Strengthening Malaysian District Education Offices as Learning Organizations through Change Indicators
(Pemerkasaan Pejabat Pendidikan Daerah Malaysia Sebagai Organisasi Pembelajaran Melalui Indikator Perubahan)

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ABSTRACT

The District Transformation Program (DTP) aims to accelerate school improvement through a program led by the District Education Office (DEO). This mixed method study determined the relationship between strengthening processes and change indicators, the impacts of strengthening processes on change indicators, as well as identified the change indicators in the context of strengthening the DEOs. A total of 93 DEO heads were surveyed using an adapted questionnaire, and semi-structured interviews were done involving six participants. It was found that there is a strong positive relationship between strengthening processes and change indicators. The highest predictor that contributed to the change indicator in the DEO were support, followed by source, and accountability dimensions. Qualitative findings revealed nine change indicator themes in DEOs, which were the roles and responsibilities of DEO Heads, Program Managers, School Improvement Partners+, and School Improvement Specialist Coaches+, Performance Dialogue, Allocation Management, Key Performance Index, Performance Dashboard and DEO Excellence Rating. The implications of this study can be used in DEO monitoring and as an early intervention to detect existing issues in the implementation of the change program. In-depth studies to explore the factors that influence the success of changes in the practice of the DEO as a learning organization is recommended.

Key Words: Strengthening; Change Indicators; Learning Organization; Management; Education; Malaysia

ABSTRAK

Program Transformasi Daerah (DTP) bertujuan untuk mempercepat peningkatan sekolah melalui program yang diketuai oleh Pejabat Pelajaran Daerah (DEO). Kajian kaedah campuran ini menentukan hubungan antara proses pemerkasaan dan indikator perubahan, kesan proses pemerkasaan ke atas indikator perubahan, serta mengenal pasti indikator-indikator perubahan dalam konteks pemerkasaan DEO. Sebanyak 93 ketua DEO ditinjau menggunakan soal selidik yang diadaptasi, dan temu bual separa berstruktur telah dilakukan melibatkan enam peserta. Didapati bahawa terdapat hubungan positif yang kuat antara proses pemerkasaan dan indikator perubahan. Ramalan tertinggi yang menyumbang kepada indikator perubahan dalam DEO adalah dimensi sokongan, diikuti oleh sumber, dan akauntabiliti. Penemuan kualitatif mendedahkan sembilan tema penunjuk perubahan dalam DEO, iaitu peranan dan tanggungjawab Ketua DEO, Pengurus Program, Rakan Peningkatan Sekolah+, dan Pelatih Pakar Peningkatan Sekolah+, Dialog Prestasi, Pengurusan Peruntukan, Indeks Prestasi Utama, Papan Pemuka Prestasi dan Penarafan Kecemerlangan DEO. Implikasi kajian ini dapat digunakan dalam pemantauan DEO dan sebagai intervensi awal untuk mengesan masalah yang ada dalam pelaksanaan program perubahan. Dicadangkan kajian mendalam untuk meneroka faktor-faktor yang mempengaruhi kejayaan perubahan dalam amalan DEO sebagai organisasi pembelajaran.

Kata Kunci: Pemerkasaan; Indikator Perubahan; Organisasi Pembelajaran; Pengurusan; Pendidikan; Malaysia

INTRODUCTION

At the end of the 20th century, the explosion of communication technology had an impact on teaching methods and helped identify the diversity of student competencies. The District Transformation Program (DTP) aims to accelerate school improvement through a systematic program led by the DEO. The Malaysian Education Development Plan 2013-2025 (PPPM 2013-2025) requires the District Education Office (DEO) to be empowered to improve the quality of the education system. The role of the DEO is very important because the organization is the most closely related to schools.

In addition, the implementation of the DTP over four years successfully bridged the gap in the Primary School Achievement Test (UPSR) and the Secondary School Certificate (SPM) between urban and rural schools. According to the 2015 PPPM Annual Report, the DTP successfully bridged the urban and rural gap of UPSR by 23.5% and SPM by 9.1% (Kementerian Pendidikan Malaysia 2016). Furthermore, in 2016, the national achievement gap between urban and rural schools was drastically expanded by 26.3% for the 2016 UPSR compared to the 2012 UPSR, and the achievement gap between urban and rural schools at the SPM level continued downward from 2016 by 22.9% compared to 2012 (Kementerian Pendidikan Malaysia 2017). Furthermore, in 2016, the percentage of low-performing schools (school bands or ranking 6 and 7) increased to 1.9%, and the percentage of high-performing schools (school bands or ranking 1 and 2) continued to show an upward trend from 36.8% in 2015 to 39.9%. Furthermore, under the school-based management policy, more schools are given a certain level of authority to plan and decide how the instructions from the ministry will be implemented (Azlin Norhaini et al. 2016).

