education system and levels. It highlights of the need for capable and quality leaders who acts as "integrating forces" that can bring about the changes in the education system and to ensure the success of implementing them. At the same time it was also felt that even though community and development is practiced widely there are still weaknesses that need to be addressed. Conservative school reformers remain as skeptical as teacher unionists about Fullan's real motives, strategies and objectives behind the changes that were discussed.

Key words: Theory of change, success, failure, school improvement, success, skeptical

INTRODUCTION

The Canadian grand wizard of "school change", Dr. Michael Fullan, the researcher of the study of Change Theory; As a force for school improvement is still on top and controlling the public agenda after 3 decades. As a "Senior Advisor" to the Ontario Premier and Minister of Education, since, April 2004 and a former Dean of Education at University of Toronto (1988-2003) he exerts a powerful but largely hidden influence over the school reform agenda in Ontario, Britain and far beyond. He is noted for his knowledge on educational reform and has consulted to school districts, teacher groups, research institutes and governments.

Change theory as a force for school improvement by Fullan (2006) discusses 3 main issues in his research. These include the drawbacks of change theories, the theories of action which produce results and its prospects for future use. The researcher has highlighted the flaws that exist in changed theories and how it is not producing the change that is required out of it. Gabriele (2002) in her research "The "roundtable" for school learning and planning groups mentioned that different theories approach in a systemic educational change varies in philosophies, strategies, models and methods and searching for the theory that will create conditions is necessary for systemic change. In order to achieve this Gabriele declared that conditions to include would be an "ideal-based, holistic, continuing, participatory, user-friendly, easy to adjust/improve and emancipatory" for effective change to occur in education (Gabriele, 2002). As such it does not come as a surprise that the many theories of education that exist have weaknesses and flaws. Fullan (2006) claims that the flaws can be seen in the standard based reform initiatives, professional learning communities or framework that focus on the development and retention of quality leaders in schools. Fullan had also discussed what theories of action appear to have more merits (theories with better results) and using the changed knowledge more fully, so that, it can be benefited in future. These theories of actions are a set of assumptions about how one can move from its current

state to its desired future (Elmore *et al*., 2009) and Fullan has identified 7 core premises which are motivation, capacity building, learning in and changing context, a bias for reflective action, tri-level engagement and finally, persistence and flexibility in staying the course. Fullan also discusses the negative aspects of these components.

MATERIALS AND METHODS

The resercher has given ample of examples to prove his points (Fig. 1). This approach has its roots in the 1960s when Kirkpatrick used the model to examine the effects of training on students (Eseryel, 2002). It has grown in recognition in the last 2 decades, partially in response to the need for a framework that can take into account the barrier of multi-stranded and interrelated actions to promote social change.

Theory of change: Brest (2010) defined Theory of Change as initiative or program logic. He explains that it defines long-term goals and then maps backward to identify changes that need to happen earlier (preconditions). According to, Brest, interventions which are activities and outputs of any sort are mapped to the outcomes pathway to show what stakeholders think it will take to effect the changes and when.

Goh and Blake (2015) in their study of teacher's preparation in Malaysia, raised the concern of the need of changes in 3 aspects, first, a curriculum that is grounded in the Malaysian context, second an improved practicum

