



**THE REFORMS OF NATIONAL ASSESSMENTS IN MALAYSIAN EDUCATION
SYSTEM**

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ABSTRACT

Although the impact of education policy reform could inform future policymaking initiatives, studies on education policy reform of student assessment are considered scarce. This study attempts to scrutinise the drivers, impacts, and challenges of education policy reform of the national assessment system in Malaysia based on policy documents and previous empirical studies. The findings indicated that the education policy reform of the Malaysian national assessment system is driven by the decline of pupils' performance in international large-scale assessments. There are changes in content, format, and structure of the public examinations and assessment delivery procedures. The emergence of school-based assessment shows a paradigm shift from cognitive learning to a more holistic manner. Challenges arise included teachers' extra workload, teachers' readiness, lack of reference materials, and time constraints in implementing school-based assessment. Findings inferred the needs in refining the monitoring and coaching system in order to ensure the student assessment implementation does not diverge from the missions of education policy reform. This study is hoped to provide useful insights for future policymaking initiatives, particularly in Malaysia.

Keywords: Malaysia, policy reform, public examination, school-based assessment, student assessment.

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1.0 INTRODUCTION

Policymaking in education is often affected by the disparate goals which are valued by different stakeholders at the local, regional, and even international levels (Berry & Adamson, 2014). Thus, a deep understanding of an individual country's education policy reform is crucial for informing the future policymaking initiatives. Malaysia is not an exemption. In fact, numerous policymaking initiatives were well-documented in the Malaysia Education Blueprint 2013-2025. Nevertheless, studies which mainly focus on the Malaysian education policy reform of student assessment are considered scarce. One of the limited studies was conducted by Ong (2010). However, Ong (2010) only focus on the profiles of education assessment systems in Malaysia and does not cover the Malaysian education policy reform of student assessment. To bridge the research gap, this study sought to scrutinise the drivers, impacts, and challenges of education policy reform of the national assessment system in Malaysia based on education policy documents and previous empirical studies

As a British postcolonial country, Malaysia inherited the education system left by its colonial master. The current formal education system in Malaysia consists of five levels of education, namely preschool education, primary education, lower and upper secondary education, postsecondary education (Matriculation or Form Six) as well as tertiary education (Ministry of Education Malaysia [MOE], 2017a).

The Education Act 1996 provides the legislative framework for governing the education system in Malaysia (Mohd Nor, Leong, & Mohd Salleh, 2017). This Act was further amended in 2002 to make primary education compulsory for the children from the age of seven to 12 (Ong, 2010). Despite the secondary education not being compulsory, the Malaysian government does provide 11 years of basic education for free (UNESCO, 2011). The basic education includes six years of primary education, three years of lower primary education, and two years of upper primary education in compliance with Section 27 and Section 30 of the Education Act 1996 (UNESCO, 2011). Apart from the Education Act 1996, the Malaysian education system is also guided by the National Education Philosophy as follows:

Education in Malaysia is an ongoing effort towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally, and physically balanced and harmonious, based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards, and who are responsible and capable of achieving the high level of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society, and the nation at large (MOE, 2017a, p. 16).

Like most of its counterparts in Asia, the education system in Malaysia is always being criticised as highly examination-oriented (Berry, 2014; Ong, 2010). Pupils have to sit for three public examinations throughout the 11 years of their basic education. For primary level, pupils will participate in the first public examination, namely the Primary School Achievement Test (UPSR), at the end of Year Six. UPSR is predominantly used to gauge pupils' development after six years of schooling. However, this main function of UPSR has been gradually overlooked by the society, ever since UPSR has been used for gatekeeping pupils' enrolment in boarding schools, high-performing schools, and cluster schools of excellence ("What the Authorities Say", 2016).

Along the secondary education, pupils need to participate in two public examinations. Pupils will sit for the Lower Secondary Evaluation (PMR) at the end of Form Three. According to Ong (2010), PMR is considered as a diagnostic test which is used to determine pupils' strengths and weaknesses in each subject. However, Ong (2010) criticised the low diagnostic power of PMR as the results are reported in grades, which represent the proficiency of the respective subjects. Pupils' mastery of skills is not reported in detail in the result slip. Thus, teachers can barely use this information for adjusting their instruction to tailor to the pupils' needs. Instead of the diagnostic function, the PMR results are more commonly used as reference for channelling pupils into science stream and arts stream at the upper secondary level.

At the end of Form Five, pupils will sit for another public examination, namely the Malaysian Certificates of Education (SPM). Generally, SPM is a school-exit examination (Samuel, Tee, & Symaco, 2017) which serves as the basis for the selection of Form Six and Matriculation candidates (Ong, 2010). The SPM examination also functions as a gateway

examination for various public and private tertiary education institutions. Furthermore, the SPM results serve as the basis for decision-making of scholarship awards (Ong, 2010).