The delivery of public services, management, and governance to improve the efficiency of the educational system remains a major topic. There are still overlapping functions, especially in the functions of the Ministry of Education Malaysia (MOE), the State Education Department (SED), and the DEO. It is visualized as being hierarchical, highly centralized, heavy at the top (sector, division) but small at the bottom (district, school), having bureaucratic issues as well as an inefficient and ineffective management of resources and personnel (Yusoff et al. 2018). In fact, the SED and the DEO are still bound by central command. This has resulted in the DEO having limited authority in making decisions, drafting plans for school improvement, and improving student performance in their respective districts. The MOE acknowledged that issues in the personnel administration and management system, which has a hierarchical and centralized MOE structure, pose a number of weaknesses related to inefficient and ineffective service delivery due to overly bureaucratic procedures, especially in human resource management.

According to the National Union of the Teaching Profession (NUTP) (2014), there are some issues in implementing DTP (Jabatan Perdana Menteri 2014). Among them are the School Improvement Specialist Coaches+ (SISC+) Standard Operating Procedure (SOP) and the School Improvement Partnership+ (SIP+), which are not explicit or written down, because formal SOPs and SIP+ must be adopted by all DEOs. In addition, issues related to all types of directives from the authorities to the SISC+ and SIP+ in the DEO must be clear and concise. In addition, there are issues of unclear organizational hierarchy in the DEO. DEO hierarchies should not be confused with roles and responsibilities regarding career opportunities and promotions after DG52/DG54 where SISC+ and SIP+ must be given the opportunity to hold top positions in the DEO. Furthermore, the attitude of teachers is a constraint in implementing changes in the DEO; for example, teachers not implementing classroom assessment or the Teaching and Facilitating (PdPc) module properly, and teachers who do not give their full cooperation (Mohd Izham & Nurul Sahadila 2018). According to Aida Hanim and Azlin Norhaini (2018), teachers believe that some aspects of the policy have increased their workload and created a glaring gap between the implementation of the program in schools and knowledge about the policy among teachers.

In addition, the existence of a large organizational structure of the MOE have made the implementation of an educational policy and program difficult. Structures in the DEO that are incompatible with the structures in the MOE make it impossible to perform tasks as planned. There are also other issues in DEO related to the changes taking place as reported in the National Union of the Teaching Profession or NUTP (2014) and to its relevance as a learning organization. For example, some DEOs do not have the special facilities for SISC+ such as in Alor Gajah, Melaka. In addition, the SISC+ needs to be measured based on its role as school counsellor in the DEO where it is located. In 2011, a study of the Academy of Higher Education Leadership involving 41 schools showed that 50% of its content delivery was in a passive lecture format, and provided students with a summary assessment rather than helping them develop high-level thinking skills (Unit Perancangan Ekonomi 2015).

One way to monitor transformation programs is through the construction of change indicators. Without indicators, DEOs are difficult to monitor for changes that occur, and this will cause issues if no indicator is used as a benchmark for DTP change. Requirements for change indicators in the DTP are "red flags" and direct intervention instructions if they are not on the right track. In implementing a transformation program, if there are no indicators that can serve as guidelines, the program will be difficult to measure and evaluate. This is supported by Mainguet and Baye (2006), who find it difficult to respond to the success of a policy or program implemented without establishing indicators of change. This is because the process of evaluating the success of a policy or transformation program is complex, as it is influenced by many factors such as the history, culture, and economic situation of a country.

Learning organizations are still too new to be thoroughly understood, especially among educational institutions such as the DEO (Ghani et al. 2014). Yusof

(2005) found that traditional work culture's bureaucratic, over-productive, and anti-change behaviours make it difficult for educational institutions to improve their knowledge and skills. Research from Bity Salwana and Azlin Norhaini (2018) show the lowest mean score for knowledge is achieved by designing effective staff development programs, whereas for skills is the score is achieved by establishing cooperation among subordinates. In addition, the failure of organizational members to understand the concept of the learning organization has also led to a culture of positive change, resulting from a lack of exposure to the importance of learning organizations in the DEO (Nor Foniza 2012).