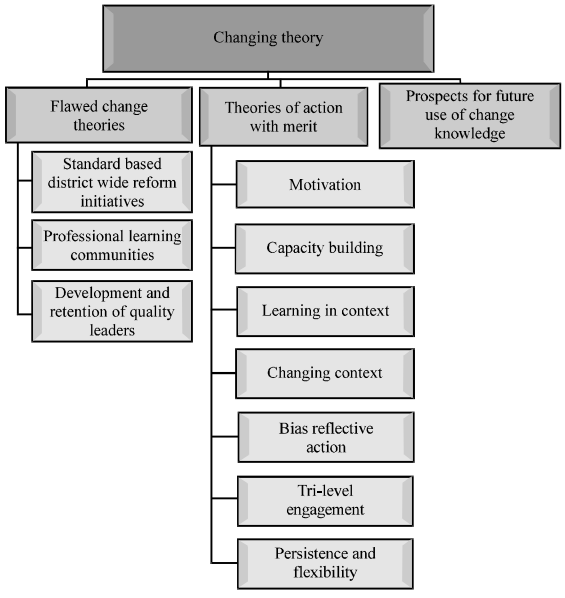

Fig. 1: Changing theory: a force for school improvement

experience and third to develop and situate practices in the schools. It concludes that the efforts to change within teacher education will not be easy but needful (Goh and Blake, 2015). At par with it the Malaysian Education Ministry implemented (2017) the new Standard Curriculum for Secondary Schools (KSSM) for form one students and a revised primary school standard curriculum (KSSR) for 1 year pupils. The Education Ministry's head for the policy and research sector, Naza Idris Saadon, said some of the changes made in the KSSR review and simultaneously the KSSM include the content of the subjects as the ministry believes it has to be up to date with the changing times. He emphasized that the content taught today has to change in accordance by including new information and content into the subject especially for those that revolve around technology. The changes include the organization and management of the curriculum, changes in the pedagogy aspect of teaching and learning and in the allocation of time for each subject. The effectiveness of these new curriculums are still ongoing as it is just implemented.

School improvement: Hopkins (2003) defines school improvement as a distinct approach to educational change that aims to enhance student outcomes as well as strengthening the school's capacity for managing change. Barth (1990) defines school improvement as an effort to determine and provide from within and without, conditions under which the adults and youngsters who inhabit schools will promote and sustain learning among them. According to, these definitions, the purpose of school improvement is to impact the relationship between the teaching and learning process and the conditions that support it. Further, the change which should take place as a result of the school improvement effort should not merely reflect an implementation of policies but rather, improvements or adaptations of practice which transform the learning process to achieve the maximum impact on students, teachers and schools (Hargreaves, 1994; Hopkins, 2003). Under the rubric of Vision 2020 there is a liberalization of educational policies leading to the democratization, privatization and decentralization of the Malaysian educational system. In conjunction with mass education, both the primary and secondary school curricula were revised with great emphasis on the development of an all-round individual, the acquisition of basic skills, the inculcation of moral values and the abolishment of early specialization. The educational administrative system has been decentralized to promote school-based management and teacher empowerment (Lee, 1999). There is a shift in school improvement paradigm over the years due to the advancement of

technology in Malaysia. School improvement efforts are more focused on capacity building, improved teaching and learning processes, high level student learning outcomes and creating a community of learning amidst a digitized learning environment (Abdullah and Ghani, 2014).

RESULTS AND DISCUSSION

Discussion based on Fullan's framework

Flawed change theories: Fullan (2006) stated that if teachers intend to help students to develop the skills and competencies of knowledge-creation, professional knowledge should be developed among teachers by having the necessary experience. Figure 2 shows the components of flawed change theories and the topic of discussion in Malaysian context.

Fullan highlighted on initiatives taken where fund was provided for external improvement. However, the final outcome was the districts were unable to change and improve practice on a large taken where fund was provided for external improvement scale (Allen *et al*., 2005) when it comes to district reform initiatives. In Malaysia, the operation expenditure allocated for the primary and secondary education accounted for nearly half the total education operating expenditure as a whole. As the main provider of education funds for primary, secondary and higher level of schooling, the federal government of Malaysia through the Ministry of Education and Ministry of Higher Education contributed about 98% of the total financing. The government formally recognized selected schools with guided financial autonomy known as Pusat Tanggungjawab (PTj) or Autonomy Center (Responsibility Center) was created to ensure allocation are provided. However, the failure of some principals to allocate resources based on the school objectives and priorities shows weaknesses on the division of fund. Similar to what Fullan had claimed, the fund provided fail to bring improvement as expected in certain schools. Radzi, Ghani, Siraj and Afshari highlighted that the school audit division in its annual report has reported that some principals of PTJ schools failed to list their objectives based on priorities and to provide a proper strategic plan for schools to reach their objectives.