UPSR, PMR, and SPM are high-stakes examinations (Ong, 2010) which focus mainly on the cognitive domain of learning. This indicates that the Malaysian education system is skewed towards achieving academic excellence in the examinations instead of unleashing pupils' potential in a holistic manner. Similarly, researchers constantly indicated that overemphasis on the public examination results also brings about two undesirable impacts, namely 'teach for test syndrome' (Lim, 2010) as well as 'finishing syllabi syndrome' (Lim & Hwa, 2009). According to Lim and Hwa (2009), teachers rush to finish the syllabi earlier so that they may have plenty of time to do the revision with their pupils prior to the public examinations. Similarly, Lim (2010) found that teachers will only focus on contents and skills that will be tested in the public examinations. Exploring and learning of the topics that are not tested is considered as a waste of time. Consequently, pupils' application of knowledge is only restricted to the academic performance per se.

2.0 THE DRIVERS FOR THE REFORMATION OF EDUCATION POLICY

Whilst the Malaysian public examinations can be used to evaluate students' performance within the national context, participation in international large-scale assessments such as Trends in International Mathematics and Science Studies (TIMSS) and the Programme for International Student Assessment (PISA) provides a greater context for the evaluation of students' performance at the international level (Abdullah, Zain, Nair, Abdullah, & Ismail, 2016).

TIMSS is a four-year cycle large-scale assessment programme which is conducted by the International Association for the Evaluation of Educational Assessment (IEA) since 1995. Malaysia has participated in TIMSS since 1999 and the eighth-grade students' performance in TIMSS 1999-2015 is as shown in Table 1.

Table 1: Eighth grade Malaysian students' performance in TIMSS 1999-2015

TIMSS Cycle	Mathematics	Science
TIMSS 1999	519	492
TIMSS 2003	508	510
TIMSS 2007	474	471
TIMSS 2011	440	426
TIMSS 2015	465	471

Source: MOE (2013, p. 2)

Malaysia is one of the countries which has the greatest decline of average mathematics achievement at eighth grade as illustrated in the TIMSS 2011 report (Razak, Thien, & Darmawan, 2014). The average mathematics achievement of Malaysia has declined sharply from 519 scores in TIMSS 1999 to 440 scores in TIMSS 2011 (MOE, 2016a). Although the achievement has shown an increment of 25 scores in TIMSS 2015 (MOE, 2016a), it remained significantly lower than the international average score (Mullis, Martin, Foy, & Hooper, 2016). Meanwhile, the average science achievement of eighth-grade Malaysian students showed a fluctuated trend in the five cycles of TIMSS. It increased slightly from 492 scores in TIMSS 1999 to 510 scores in TIMSS 2003 and it decreased drastically for the next two subsequent cycles (MOE, 2016a). Although there was a slight improvement in TIMSS 2015, it still fell behind the international average (MOE, 2016a). PISA is a three-year cycle large-scale study conducted by the Organisation for Economic Co-operation and Development (OECD) in order to measure and compare reading proficiency, mathematics literacy as well as science literacy among the OECD countries and their partner countries. Malaysia has participated in PISA since 2009. The performance of Malaysian students in PISA 2009-2015 is as shown in Table 2.

Table 2: Malaysian students' performance in PISA 2009-2012

PISA Cycle	Mathematics Literacy	Science Literacy	Reading Literacy
PISA 2009	404	422	414
PISA 2012	421	420	398
PISA 2015	446	443	432

Source: MOE (2013, p. 10)

In PISA 2009, Malaysian students scored 404 in mathematics literacy, 422 in science literacy, and 414 in reading literacy (Thien & Ong, 2015), far below the international average (MOE, 2013).

In PISA 2012, Malaysian students' performance continued to decline for all three domains. Malaysia scored 421 in mathematics literacy, 420 in science literacy, and 398 in reading literacy on average (Thien, 2016). Malaysia ranked at the bottom third for all three literacies being assessed (Thien & Darmawan, 2016). According to MOE (2016b), the results of Malaysian students in PISA 2015 witnessed slight improvements with scores of 443 in science literacy, 431 in reading literacy, and 446 in mathematics literacy. However, the results of all three literacies were still far below the international average.

Both results in TIMSS and PISA inferred the weakness of Malaysian students in applying the knowledge beyond the academic contexts. In spite of the excellence of Malaysian students in reproducing the subject content, MOE (2013) argued that skill such as memorising facts is less valuable in the 21st century. Instead, students are required to obtain abilities such as reasoning, extrapolating, and applying their knowledge creatively in a novel and unfamiliar setting (MOE, 2013). The unsatisfactory performance of Malaysian students in TIMSS and PISA reflected the pitfall of the current education system in producing globally competitive workforce. This eventually catalysed the reformation of education policy in Malaysia which will be discussed in the next section.

3.0 EDUCATION POLICY REFORM IN MALAYSIA

3.1 Malaysia Education Blueprint 2013-2025

In October 2011, the MOE took the initiative to review the education system in an all-inclusive manner. Research reports from UNESCO, OECD, World Bank, and public universities have been analysed (MOE, 2013). In addition, opinions and views from school principals, teachers, parents, students, and the public have been collected (MOE, 2013). Subsequently, the Malaysia Education Blueprint 2013-2025 had been formulated in 2013.