The objectives of this study were:

1. To determine the relationship between strengthening processes and change indicators in the context of empowering the District Education Office (DEO).
2. To determine the impacts of strengthening processes on change indicators in the context of empowering the District Education Office (DEO).
3. To identify the change indicators in the context of empowering the District Education Office (DEO).

CHANGE INDICATORS IN DEO

The DTP (Kementerian Pendidikan Malaysia 2017) is the basis of this study. The DTP is made up of two main components: support (empowering local leadership and providing support to the schools most in need) and accountability. Components of local leadership are gearing towards changing the role of the DEO, focusing more on efforts to increase support for schools in the district.

DEO will support principals, teachers, and students through local and centralized solutions based on the current data and information. Local solutions are planning and implementing interventions that meet the needs of schools to address a wide range of issues and challenges. The centralized solution is the planning and implementation of national interventions to address various national issues and challenges. In addition, the SIP+ program is established to provide guidance and support to the principal in improving the quality of leadership and organizational management, while the SISC+ teacher is responsible for guiding teachers towards improving the teaching and learning quality as well as helping to improve policy understanding, new curricula, and assessments for mentored teachers.

The accountability component is meant to ensure access, quality, and equity through monitoring, problem-solving, and acting. The MOE performance dashboard and DEO's excellence rating (PKPPD) will focus on actionable interventions aimed at achieving the key performance indicator (KPI). The MOE performance dashboard displays a matrix of results based on access, quality, and equity, while matrix inputs are based on factors that influence the quality of teaching and learning. The MOE and PKPPD performance dashboard serve as a tool for measuring, evaluating, and monitoring at national, state, district, and school levels to make sure that KPIs are achieved.

The components of discipline monitoring, problem-solving, and action-taking will use the performance dialogue (DP). DP is a forum implemented at all levels, from the MOE level to the school level, to discuss educational performance based on data and facts, followed by robust and focused actions to achieve KPI targets. In addition, DP is also a monitoring mechanism to ensure that DTP implementation is on the right track. The DP ensures that the data-driven decision-making cycle occurs at all levels.

Therefore, this study looked at the following indicator components: a) the scope of the DEO's work, b) the scope of the district program manager's duties, c) the roles and responsibilities of SIP+, d) the roles and responsibilities of SISC+, e) the provision of responsibilities, f) DP, g) KPIs, h) performance dashboards, and i) PKPPD.

METHODOLOGY

RESEARCH DESIGN

This study used the Explanatory Sequential Mixed Method research design. This design involves a first phase of quantitative data collection and analysis followed by the collection of qualitative data, which are used to explain the initial quantitative results (Schoonenboom & Johnson 2017). The quantitative component in this study used the survey method, while the qualitative component employed a multiple case study method.

DATA COLLECTION METHOD

For the quantitative component of this study, data was collected using a questionnaire adapted from Questionnaires I and II (CWEQ) by Laschinger (2012), the Learning Organization Questionnaire for Schools by Park (2006), the District Transformation Program Handbook 3.0 (Kementerian Pendidikan Malaysia 2017), and appropriate literature reviews. The questionnaire was piloted on 30 DEO heads, and the reliability of the questionnaire was established using Cronbach's Alpha, which is a significant psychometric quality index widely used in the fields of education and behavior, where this coefficient can be considered sufficiently informative about scale reliability in studied populations (Raycov et al. 2018). The

Cronbach's alpha value obtained was 0.792. This value is considered satisfactory, according to Pallant (2005) and Creswell (2012). Three expert panels were involved to examine the face and content validity of the instrument. Idris (2013) states that the purpose of this validity process is to enhance the content, assess the suitability of the language, clarify the meaning of the items, and assess whether the items used are able to measure every construct we wanted to study. The panel was comprised of lecturers from outside universities who have expertise and experience in the field of education administration, change management, and educational change. Overall, the panel accepted all the constructs with some modifications.

For the qualitative component of this study, the data was collected through semi-structured interviews. In addition, the interview transcriptions were given to the participants as a means of member checking to ensure that the participants' responses were accurately transcribed and that the data were accurately interpreted, ensuring that the themes were correctly developed.