The Malaysian public examination taken by form 3 students is known as 'Penilaian Menengah Rendah' (PMR) national examination was replaced with 'Pentaksiran Berasaskan Sekolah' (PBS) or School Base Assessment in 2014. In 2016, a student's 'Ujian Pencapaian Sekolah Rendah' (UPSR) or Primary School Achievement Test, grade shall no longer be derived from a national examination alone but from a combination of school base assessment (PBS) and the national examination. The format of the Malaysian Certificate of Education or 'Sijil Pelajaran Malaysia' (SPM) remains the same with most subjects assessed through the national examination and some subjects through combination of examinations and centralized assessments. However, the year 2017 saw new changes in the education system whereby, a revised standard based curriculum for secondary schools (KSSM) and Standard Based Curriculum for Primary Schools (KSSR) was implemented in January, 2017 (Curriculum Development Division, 2018).

Initial feedback on the rollout of PBS suggests that teachers have yet to fully grasp the magnitude of the change. Some teachers and schools are also struggling to develop their own assessment tasks and instruments for the school assessment component (Blueprint, 2016).

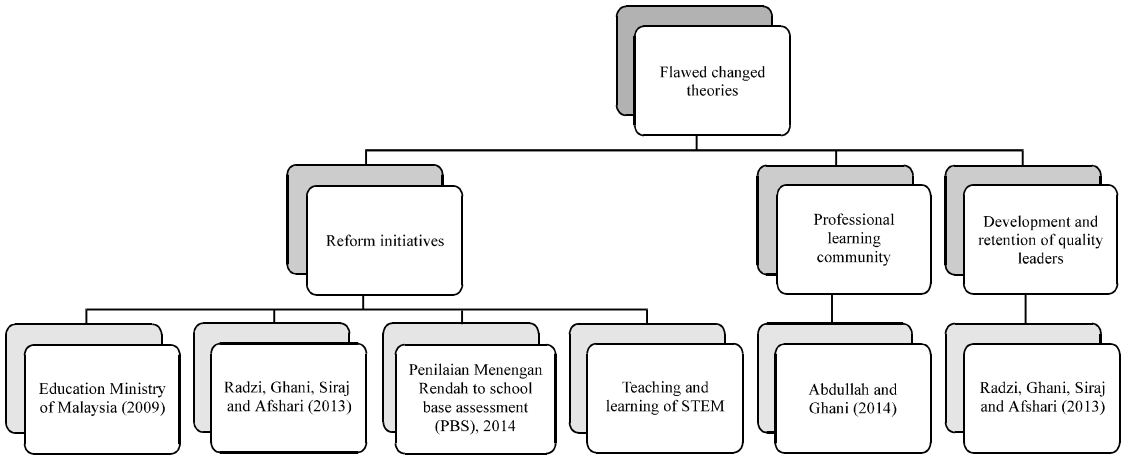

Fig. 2: Flawed change theories

However, it is highlighted by Nair and Hussin (2016) that when shaping a curriculum it is important to have characteristics like interdisciplinary, research intensiveness, community engagement, academic literacy and global connectedness into it and the successfulness of the implementation is still doubtful (Nair and Hussin, 2016) in higher education in Malaysian context. Therefore, school or higher learning institutions should take serious consideration on the characteristics for improvement. For instance, the Ministry of Education, Malaysia upholds ICT as an enabler to propel education to greater heights (Abdullah *et al*., 2013). However, the challenge lies in the principal's autonomy to implement change due to the hierarchical organizational structures and centralized school management.