The Malaysia Education Blueprint 2013-2015 (MOE, 2013) maps out a comprehensive transformation plan from preschool level to postsecondary level (Abdullah et al., 2016). It addresses six key attributes needed by globally competitive students, namely thinking skills, leadership skills, bilingual skills, knowledge, ethics and spirituality, and national identity (MOE, 2013). These attributes are crucial to prepare students to be an all-rounder so that they are equipped with the abilities to confront the challenges in the new era of globalisation and succeed in the 21st century.

The Malaysia Education Blueprint 2013-2015 outlines the five system-wide visions as follows:

- (1) Access: Universal enrolment across all levels from preschool to upper secondary levels
- (2) Quality: Top places in terms of rankings in international assessments
- (3) Equity: 50% reduction in achievement gaps between students from urban and rural areas
- (4) Unity: An education system that gives students shared values and experiences by embracing diversity

- (5) Efficiency: A system which maximises student outcomes within the current budget
(MOE, 2013, p. E-9)

The Malaysia Education Blueprint 2013-2025 aspires to improve the quality of education system in Malaysia and produce holistic citizens that are well-equipped to cater to the needs of the outer world. Both the education system aspirations and student aspirations set the stage for the transformation of the Malaysian education system (MOE, 2013). In order to achieve these aspirations, 11 shifts are suggested in the Malaysia Education Blueprint 2013-2025. The 11 shifts are as follows:

- (1) Shift 1: Provide equal access to quality education of an international standard
- (2) Shift 2: Ensure every child is proficient in Bahasa Malaysia and English language and is encouraged to learn an additional language
- (3) Shift 3: Develop value-driven Malaysians
- (4) Shift 4: Transform teaching into the profession of choice
- (5) Shift 5: Ensure high-performing school leaders in every school
- (6) Shift 6: Empower the state education departments (JPN), district education offices (PPD), and schools to customise solutions based on needs
- (7) Shift 7: Leverage the information and communications technology (ICT) to scale up quality learning across Malaysia
- (8) Shift 8: Transform the MOE's delivery capabilities and capacity
- (9) Shift 9: Partner with parents, community, and private sector at scale
- (10) Shift 10: Maximise student outcomes for every ringgit
- (11) Shift 11: Increase transparency for direct public accountability

(MOE, 2013, pp. E-15-E-16)

3.2 Implementation of Standard-Based Curriculum

To address the poor performance of Malaysian students in the large-scale assessments such as TIMSS and PISA, the Malaysia Education Blueprint 2013-2025 strongly emphasises cultivating students with higher-order thinking skills (HOTS) so that they are able to apply knowledge beyond the academic contexts (Zamri, 2016). Subsequently, the MOE benchmarks the learning of language, science, and mathematics against the international standard as suggested in Shift 1 of the Malaysia Education Blueprint 2013-2025 (MOE, 2016c). As such,

the national curriculum is revamped, so that the pupils will be equipped with the relevant knowledge, skills, and values to face the challenges in the 21st century (MOE, 2016c). The standard-based curriculum consists of the Primary School Standard Curriculum (KSSR), which has been implemented in 2011 for the Year One pupils in primary schools. As a continuation of KSSR implementation, the Secondary School Standard Curriculum (KSSM) was rolled out for Form One pupils in 2017.

The newly implemented standard-based curriculum greatly emphasises the acquisition of HOTS. Besides reading, writing, and arithmetic, KSSR also focuses on reasoning (Mohd Nor et al., 2017). In the same vein, the HOTS element is being described explicitly in the KSSM and Assessment Standard Document as well (MOE, 2016c).

In accordance with the education system's aspiration of Malaysia Education Blueprint 2013-2025, the newly implemented curriculum also focuses on cultivating holistic citizens that are well-equipped to cater to the needs of the outer world. As such, both KSSR and KSSM are found to be framed by six pillars, namely communication, spiritual attitude and values, humanities, literacy in science and technology, and physical and aesthetic development (MOE, 2016c; Mohd Nor et al., 2017).

4.0 IMPACT OF EDUCATION POLICY REFORM ON NATIONAL ASSESSMENT SYSTEM

As stated by Abdullah et al. (2016), 'curriculum and assessment form a partnership whereby the change in one partner is likely to influence the other (p. 10)'. Hence, a few changes have been made to the national assessment system to accommodate the curriculum revamp as proposed in the Malaysia Education Blueprint 2013-2015. With respect to this concern, the changes of national assessment system can be considered as one of the impacts of education policy reform. Specifically, the changes of national assessment system can be clearly seen in both the public examination system as well as the school-based assessment system.

4.1 School-Based Assessment

As part of the transformation of national assessment system, the implementation of School-Based Assessment (SBA) has been accepted in the meeting of Malaysian Cabinet on 17 December 2010 (Malaysian Examinations Syndicate, 2014c). SBA is officially rolled out for Year One primary school pupils in 2011 and Form One secondary school pupils in 2012 (Malaysian Examinations Syndicate, 2014c).