PARTICIPANTS

For the quantitative component, this study involved 93 DEO heads selected through group sampling technique and random sampling strata. The DEO heads were selected from five zones in Malaysia: the north zone, south zone, east zone, central zone and east Malaysia zone (state of Sabah & Sarawak).

For the qualitative component, snowball sampling was employed to select 17 participants. Eleven DEOs and two SEDs were identified to represent the north, south, east, and central zones of peninsular Malaysia. Seventeen officers were involved: six DEO heads and six deputy officers from 10 DEOs, two deputy directors from two SEDs, one SISC+, one quality officer, and one quality assistant officer.

DATA ANALYSIS METHOD

For the quantitative component, Pearson correlation and multiple regression were used to see the relationship between the variables and the contribution to the variables studied. Data was analysed through

Statistical Packages for Social Science (SPSS) version 2.2.

For the qualitative component, thematic analysis was employed, and the NVIVO 11 application was used to manage the data according to themes and sub-themes according to the research questions and research framework.

FINDINGS AND DISCUSSION

RELATIONSHIP BETWEEN STRENGTHENING PROCESSES AND CHANGE INDICATORS IN DEOS

Table 1 shows the correlation between strengthening processes and change indicators in the context of empowering the District Education Office.

The results demonstrate a positive and strong significant correlation between strengthening process and change indicators (r =0.645, p=0.00).

TABLE 1. Correlation between strengthening processes and change indicators

Correlations	R	Sig.	Interpretation
Strengthening Process and Change Indicators	0.722	0.00	Positive (strong)

THE IMPACT OF STRENGTHENING PROCESSES ON CHANGE INDICATORS IN DEOS

Table 2 shows the impact of strengthening processes on change indicators in the context of empowering the District Education Office.

Based on Table 2, among the three predictors, the highest predictor that contributed 35.8% to the indicator of change in the DEO were support dimensions (β=0.330, t=3.350, p=0.004) followed by source dimensions (β=0.330, t=3.350, p=0.004) which accounted for 5.2%, and accountability dimensions (β=0.219, t=4.899, p=0.032) which accounted for 3%.

Furthermore, the analysis of variances found that the value of F(3,89)=23.323 to be significant at p<0.05. The R-squared value (R²=0.440) shows that the overall contribution of three independent variables is 44.0% against the indicator of change in the DEO.

TABLE 2. The impact of strengthening processes on change indicators

Factors	B	β	t	Sig.	R²	Contribution (%)
Support	0.379	0.330	3.350	0.004	0.358	35.8%
Resource	0.191	0.260	2.609	0.006	0.410	5.2%
Accountability	0.265	0.219	4.899	0.032	0.440	3.0%
Constant	0.752					

CHANGE INDICATORS IN THE CONTEXT OF DEOS' STRENGTHENING PROCESS

From the interview data, nine themes of change indicator in strengthening DEOs through the DTP emerged, as illustrated in Table 3 below.

TABLE 3. Themes and sub-themes of change indicators

Themes	Sub-themes
DEO Head Roles and Responsibility	Empowering school leadership
	Chairing the DP
	Implementing the instructional guidance model
	Being involved in external bodies
Program Managers' Roles and Responsibility	Monitor, measure, and report schools' performance to DEOs
	Manage continuous follow-up and improvement
	Plan support programs and interventions
	Attend briefings on their role.
SIP+ (School Improvement Partners) Roles and Responsibilities	Guide
	Mentor and coach
	Train
	Report
SISC+ (School Improvement Specialist Coaches) Roles and Responsibilities	Guide (Mentor and coach) teachers in PdPc
	Train
	Make weekly reporting
Performance Dialogue	Solve problems and give support
	Review performance based on data
	Identify problems,
	Do focused DP
	Report on frequency of DP
	Create an action summary
Allocation Management	The five-step intervention plan (PILL)
	Allocation from education performance and delivery unit (PADU)
	Financial assistance from external bodies
Key Performance Index (KPI)	Setting KPIs in DEO
	Dealing with the urban and rural gap
	Setting KPIs of students' attendance
	Detting academic performance goals for public exams
	Improving school bands
	Monitoring KPIs
Performance Dashboard	Display of the main performance indicator,
	Guidance for DEOs to monitor schools in a district.
	Data from various sources
DEO Excellence Rating (PKPPD)	Self-rating process
	External verification process
	Rating dimensions

District Education Office (DEO) Head Roles and Responsibility

Overall, the respondents claimed that the DEO heads have four responsibilities: i) empowering school leadership, ii) chairing the DP, iii) implementing the instructional guidance model, and iv) being involved in external bodies.