In addition, the current heavy content of STEM (Science, Technology, English and Maths) curriculum places greater emphasis on content at the expense of practical aspects and does not sufficiently emphasize its relevance to everyday life. This makes it more difficult for students to understand STEM's value or usefulness to them (Blueprint, 2016). Recent ranking of 'PISA 2015 Average Scores' , Malaysian was ranked 446 for Maths, Reading 431 and Science 443, compared to Singapore which was first in all 3 (O.C, 2017). This could be due to the syllabus of secondary schools which is based on the science curriculum framework which emphasizes the need for a balance between the acquisition of science knowledge, skills and attitudes (Blueprint, 2016). These have a direct bearing on the daily lives of the students and are drawn equally from the physical, chemical and biological sciences. In Malaysia currently, 20% of schools have sience labs that are damaged and no longer functional. Some schools also lack modern equipment and facilities (Blueprint, 2016). This makes the effective teaching and learning of STEM, especially through the use of practical lab work, more challenging to deliver and affects the interest of students. Another concern is that the number of students enrolled in Science, Technology, Engineering and Mathematics (STEM)-related programs in higher secondary and tertiary levels is on a decline (Blueprint, 2016). The STEM curriculum serves to educate students in an interdisciplinary and applied approach. Last year it was reported that the target for students enrolling in the stream is not being met annually at the school and tertiary levels. Those in the know have warned that not having a sufficient STEM-related research force will lead to further technical dependency on foreign workers (Blueprint, 2016). The main reason students shy away from STEM subjects were because many experienced difficulty and complexity in grasping the basic conceptual knowledge. Meanwhile, research has shown a direct correlation between the use of STEM curriculum with preschoolers and an increase in collaboration skills, vocabulary and the ability to create and discuss scientific relationships (Blueprint, 2016).

The Malaysia Education Blueprint 2013-2025 has outlined strategies through various initiatives to enhance science teaching and learning, including pre-service training and ongoing professional development for teachers. Malaysia also has been liberal with funds used for educational purposes, especially in higher learning institutions (KarMee *et al*., 2016). The government's policy in education, particularly higher education is to bring it in line with the country's manpower planning and to provide the country with the right the right and adequate supply of trained manpower to keep pace with economic growth 2030 in future (EPU, 2016). Fullan admits, standards, assessment, curriculum and professional development are encouraged yet they are as quoted, "seriously incomplete theories action because they do not get close to what happens in classrooms and school cultures" (Fullan, 2006) and also difficulty in gaining results in the learning.

Fullan mentioned Professional Learning Communities (PLC) in his research which involves communities of learners where teachers and school leaders work together to improve learning conditions and results of students in given schools (Fullan, 2006). A study by Abdullah and Ghani (2014) in professional learning community in secondary schools in Malaysia showed that the teachers can be active in their learning and improve their schools as to enhance the learning performance of the students in the first four characteristic dimensions referred to the practice of shared values, goals, mission and vision among teachers which play an important role in shaping the PLC in secondary school. Also, it reveals the importance of principals as key leaders play an important role in shaping the PLC in their respective schools as to provide support and guidance to teachers. In addition, collective learning and application dimension also have 4 characteristics which showed teachers are more focused on their need to improve work performance and improve teaching methods. On the other hand, the secondary schools in Malaysia are very much focused on the revision of the student work book and hold a formal observation whereas peer observations is poorly implemented. However, the schools that have adopted the PLC shows all the teachers work harder to ensure they continue to be implemented properly and constantly improving for a better future (Abdullah and Ghani, 2014). As highlighted by Fullan (2006), he focuses on learning,