SBA is not actually a new element of the national assessment system of Malaysia. Summative assessment such as final examinations have been conducted in the schools prior to the implementation of the new SBA system (Malaysian Examinations Syndicate, 2014b). In addition, standardised common assessment tasks (PKBS) including the science practical work assessment (PEKA) and the oral assessments for Malay and English languages have been carried out under the strict instruction and standards which were set by the Malaysian Examinations Syndicate since 1997 (Ong, 2010). Nevertheless, the concept of SBA is extended to reduce negative washback effects of the high-stakes examinations (Ong, 2010), especially UPSR and PMR. Thus, SBA is only being implemented in primary schools and lower secondary schools.

As stated in the Malaysian Examinations Syndicate (2014c), SBA is a holistic assessment which is used to evaluate pupils' overall growth, ability, progress, and achievement. It assesses all three learning domains: cognitive domain, affective domain, and psychomotor domain (Ghazali, 2016). SBA comprises two academic components, namely school assessment and centralised assessment, as well as two non-academic components, namely psychometric assessment and physical activities, sports, and co-curriculum assessment [PAJSK]. The components of SBA are as shown in Figure 1.

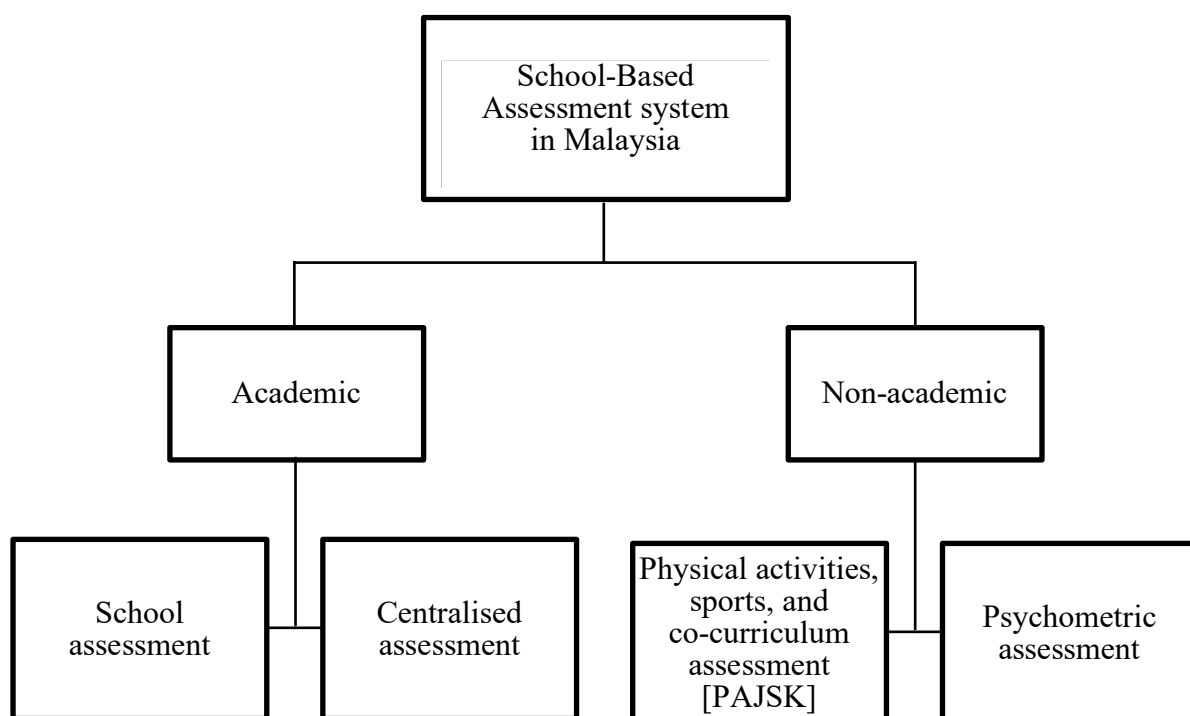


Figure 1: The components of SBA in Malaysia (adapted from Malaysian Examinations Syndicate, 2014a)

School assessment involves all pupils from Year One to Form Three. It refers particularly to the assessment which is being practised by the teachers as part of the teaching and learning process in school. The Malaysian Examinations Syndicate (2014a) indicated that school assessment encompasses both assessments for learning and the assessment of learning. According to Schuwirth and Van der Vleuten (2011), assessment of learning is the assessment which is used to identify whether the pupils have acquired adequate knowledge and skills such as school examinations. On the other hand, assessment for learning is the integral part of teaching and learning process (Imlig & Ender, 2018) and has a primary function in steering and fostering pupils' learning to the maximum ability (Schuwirth & Van der Vleuten, 2011). Thus, SBA can be conducted in the form of summative assessment such as mid-year examination and final examination, as well as in the form of formative assessment, which is conducted along the teaching and learning process (Malaysian Examinations Syndicate, 2014a).