In empowering local leadership at DEOs, one of the respondents said, *"We have two school administrators, one principal headmaster, and one more group we give to senior leaders. So that's one aspect of locating local leaders—leadership at school"* (TPEN1). In addition, another respondent (PP5) stated that the responsibility of the head of DEO is to chair DPs, *"I am obliged to handle the performance dialogue; we DEOs must take great responsibility, and we cannot push it off on*

others" (PP5). In addition, the respondents also stated that the DEO head needs to implement the following five steps from the instructional guidance model in implementing the DTP: i) focus on specific aspects of teachers' needs and students' performance, ii) conduct guidance sessions, iii) monitor action plans, iv) identify the exact issues and perform data analysis, and v) ensure that the school implements the action. Finally, PP5 also said that the DEO heads' roles and responsibility should include involvement of external parties, *"I also direct a National Blue Ocean Strategy (NBOS) program with Teacher Training Institute (IPG), for example, from nearby universities such as UMK (Universiti Malaysia Kelantan) in this context."*

In strengthening the DEO, the DEO head needs to empower school leadership to provide support to the school through instructional guidance, which consists

of four aspects: school achievement, helping the school recognize data-based strategic issues, guiding school leaders in daily management, and monitoring implementation or action at the school level. This finding is consistent with the findings of the study by Azeez et al. (2015), which shows that the role of instructional leadership is to conduct supervision, and to focus on the curriculum in order to improve overall school performance. According to Veelen et al. (2017), school leaders are highly autonomous, and thus are expected to be capable of developing their own system of quality assurance through reliable and valid self-evaluation, and to provide information on performance indicators, such as student achievement, parental satisfaction, and teacher professionalism. In addition, in carrying out the role of program manager, access to information is important in planning tasks—to monitor, guide, or take action to ensure that the intervention will have a positive impact on the schools' achievement. This is also in line with Thuss et al. (2016) study, which found that information is important in the process of empowering the learning environment in healthcare practices.

Program Managers' Roles and Responsibility

For this theme, the specific sub-themes emerged are: i) monitor, measure, and report schools' performance to DEOs, ii) manage continuous follow-up and improvement, iii) plan support programs and interventions, and iv) attend briefings on their role.

In carrying the roles of a program manager, the assistant DEO needs to monitor, measure, and report the school's performance, as described by TP5, *"It's to monitor the use of data for school improvement—for example, student attendance data"* and TPEN2, *"Setting the target and monitoring the performance of the school was also seen as part of the DTP".* TPEN2 further said that the program manager needs to manage continuous follow-up and improvement: *"We take action, then we do a follow-up to see what action has been taken, whether it has had any effect, and what the process was like".* In addition, according to TP5 and TPEN2, support program planning and intervention based on data needs to be conducted: *"An intervention plan can be used to improve school performance"* and *"We then use data to make interventions".*

School Improvement Partners (SIP+) Roles and Responsibilities

From the data, the SIP+'s roles and responsibilities are divided into the following sub-themes: i) guide, ii) mentor and coach, iii) train, and iv) report.

One of the respondents, (S1) said that the roles and responsibilities of SIP+ is to give coaching based on the school's achievement: *"A SIP+ will look at the same*

aspects as SISC+—school bands five, six, and seven. If the educational district does not have school bands six and seven (lower school bands), the SIP+ will go to the lowest band schools because SIP+ are to go to low-performing schools in the DTP". Another respondent (TPEN1) said that the role of SIP+ is to give guidance based on school's needs: *"Some teachers need more guidance, so the SIP+ need to go more often, and the teachers have to make changes. Some teachers need less guidance, so the SIP+ does not have to visit more than once".* Apart from that, TP1 said that SIP+ needs to guide school leaders: *"The SIP+ will assist in administration at the school level. When that is what we need to help, we send SIP+ + to help guide".* The SIP+ also provided support through mentoring, according to TP6: *"We call teachers in certain groups to be given guidance in particular techniques and methods and so on. Our SIP+ and SISC+ become teacher facilitators".* TP5 also said that SIP+ also did coaching at schools. Furthermore, SIP+ both receive and give training, even though TPEN2 and TP1 felt that SIP+ need to receive training to implement the DTP: *"A newly appointed SIP+ is going through the program to practice it"* and *"Our new SIP+ with SISC+is much guided by the IAB (Aminuddin Baki Institution) course to get information on the kind of DTP that leads the principal or headmaster at school".* Meanwhile, TPEN2 also felt that the SIP+ staff need to provide training: *"We are also doing our department's workshops to conduct data analysis workshops to manage DPs to empower our department's officers".* Finally, SIP+ needs to prepare reports, according to PP5: *"As the head of DEO, my schedule includes checking SIP+ planning as well as reports of their (SIP+) movements. Once a week they will send reports of their activities."*