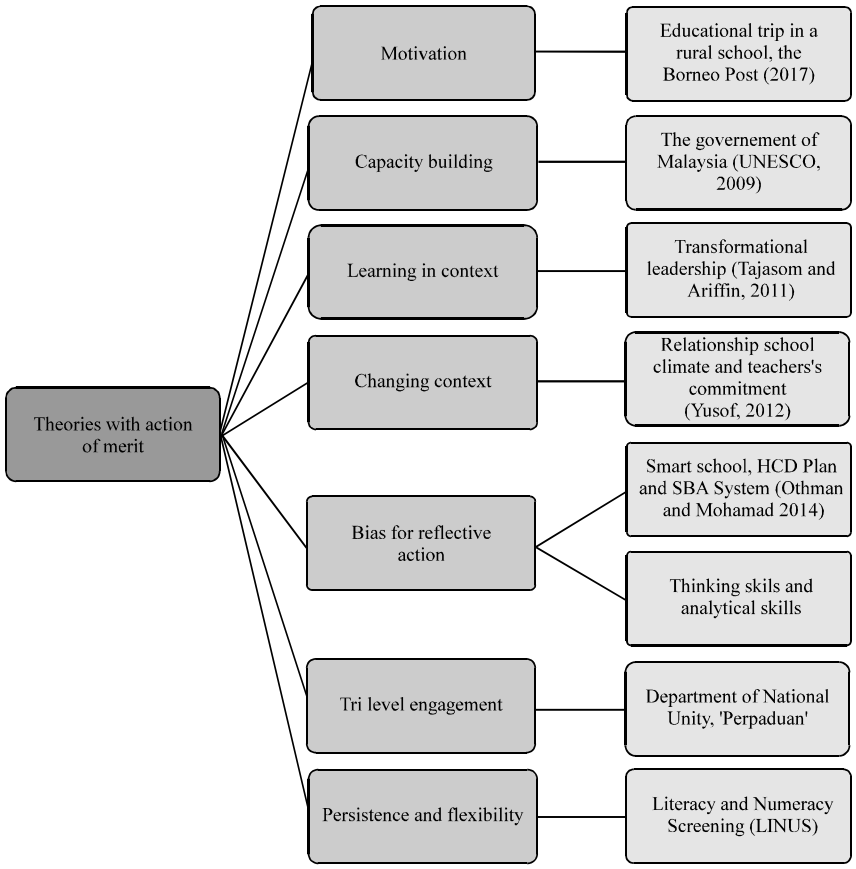

Fig. 3: Theories of action with merit

a collaborative culture with best practices, action orientation and commitments will bring results. This can be identified in Ghani's sample of 676 teachers, whom exhibits shared and supportive leadership, shared value, objectives, mission and vision, collective learning and application, personal learning practices and supportive conditions.

Theories of action with merit: Fullan (2006) has identified motivation, capacity building with a focus on results, learning and changing context, bias for reflective action and tri-level engagement as the 7 core premises that underpin change knowledge (Fig. 3). He claimed these are the theories that are getting results.

Figure 3 shows each case study base on Fullan's theories of action with merit in Malaysian context. Motivation is a strong desire or passion in a person that encourages the person to try and do something in order to succeed. It is a construct that is built out of individual learning activities and experiences and it varies from 1 situation or context to another (Bandura, 1997) and Fullan has stated it being one of the core premise for change knowledge. The International Islamic University Malaysia's Alumni organized an educational trip in a rural school in Sabah (Rafiq, 2017). According to, the research, the key themes which became the emphasis of the motivation program are to increase awareness among students on the importance of having ambition in life, time management and strategy for the UPSR examination. Some of the activities are motivational talks and group discussion with facilitator. The university is concerned about the education performance of students in Sabah and is committed in organizing more motivational programs in rural areas this year voluntarily.

Capacity building with a focus on results is crucial (Fullan, 2007a, b). Fullan had defined it as any strategy that increases the collective effectiveness of a group to raise the bar and close the gap of student learning. The researcher believes that in change theory, capacity building comes first followed by judgement as it is most motivational as the theory specifies that nothing will count unless people develop new capacities. Too often the evaluation and monitoring component of a reform is

not given the time and resources it really requires, new programs are planned before the evaluation is complete, or an evaluation is cut altogether due to budget shortfalls (OECD, 2009). The Government of Malaysia and the United Nations for Education, Sciences, Culture and Communications Organization (UNESCO) signed a Memorandum of Understanding (MOU) on 15th November 2011 under the Malaysia UNESCO Cooperation. The establishment of Malaysian Cooperative Trust Fund which will contribute to enhance South-South cooperation for capacity building in education and science for the benefit of the least developed countries, small Island States in Asia and the Pacific and in support of the priority Africa agenda of UNESCO (OECD, 2009). This will involve the participation of national experts, practitioners, international experts, senior advisors and climate change negotiators. As Fullan (2007a, b) states, the more one invests in capacity building, the more one has the right to expect greater performance.