The formative school assessment is also known as classroom assessment (MOE, 2017c). As demonstrated in the Penang State Education Department mandate letter [Ref. no: JPNPP(KUR)600-12(23)] (2018), the classroom assessments are highly valued by the MOE as it is an ongoing assessment process which supports student-centred learning. In other words, the classroom assessment can be used to determine where the pupils are in their learning progression and diagnose the difficulties that pupils may encounter in learning (Adamson, 2014). This imperative information garnered from the classroom assessments provides a clear direction to the teachers in enhancing pupils' learning. Meanwhile, the pupils are acknowledged for their strengths and weaknesses through the feedback of classroom assessment and subsequently work on the next steps to enhance their learning. Thus, the classroom assessment will be a more effective assessment method which motivates pupils and facilitates meaningful, relevant, and worthwhile learning (MacPhail, Halbert, & O'Neill, 2018).

In order to polish up the current school examination practice, the concept of standard-based assessment has been introduced to the classroom assessment (Malaysian Examinations Syndicate, 2014a). Pupils' learning progress is assessed based on the benchmark specified in Pupils' Learning Progress Guide as stated in the Malaysian Examination Syndicate circular 1/2014 [Ref. No: KP.LP.003.07.14(81)]. Teachers are required to assess pupils using the appropriate instruments as suggested in the School-Based Assessment Implementation

Handbook. The classroom assessment instruments are not only restricted to written assignment and worksheet but also include project, performance, demonstration, field study, case study, and practical work (Malaysian Examinations Syndicate, 2014a). Moreover, pupils' mastery level of knowledge and skills are reported in classroom assessment instead of their ranking as well as their overall proficiency such as grades and scores. Hence, the implementation of classroom assessment ensures a more valid and reliable measure of pupils' development as they are not only being assessed through the school examinations.

It might be true that the school assessment could bridge teaching and learning. Nevertheless, the wholesale replacement of public examination with the school assessment raises concerns about teachers' judgemental subjectivity (Adamson, 2014). Put it simply, educational stakeholders worried that the pupils' performance cannot be measured fairly if the standardised test has been fully replaced by the school assessment. To address this issue, the centralised assessment is introduced as one of the academic components of SBA. The centralised assessment refers to the summative assessment which is conducted for evaluating pupils' academic achievement at the end of the certain education level. For instance, UPSR and PT3 are the centralised assessments for primary education and lower secondary education respectively. Similar to the public examinations, both UPSR and PT3 are under the jurisdiction of the Malaysian Examinations Syndicate to ensure the fair judgement of pupils' performance.

In the context of SBA in Malaysia, psychometric assessment refers to the assessment which is used to measure students' skills, interests, aptitude, innate, and acquired ability such as thinking and problem-solving skills as well as identifying students' key traits and characteristics that make up their personality. The instruments used include the aptitude test, personality trait inventory as well as career interest inventory that are prepared by the Malaysian Examinations Syndicate. However, only Year Four and Year Six pupils in primary schools, and Form One and Form Three pupils in lower secondary schools are involved in the psychometric assessments.

PAJSK only involves pupils from Year Four to Form Three. It comprises three components: (1) National Physical Fitness Standard test (SEGAK) and body mass index (BMI), (2) co-curricular activities, and (3) extracurricular activities. SEGAK test is conducted twice a year, particularly in March and August, in order to measure students' physical endurance. The procedures and techniques are suited to the ages and abilities of students as suggested in the guidebook. Similar to the SEGAK test, students' BMI are recorded twice a year. Meanwhile, pupils' participation and achievement in co-curricular activities (e.g., uniform bodies, sports,

and societies) as well as extracurricular activities (e.g., community services) are recorded throughout the years.

The implementation of SBA demonstrates the MOE's effort to decentralise the national assessment system. The MOE tries to reduce the washback effect of the high-stakes standardised examinations by introducing non-academic components of SBA such as PAJSK and psychometric assessment, which are managed by the teachers at school level. Meanwhile, classroom assessment is also being introduced to support student-centred learning which is highlighted in both KSSR and KSSM. By this token, the public examinations no longer serve as the sole yardstick of assessing students' achievement (Ong, 2010). The implementation of such a holistic assessment system is in line with the aspiration of the Malaysia Education Blueprint 2013-2025, which highlights equipping students with the six key attributes that students would need to thrive in tomorrow's economy and globalised world.

4.2 Public Examination Systems

The implementation of KSSR and KSSM which explicitly emphasise HOTS also brings about the change of content in public examinations. The composition of questions which assessed higher-order thinking has been gradually increased to comprise of at least 40% for UPSR and at least 50% for SPM (Abdullah et al., 2016; MOE, 2013). The changes in content of public examinations could reduce the focus of teachers on predicting the topics and questions which will come out in the public examinations and hence discourage the drilling for content recall (MOE, 2013). Meanwhile, students will be trained to think critically and apply their knowledge in different contexts as aspired in the Malaysia Education Blueprint 2013-2025.

In accordance with the implementation of SBA, PMR had been demolished and replaced with Form Three Assessment (PT3). PT3 is the centralised element of SBA (Malaysian Examinations Syndicate, 2014c). Subsequently, the procedure of assessment delivery has been changed. In contrast to PMR, the Malaysian Examinations Syndicate is only responsible for developing test questions, marking schemes, assessment instruments as well as grading and reporting guidelines. Meanwhile, teachers are responsible for administering and marking pupils' work based on the guidelines provided by the Malaysian Examinations Syndicate. For the quality assurance purpose, pupils' scores and grades were moderated by subject heads and the external appraiser. After the moderation process, pupils' result reports are generated by schools based on the guidelines provided by the Malaysian Examinations Syndicate.