To sum up, the roles and responsibilities of SIP+ is to guide in making plans based on data. SIP+ should implement guidance to principals and teachers through coaching and mentoring in three aspects: school achievement, guidance for data-based school improvement, and school administrator leadership. This finding is in line with the findings of the study by Rani et al. (2018), that training and development have a positive influence on the staff.

School Improvement Specialist Coaches (SISC+) Roles and Responsibilities

Findings on the roles and responsibilities of SISC+ is divided into the following sub-themes: i) guiding (mentoring and coaching) teachers in PdPc, ii) training, and iii) make weekly reporting. The SISC+ roles and responsibilities as a guide in mentoring and coaching are to focus on: a) school achievement, b) school need, c) pedagogy expertise, and d) teaching and facilitating for 21st century education across all subjects.

PP4 stated that guiding is one of their roles and responsibilities based on school achievement: *"As SIC+ we also focus on mentoring schools that have bands 5 and 6"*. The SISC+ guidance is based on school need, as stated by TPEN1: *"SIC+ is focusing on guiding teachers who have problems in the school"*. In addition, SISC+ also give guidance as a pedagogy expert, according to PP2: *"For SISC+ we focus on pedagogy wherever we see the subjects in which performance does not reach our goals"*. Regarding SISC+ as a guide in teaching and facilitating for 21st century education, S1 said: *"Usually we look in terms of student group activity. We want to see 4C as collaboration, communication, creative, and critical thinking. If teachers in a school apply 4C, meaning the teacher is doing 21st century learning, it means that students in that school are engaging with technology"*. The SISC+ must also guide teachers across all subjects, as described by TPEN1: *"The SIC+ can guide teachers in all the subjects. SIC+ can observe and guide all subjects"*. SISC+ needs to report on the program and the intervention that has been done, as stated by S1: *"SISC+ coaches every afternoon, and the DEOs will then ask us for a report of what interventions have been made for the school we visited."*

Mainly, the role of SISC+ is to guide teachers at schools with low bands. Said et al. (2016) also noted that the focus of the SISC+ coaching and mentoring program is subject to the SOPs set by the MOE, which is the priority of low-performing schools (bands 4, 5, 6, and 7). An obvious change in the SISC+ role is as a pedagogy expert across all subjects in implementing the 21st century education guidelines. Guidance and support from SIP+ and SISC+ to principals, headmasters, and teachers will have an impact on schools' management and performance, as well as on job satisfaction. This finding is in line with the findings of the study by Huang et al. (2018), in which teachers agree that SISC+ is a good guide and can build good relationships with guided teachers.

Performance Dialogue (DP)

Collectively, findings from the interviews indicate various perceptions about the implementation of the DP conducted by DEOs. The sub-themes developed were: i) do problem-solving and give support, ii) review performance based on data, iii) identify problems, iv) do focused DP, v) report on frequency of DP, and vi) create an action summary.

TPEN1 said that problem-solving and support are given through performance dialogues: *"Every month we have a performance dialogue where we discuss the problems faced and then guide them"*. DP also requires an identification of the existing problem, as stated by PP5: *"It means that in our dialogue, we have issues that we identify, and we call the school to get feedback"*. In

addition, TPEN2 and PP5 felt that the focused DP helps improve school organizations: *"We focus on improving the quality of the school and the pupils, and our focus is the DP"* and *"Focused DP becomes the main agenda in DTP"*. In addition, DP is conducted quite frequently, as claimed by TPEN1: *"We do DPs, where we will discuss the problems we face, a minimum of four times a year"*. The DP is one of the agenda items under DTP that, according to the Ministry of Education, *"we must implement four times a year"* (TP6). Finally, the DP will summarize the discussion for further action to be taken: *"We summarize what the school needs to do, and make sure the school make the changes, which we monitor using the results of the DP"* (TP5).