The third and fourth premises that Fullan touched on are learning and change in context. In Fullan's research, he pointed out that Elmore (2000) pinpointed issue that there is almost no opportunity for teachers to engage in continuous and sustained learning as they are less observing and less being observed! Fullan further stresses the need to have "capacity to change the larger context" where schools and districts learn from each other. A larger context can produce positive or negative impact and he highlights the importance of principals. Knowledge and motivation would be the plus points however conflicts, bureaucracy and managerial issues would be challenges that one meets along it. Recruiting top-performing principals and rewarding good principal performance are both important. Providing strong principal training is useful, too. Learning at work-learning in context-occurs, for example, when principals are members of a district's inter-visitation study team for which they examine real problems and the solutions they have devised in their own systems. Learning out of context takes place when principals go to a workshop or conference. Such, learning can be valuable for further development but it is not the kind of applied learning that really makes a difference. A research by Tajasom and Ahmad (2011) in urban secondary schools in Northern Malaysia found that transformational leadership has an effect on 4 aspects of school climate (affiliation, innovation, professional interest and resource adequacy) whereas transactional leadership only effect participatory decision making. Yusof (2012) had conducted a study to analyze the relationship between school climate and teacher's commitment. The population involved 5 primary schools in Penang, Malaysia. The finding showed that transparency of the institution level and teacher's commitments in the 5 schools were high. Teacher's professional behavior also contributes towards teacher's commitment. In a study by Raman *et al.* (2015) which focused on 5 excellent schools in the district of Kubang Pasu, Kedah showed that dimensions such as collaborative leadership, teacher's professional behavior; and working pressure have positive significant relationship with teacher's commitment. Teacher's professional behavior was deemed as the determinant for teacher's commitment. In conclusion, the result findings of the study can contribute to all types of schools and school administrators. Malaysia realizes the need for constant renewal in its teaching profession, especially when rapid changes are made in Malaysia's education system (Anonymous, 1996). In action-research, 'theories' are not validated independently and then applied to practice. They are validated through practice Elliot in, 1991 as cited by Reese (1996). Despite the advancement of new instructional technologies, the teacher's role in the classroom cannot be by-passed, rather it should be strengthened with the teacher now playing the role of facilitating the acquisition of knowledge the constructivist (Reese, 1996).

Fullan (2006) stated that one needs to dig a bit deeper to understand the theory of action underpinning the bias for reflective action. He recalls back of Dewey's words that " it is not that we learn by doing but that we learn by thinking about what we are doing". One has to agree with Fullan who concluded that people learn through doing, reflection, inquiry, evidence, more doing and so on. When talking about thinking skills, a great deal has been done to promote the teaching of higher order thinking skills in Malaysian classroom (Rajendran, 2001). It was also suggested that modern skills like for instance precise and rational thought, training in basic logic, reasoning and critical thinking are essential for all students. This clearly notes of the intention of promoting thinking skills in Malaysian schools such as smart school, Human Capital Development Plan and School Base Assessment System (Othman and Mohamad, 2014).

Previously, a study conducted by Rajendran (2001) among Malay and English language teachers perceived that they were better prepared in term of their knowledge and pedagogical skills rather than teaching higher order thinking skills. And yet they are expected to teach the content as well as higher order thinking skills. This is aligned with what Rosnani (2002) who stated that "the biggest problem with the teaching of critical and creative thinking is teacher's lack of understanding and knowledge and the accompanying skills on thinking. No