Furthermore, the format of the examination has been changed to open-ended questions to promote HOTS among students in compliance with the implementation of SBA (Zamri, 2016). Meanwhile, the PISA-like items have been incorporated into the PT3 assessment, especially in the subjects of Science and Mathematics (Zamri, 2016). This initiative was taken by the MOE so that the performance of Malaysian students is on par with the aspiration of the education system as mentioned in the Malaysia Education Blueprint 2013-2025.

The changes of public examination are not only limited to the aspect of content, format, and the delivery procedure, but also examination result reporting. In 2017, the Primary School Assessment Report (PPSR) has been introduced as an alternative way to report pupils' achievement at the end of the primary education. In contrast with the conventional result slip which only reports pupils' grades in UPSR, PPSR reports pupils' achievement in a holistic manner. Apart from the UPSR results, PPSR also reports pupils' level of mastery of the school subjects, their natural abilities and aptitudes, as well as their physical endurance, body mass index, and their involvement in both co-curricular and extracurricular activities (MOE, 2017b). Thus, PPSR is a more meaningful report as it presents pupils' achievement according to the four components of SBA.

5.0 CHALLENGES

In compliance with the education policy reform, the national assessment system has been revamped to support the newly implemented curriculum. However, the transformation of national assessment system is a rocky journey. Several pitfalls which might hinder the transformation of national assessment system, particularly in the implementation of SBA, have been discovered by the researchers.

The first concern is teachers' readiness to the implementation of SBA. Ghazali (2016) as well as Singh, Supramaniam, and Teoh (2017) constantly found that teachers are less ready to implement SBA. As the key practitioners, the teachers have limited understanding of the rationale of implementing SBA (Ismail, Syarifuddin, Salleh, & Abdullah, 2016; Singh et al., 2017). Even though some of the teachers understand the principles of SBA, the problems in transforming the theory into practice remain unsolved (Singh et al., 2017). Various professional development courses and workshops had been organised to prepare teachers to implement SBA. Regretfully, the professional development courses attended by the teachers seemed unlikely to leverage their readiness to implement SBA (Singh et al., 2017). The teachers were

found struggling in the planning of SBA, developing SBA instruments, and the analysis of SBA (Ismail et al., 2016).

Second, the implementation of SBA seems burdensome to the teachers (Ghazali, 2016). According to Ong (2011), SBA imposes an extensive demand on the teachers' responsibility for assessing their students. As an illustration, they have to shoulder full responsibility, from selecting and designing appropriate assessment tasks that are aligned with the learning outcomes, followed by administering the assessments during the teaching and learning process, evaluating pupils' learning progress based on their responses, and lastly, generating a conclusive report on pupils' learning progress. Thus, Singh et al. (2017) used the term 'labour-intensive' to describe the teachers' burden in implementing SBA.

Third, teachers faced time constraints upon the implementation of SBA (Othman, Md Salleh, & Mohd Nooraini, 2013). The procedure of SBA implementation is remarkably complex (Kenayathulla & Ibrahim, 2016) as it involves a lot of clerical work such as documentation, filing as well as data entry. Due to the large class size in Malaysia, teachers have to spend a lot of time to manage pieces of assessment evidence (Kenayathulla & Ibrahim, 2016). Moreover, the poorly designed SBA management system (SPPBS) could not accommodate the massive traffic and usage. As a result, the data entry is extensively time-consuming. Hence, teachers echoed their dissatisfaction particularly on the scarce of time for preparing high-quality lessons as they have to manage a lot of documents and filing system within the school hours (Othman et al., 2013).

Lastly, there is a lack of supporting materials for the implementation of SBA (Ghazali, 2016). Despite the School-Based Assessment Implementation Handbook and Pupils' Learning Progress Guide being prepared by the Malaysian Examinations Syndicate to guide teachers in the implementation of SBA, teachers were found to be confused with the grading system (Kenayathulla & Ibrahim, 2016). Teachers were also constantly complaining about insufficient SBA implementation modules (Kenayathulla & Ibrahim, 2016). Since the ready-made instruments are hardly found in the market, teachers were forced to develop their own instruments even though they only have a minimum knowledge of item development. This eventually caused the invalid measure of pupils (Kenayathulla & Ibrahim, 2016) as the instruments developed have low validity and reliability.

6.0 CONCLUSION

The Malaysian education system is often criticised for being over exam-oriented and

emphasised primarily on academic excellence (Ong, 2010). As such, the current education system tends to produce students who can score strings of As in the public examinations rather than equipping them with the vital skills in the 21st century, such as HOTS and ability to solve problems in a real-world setting (MOE, 2013). The MOE is aware of these conditions. They have taken initiatives to shed the exam-oriented education system from the country. Specifically, the implementation of SBA demonstrates efforts of the MOE in altering the established practice whereby pupils' learning is evaluated through the mere one-off national examinations.