In short, in implementing changes in DEO, there are indicators of change in the aspects of DP, which consist of five themes namely DP frequency, DP focus, discussion based on data, discussion of intervention and formulation for action after DP. The DP indicator helps the HDEO to identify issues based on the data and can help the Principal and Headmaster implement the intervention program well.

DP is significant in DTP to make the DEO an organization in which learning and discussion play a role in ensuring that the DEO is capable of identifying any issues or problems and handling them effectively. This is supported by the study by Ghani et al. (2014), which found that an organization's structure and system need to support the staff to form a working team that can solve issues jointly, and this teamwork needs to span all fields and departments. In managing the provision, DEO also needs to do program-planning based on the PILL intervention that has been approved. During the implementation of the PILL, the DEO head will discuss with the officers involved in identifying the best issues and interventions that can be implemented. This finding is consistent with the findings of Mohd Aru et al. (2018), which show that when the headmaster provides space for his subordinates, teachers share their insights and ideas on the distribution of per capita grant aid and then make a joint decision.

Allocation Management

Findings indicate various perceptions related to the management of allocations in implementing DTP. The sub-themes emerged are: i) the five-step intervention plan (PILL), ii) allocation from education performance and delivery unit (PADU), and iii) financial assistance from external bodies.

In the interview, TPEN2 said that all allocation needs to be managed through PILL: *"We will submit all proposals through PILL, an intervention plan. A screening process will then take place to consider which proposal will be approved, and what ceiling for*

expenses will be". Allocation was also requested for implementation of programs and expanses through PADU (PP4): *"We requested an allocation from PADU to enable us to implement an intervention program based on the proposals brought by the headmasters"*. In managing the allocation for DTP, there are DEOs who sought aid from external bodies, such as from a member of Parliament (S1): *"Our member of Parliament gives us good support in DEOs. In DTP 3.0 we want to achieve 21st century education, so he contributed an LCD projector."*

Conclusion, there are indicators of changes in the aspects of allocation management consisting of three aspects namely the PILL, provision from PADU and external financial assistance. Provision management indicators especially PILL help HDEO identify issues at school and design best intervention programs to address issues.

Key Performance Indicators (KPIs)

Data from the interviews regarding KPI fall into six sub-themes: i) setting KPIs in DEO, ii) dealing with the urban and rural gap, iii) setting KPIs of students' attendance, iv) setting academic performance goals for public exams, v) improving school bands, and vi) monitoring KPIs.

TPEN1 said there is also a need for DEOs to have their own KPIs: *"KPIs came from the Ministry of Education to us (DEOs), then to schools. But since 2018, I have had to look at the data of schools to see what percentage of the school can achieve the KPI. It depends on how much we want to achieve. Every school has its own KPIs. Our school KPI will be available from DEOs in Putrajaya. Currently the KPI is from bottom schools"*. TP3 also stated that: *"In setting KPIs, we have increased 3% over the previous achievement, but we still have to give reasons so that the KPI is realistic. We give leeway to the school if they want to set higher or lower KPIs, but they must be able to justify it"*. In addition, PP4 stated: *"Our KPIs include bridging the academic achievement gap between urban and rural schools"*. There is also a need for KPI for student attendance (PP2): *"The KPI for attendance at school is 95%, so if the school reaches 95%, that is normal, and our goal is met"*. Another KPI is to improve academic performance in public exams as told by PP5: *"Our main KPI is improving our academic achievement in UPSR. The same goes for PT3, and our final focus is on SPM as well as STPM"*. According to PP4, there is also a zero KPI on school bands 5 and 6: *"My target that we no longer have schools in bands 5 and 6"*. There is also KPI on increasing the number of band 1 and 2 schools, as noted by TPEN1. Meanwhile, research participants PP3 and TP3 felt that there is a need for monitoring KPI. PP3 said, *"So how we know we are progressing or not, you must look at the baseline*

(KPI)" and TP3 said, *"We are ensuring that there is a PKKP (peningkatan kurikulum and kemajuan pendidikan) program called Headcount. Headcount has had a profile for the past five years, meaning we will know what our achievement and progress have been."*

KPIs especially PILL assist the HDEO to monitor the performance of the DEO and the achievement of the schools under their respective districts. Furthermore, the KPI set by the ministry at DEO and school levels need to be implemented and achieved to ensure that the overall system's goal is consistent and synchronized. In setting the DEO's KPI, the JPN4 program manager explained that setting the KPI requires discussions with the school, and this requires communication and knowledge to ensure that the DEO's KPI are relevant and achievable. These findings are in line with the study by Bala & Koxhaj (2017), which states that the leader of an organization should focus on communication and understanding to ensure that the organization understands relevant KPI goal-setting, and when it is necessary to monitor the KPI.