proper education and training on thinking have been offered to all teachers, especially in-service teachers whereas the ministry and subject teachers prefer to adopt the infusion approach in teaching thinking". Choy and Cheah (2009) noted that teachers did not seem to understand the requirement needed to cultivate critical thinking among students. Overall, the transformation of the Malaysian education system particularly in the area of thinking skill development is an ongoing process. It is yet to achieve its mature level (Othman and Mohamad, 2014). There are many initiatives taken by government and private sectors to overcome these problems. Recently, there was a workshop conducted with 48 secondary school English teachers. Sponsored by StarNiE (Star Newspaper in Education) it was aimed to convey creative methods of using newspaper as a resource in language classes. StarNie noted that HOTS (Higher Order Thinking Skills) and '21st Century Learning Skills' are terms that are heavily used of late. It is hoped for teachers to become better to come out and listen to people who inspire. It is expected that this workshop will be held up to September, 2017 and primary and secondary teachers are encouraged to participate. There are many initiatives taken in all quarters in encouraging critical thinking. For instance, the KDU's College Damansara Jaya campus, held a 2 h competition aimed to expose pupils to HOTs in mathematics as well as the Sakamoto Math method a method originated from Japan that provides a simple yet systematic and structured technique to analyze questions in a logical way. The idea is that they need to be able to think and answer without relying heavily on text-books. There were about 300 participants from 14 schools in Petaling Utama, Selangor that took part. A research by Ganapathy *et al.* (2017) identified that there are several important insights on the potential opportunities of technologies in facilitating higher order thinking but success lies on the tasks that are appropriately designed for promoting the content (Today OnLine, August 11, 2016).

Tri-level engagement is essential for systemic educational reform efforts. This engagement includes the school/community, district and state. Fullan (2006) explained that complete alignment of levels is often unachievable but a "permeable connectivity" is idealwhere "mutual interaction and influence within and across the 3 levels" takes place and results in change in the system concurrently. However, the missing thing would be the strategy about school or its district culture. A good example of tri-level engagement in Malaysian context can be seen through the initiative under the Department of National Unity, 'Perpaduan' pre-school were established in urban areas where a 'friendly neighbor-hood scheme' existed. Each pre-school class has a pre-school coordinating committee made up of members of the local community who provide advice on the operation of the preschool and organize various activities for parents. Classes are conducted at community halls (rented or free of charge), housing estates, private property, shop-houses (rented) or built by the Ministry. In 2007, there were 1496 'Perpaduan' preschools with a total enrolment of 38.952 children. The concern now is to make sure that all these core premises are cultivated and to achieve this there should be persistence and flexibility.

Fullan (2007a, b) claims that using change knowledge for school and system improvement yields result and it matters. In Malaysia, The Literacy and Numeracy Screening (LINUS) programme was introduced aiming at ensuring that all Malaysian children acquire basic literacy and numeracy skills after 3 years of mainstream primary education. The main aim of the training programme is to introduce the teachers to the differentiated pedagogical skills for pupils with learning disabilities and techniques to identify pupils with special needs and learning difficulties (Kang, 2012). A research was conducted by Wei and Hutagalung (2014) to determine the effectiveness of LINUS screening test. The study identified that the programme does benefit students who fall behind in education system and remedial coaching can be given for students to catch up however, the chnages are slow. Nevertheless, the importance of LINUS in improving the literacy and numeracy in the first three years of schooling is crucial as it an effective framework for coordination, tracking, monitoring and reporting pupils improvement (FMT Reporters, 2018). Recently, the Education Ministry announced that starting from next year, primary school pupils from Years One to Three will not be sitting for mid-year and final exams in Malaysia (Hazlina Aziz and Murniati Abu Karim, 2018). This is to allow schools to focus more on teaching and help pupils discover the joy of learning (Hazlina Aziz and Murniati Abu Karim, 2018). The government felt that priority in the classroom should be given to character development (of the pupils) rather than exam-oriented learning. Classroom-Based Assessment is introduced, focusing on fun learning and student-centred approach which is hoped to build and strengthen the four basic skills of reading, writing, counting and reasoning.

Prospects for future use of change knowledge: Surveying Fullan's writings and line of products it is next to impossible to identify where he actually stands on the

goals and purpose of school reform. The 10 years ago, he lauded George W. Bush's No Child Left Behind agenda while expressing reservations about the "too narrow tests, short time lines, little capacity building and punitive strategy". Since, then, he has been serving on the Advisory Board of Microsoft's Partners in learning and advocating large-scale system change that produces "real results". Conservative school reformers remain as sceptical as teacher unionists about Fullan's real motives, strategies and objectives. Michael Fullan Enterprises Inc. rides the sharp edge of the North American school reform divide. "A big feature of our work," he now says, "is to play down accountability in favour of capacity building and then re-enter accountability later".