Nevertheless, the revamp of the national assessment system of Malaysia yet needs to be reviewed. A systematic monitoring and coaching system should be formulated in order to ensure that the implementation of the national assessment system does not diverge from the missions of education policy reform. Particularly, the MOE should collect teachers' feedback on the implementation of SBA and plan initiatives based on the feedback gathered. Meanwhile, the School Improvement Specialist Coaches (SISC+) should coach the teachers for implementing SBA in the classroom (Mohamad, Ab Rashid, Yunus, & Zaid, 2016). Monitoring should be done regularly by SISC+ after the training sessions to ensure that the implementation of SBA is aligned with the training given. As an overall, it is hoped that this study will provide lessons learnt, insights, and directions for future policymaking initiatives, particularly in Malaysia.

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REFERENCES

- Abdullah, T. S. A., Zain, M. Z. M., Nair, S. G., Abdullah, R., & Ismail, I. (2016). PISA: Malaysia's wake up call for a more balanced approach to education delivery and attainment. In L. M. Thien., A. R. Nordin, J. P. Keeves, & I. G. N. Darmawan (Eds.), *What can PISA 2012 data tell us? Performance and challenges in five participating Southeast Asian countries* (pp. 81-106). Rotterdam, Netherlands: Sense Publisher.
- Adamson, B. (2014). Embedding assessment for learning. In R. Berry & B. Adamson (Eds.), *Assessment reform in education: Policy and practice* (pp. 197-204). New York, NY: Springer.

- Berry, R. & Adamson, B. (2014). Assessment reform past, present and future. In R. Berry & B. Adamson (Eds.), *Assessment reform in education: Policy and practice* (pp. 3-14). New York, NY: Springer.
- Berry, R. (2014). Assessment reforms around the world. In R. Berry & B. Adamson (Eds.), *Assessment reform in education: Policy and practice* (pp. 89-102). New York, NY: Springer.
- Ghazali, N. H. C. M. (2016). An evaluation of teachers' perception in implementing school-based assessment. *Jurnal Pendidikan Sains dan Matematik Malaysia*, 6(1), 24-40.
- Imlig, F., & Ender, S. (2018). Towards a national assessment policy in Switzerland: Areas of conflict in the use of assessment instruments. *Assessment in Education: Principles, Policy & Practice*, 25(3), 272-290.
- Ismail, M. H., Syarifuddin, N. S., Salleh, M. F. M., & Abdullah, N. (2016). School based assessment: Science teachers' issues and effect on its implementation. *Advanced Science Letters*, 21(7), 2483-2487.
- Kenayathulla, H. B. & Ibrahim, M. S. (2016). Analisis terhadap pelaksanaan dasar pentaksiran berasaskan sekolah di Malaysia: Persepsi guru [Analysis about the implementation of school-based assessment in Malaysia: Teachers' perception]. In H. Hj. Ahmad & M. S. Ibrahim (Eds.), *Transformasi pendidikan nasional: Antara aspirasi dan anjakan* (pp. 395-423). Kuala Lumpur: Penerbit Universiti Malaya.
- Lim, C. S. & Hwa, T. Y. (2009). *Promoting mathematical thinking in the Malaysian classroom: Issues and challenges*. Paper presented at the Meeting of the APEC-Tsukuba International Conference, Japan.
- Lim, C. S. (2010). *Assessment in Malaysian school mathematics: Issues and concerns*. Paper presented at the Meeting of the APEC-Tsukuba International Conference, Japan.
- MacPhail, A., Halbert, J., & O'Neill, H. (2018). The development of assessment policy in Ireland: A story of junior cycle reform. *Assessment in Education: Principles, Policy & Practice*, 25(3), 310-326.
- Malaysian Examinations Syndicate. (2014a). Panduan pengurusan pentaksiran berasaskan sekolah [School-based assessment management guidelines]. Retrieved from http://lp.moe.gov.my/files/penerbitan/2014/Panduan_Pengurusan_PBS_21_April_2014_2.pdf.

- Malaysian Examinations Syndicate. (2014b). Soalan-soalan lazim pentaksiran berasaskan sekolah [Frequently asked questions about school-based assessment]. Retrieved from <https://www.slideshare.net/amanarab/soalans>
- Malaysian Examinations Syndicate. (2014c). *Surat pekeliling Lembaga Peperiksaan bil. 1/2014: Penambahbaikan pentaksiran berasaskan sekolah (PBS)* [Examinations Syndicate circular no. 1/2014: Refinement of school-based assessment (SBA)] (Ref. No: KP.LP.003.07.14(81)).
- Ministry of Education Malaysia [MOE]. (2013). *Malaysia Education Blueprint 2013-2025 (Preschool to post-secondary education)*. Putrajaya: Ministry of Education Malaysia.
- Ministry of Education Malaysia [MOE]. (2016a). *Laporan TIMSS 2015 [TIMSS 2015 Report]*. Putrajaya: Ministry of Education Malaysia.
- Ministry of Education Malaysia [MOE]. (2016b). *PISA 2015 - Programme for International Student Assessment*. Putrajaya: Ministry of Education Malaysia.
- Ministry of Education Malaysia [MOE]. (2016c). *Kurikulum standard sekolah menengah: Standard kurikulum dan pentaksiran Matematik Tingkatan 1 [Secondary school standard curriculum: Form 1 Mathematics curriculum and assessment standard document]*. Putrajaya: Curriculum Development Centre, Ministry of Education.
- Ministry of Education Malaysia [MOE]. (2017a). *Dasar pendidikan kebangsaan [National education policy]* (4th ed). Putrajaya: Ministry of Education Malaysia.
- Ministry of Education Malaysia [MOE]. (2017b). *Pelaporan pentaksiran sekolah rendah 2017 [Primary school assessment report 2017]*. Putrajaya: Ministry of Education Malaysia.
- Ministry of Education Malaysia [MOE]. (2017c). *Penataran pentaksiran sekolah (PS)/Pentaksiran bilik darjah (PBD) [Upgrading school assessment (PS)/Classroom assessment (PBS)]*. Putrajaya: Ministry of Education Malaysia.
- Mohamad, A. S., Ab Rashid, R., Yunus, K., & Zaid, S. B. (2016). Exploring the school improvement specialist coaches' experience in coaching English language teachers. *Arab World English Journal*, 7(3), 259-271.
- Mohd Nor, N., Leong, K. E., & Mohd Salleh, U. K. (2017). Changes in the Malaysian school curriculum from the pre-independence years until the new millennium. In M. Samuel, M. Y. Tee, & L. P. Symaco (Eds.), *Education in Malaysia* (pp. 101-118). Singapore: Springer.

- Mullis, I. V. S., Martin, M. O., Foy, P., & Hooper, M. (2016). *TIMSS 2015 international results in Mathematics*. Chestnut Hill: TIMSS & PIRLS International Study Center, Boston College.
- Ong, S. L. (2010). Assessment profile of Malaysia: High-stakes external examinations dominate. *Assessment in Education: Principles, Policy & Practice*, 17(1), 91-103.
- Othman, I., Md Saleh, N., & Mohd Nooraini, N. A. (2013). The implementation of school based assessment in primary school standard curriculum. *International Journal of Education and Research*, 1(7), 1-10.
- Penang State Education Department. (2018). *Surat arahan pelaksanaan pentaksiran bilik darjah (PBD) atau pentaksiran sekolah (PS) di semua sekolah seluruh Pulau Pinang bagi tahun 2018* [Mandate letter for the implementation of classroom assessment (PBD) or school assessment (PS) in all Penang schools for 2018]. [Ref. no: JPNPP(KUR)600-12(23)].
- Razak, N. A., Thien, L. M., & Darmawan, I. G. N. (2014). Relationship of student-and classroom level variables with TIMSS 2011 mathematics achievement in Indonesia, Malaysia and Thailand. In S. L. Ong, E. J. Gonzalez, & S. K. S. Shanmugam (Eds.), *TIMSS 2011: What can we learn together? Reaching greater heights* (pp. 38-64). Penang: SEAMEO RECSAM.
- Samuel, M., Tee, M. Y., & Symaco, L. P. (2017). The educational landscape of Malaysia. In M. Samuel, M. Y. Tee, & L. P. Symaco (Eds.), *Education in Malaysia* (pp. 1-16). Singapore: Springer.
- Schuwirth, L. W. & Van der Vleuten, C. P. (2011). Programmatic assessment: From assessment of learning to assessment for learning. *Med Teach*, 33(6), 478-485.
- Singh, P., Supramaniam, K., & Teoh, S. H. (2017). Re-assess or risk the slow death of school based assessment. *Pertanika Journal of Social Science and Humanities*, 25(S), 71-80.
- Thien, L. M., & Darmawan, I. G. N. (2016). Factors associated with Malaysian mathematics performance in PISA 2012. In L. M. Thien., A. R. Nordin, J. P. Keeves, & I. G. N. Darmawan (Eds.), *What can PISA 2012 data tell us? Performance and challenges in five participating Southeast Asian countries* (pp. 81-106). Rotterdam, Netherlands: Sense Publisher.
- Thien, L. M. (2016). Malaysian students' mathematics literacy performance in PISA from gender and socioeconomic perspectives. *Asia Pacific Education Researcher*, 25(4), 657-666.

- Thien, L. M. & Ong, M. Y. (2015). Malaysian and Singaporean students' affective characteristics and mathematics performance: Evidence from PISA 2012. *SpringerPlus*, 4(563), 1-14.
- UNESCO. (2011). *Secondary education regional information base: Country profile - Malaysia*. Bangkok: UNESCO.
- What the authorities say. (2016, April 17). *The Star Online*. Retrieved from <https://www.thestar.com.my/news/education/2016/04/17/what-the-authorities-say>
- Zamri, S. N. A. S. (2016). Problem-solving skills among Malaysian students. In L. M. Thien., A. R. Nordin, J. P. Keeves, & I. G. N. Darmawan (Eds.), *What can PISA 2012 data tell us? Performance and challenges in five participating Southeast Asian countries* (pp. 107-121). Rotterdam, Netherlands: Sense Publisher.