All of the new private sector services are tailored to provide "solutions" to the problems posed by reform. Fullan (2006) seem to have so many ideas of reformation. Reformation takes time and it is not something that will be a success overnight. Consider how governmental policy and accountability are re-framed as a problem which the private solution provider can help to solve. As a result, parents are driven to seek out solutions outside the system for their children or leave the public school system altogether. Some of the challenges highlighted in Malaysian STEM implementation were the necessity of adopting and implementing a holistic approach to learning, the need to consider the applied dimension of knowledge (what we know is as important as what we can do with that knowledge), necessity of revising the traditional structure of the curriculum, the organization of learning experiences, the teaching approaches and the assessment systems.

The future of educational change is very much a matter of if accountability and professional learning community will be developed and draw on each other's essential resources. Fullan (2006) summarized that the ultimate goal of change was when people visualize themselves as shareholders with a stake in the success of the system as a whole with the pursuit of meaning as the intangible key. However, evidence of the effects of reform efforts at the school and system levels, goes in 5 phrases according to Hopkins *et al.* (2014). Phase 1 would be to understand the organisational culture of the school; Followed by phase 2 of conducting action research and research initiatives at the school level. Then comes in phase 3 which is managing change and taking comprehensive approaches to school reform; Phase 4 give importance in capacity building for student learning at the local level and the continuing emphasis on leadership which leads towards the last phase which is systemic improvement (Hopkins *et al.* (2014). These phrases will evolve in time only.

Limitation to Fullan's theory: More than 10 years have passed, since, the publication of the new meaning of educational change (Fullan, 2007a, b) and great educational changes have already taken place in schools all over the world. It is for sure that education stakeholders could gain abundantly by reading this book. However, could the unsatisfied working conditions of educational stakeholders greatly be improved even if all the educational changes mentioned by Fullan have already occurred? The answer may not be that positive. In fact, many teachers and principals all over the world today still overwork because they are occupied by the same duties as those 10 years ago, though the former are more certain and collaborative. For example, instead of handing out papers, giving remarks, inputting grades into computers and finally, analyzing and evaluating the grade, teachers could input questions on computers and then release to students by using a virtual learning platform. With the help of educational technology they could have courses online at their own paces and thus, student-directed change can be achieved. As a matter of fact, educational revolution has already taken place in some schools where all courses are taught online and where teachers mainly focus on teaching instead of "controlling students and organizing classes". Florida Virtual School (FLVS) is a public school where all courses are taught online. And the online courses are just as real as the dedicated, certified teachers who teach them. One need to highlight that every points discussed are inter- related. It is dependable to get the desired outcome. As far as Malaysia is concerned, the announcement of the Prime Minister of integrating computational thinking and computer science in the curricula is plausible with the 21st century need is a positive move towards changes. Changes should always be there if a country wants to compete globally. It is without doubt that for every decision will have drawback, however, this should not stop a country from producing intellectual community with high income as per the country's vision. Of course, the vision and objectives are not something that could be achieved over-night as it takes time and careful planning.

CONCLUSION

Given relatively low levels of performance on recent international tests, the Malaysian education system is rarely a focus for international comparisons. However, in line with the Malaysia Education Blueprint 2013-2025, several changes must be made to our national curriculum in order to produce students who are resilient, curious, innovative and able to communicate well.

The review above can be summarized with a few findings. First, theory of change is both a process and a product, second the quality of a theory of change process rests on 'making assumptions explicit' and making strategic thinking realistic and transparent. Next, the time and resource needed to work effectively with theory of change needs to be taken seriously. Finally, working with theory of change thinking can be challenging but it can create a strong organizing framework to improve program design, implementation, evaluation and learning. The issues raised by Fullan needs much investigation. Not all outcomes are negative as far as changing theory is concerned. School structure will continue to evolve and the reform theories proven effective by research will continue to be refined in this 21st century.

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