Performance Dashboard

Findings related to the performance dashboard fall into three sub-themes: i) display of the main performance indicator, ii) guidance for DEOs to monitor schools in a district, and iii) data from various sources.

First, in the display of the main performance indicators, students' attendance and dropout rates are shown on the dashboard. TPEN1 said there is also a need for DEOs to have their own KPIs: *"First of all, the presence of students is always monitored in the dashboard, which schools will update in the system"* (PP2), *"In the dashboard they have added a dropout indicator—this is new."* Regarding the assessment of the public and school exam results, TP5 said, *"This year the results were changed to an assessment report, whereas previously the report, such as UPSR, was just one piece of paper"* and TP6 said, *"The report lets us view midterm exams, SPM results, and so on"*. It also states the average school grade (GPS) and the average grade of each subject. The dashboard also indicates the teacher's attendance at DPs, as stated by PP5: *"Every time there is a DP, the dashboard is required to be displayed. Dashboards must include the teacher's presence in the DP"*. The dashboard links to the Malaysian Education Quality Standards Wave 2 (SKPMg2) and it helps DEOs monitor schools in a district, as stated by TP5: *"We have a guide that we call a dashboard. In the DEO's dashboard, we see how far the school adheres to what is already set, for example, the students' attendance will show how many students are present every day and every month. It also shows how many teachers are in a school, as well as examination results, and the gaps between urban and*

rural areas—all this we can take into account and monitor in the dashboard". The dashboard also works with data from various sources (TPEN1): *"We can also verify the dashboard with the data's source. For example, student attendance is taken from the APDM (aplikasi pangkalan data murid, or student database application). If a student is disciplined, that data comes from the SSDM (sistem salah laku disiplin murid, or system of student discipline misconduct), so the DEOs can access the information from SSDM as well".*

Conclusion, in implementing changes in the DEO, there are three dashboard indicators consisting of key performance indicators, dashboard data monitoring and supporting data. The dashboard indicator helps the HDEO to take action on something based on data. The performance dashboard is used to gather relevant and precise information that can be used in analysing performance, intervention-planning, and as a guide in prioritizing actions based on data. However, the dashboard needs to be used with supporting data due to problems with data usage. DEO head PPD5 uses support data such as the APDM to get student attendance data. Several DEO heads say the dashboard needs improvements because of system problems or poor access. The findings are consistent with the findings of Phang et al. (2014) and Singh et al. (2017), in which the factor that prevented teachers from using the geographical information system (GIS) in their teaching is that the school did not have the GIS software and infrastructure requirements for the implementation of ICT-assisted PdPc in science teaching. Finally, the PKPPD is also run by DEO as a mechanism to measure excellent performance in public service.

DEO Excellence Rating (PKPPD)

Findings related to DEO excellence rating fall into three sub-themes: i) self-rating process, ii) external verification process, and iii) rating dimensions.

In rating DEO excellence, the DEOs do self-assessments and give themselves ratings, as mentioned by TPEN2: *"The SED will make a self-assessment based on certain dimensions, and then we at DEO rate ourselves. How many stars do we want to give in rating our own DEO?".* Then, TPEN1 said that the verification of the star rating comes from the State Education Department: *"It is verified by the SED itself, then the BPSH (Bahagian Pengurusan Sekolah Harian, or daily school management division) will do the verification again. BPSH will go down to the DEO, then DEOs with five-star ratings will lead the other DEOs in the state".* About the rating dimensions, three dimensions were highlighted. Firstly, leadership (TPEN1): *"This dimension of leadership ensures that the head DEO official and the DEO deputy head (the program manager) understands their roles. This is scored from level one to level four".* Secondly,

organization (TP2): *"Sixty percent of this rating is on the organization itself—all the staff in the DEO, including the officers and the subordinates".* Thirdly, success of the DEO (TPEN1): *"The third dimension is the success of the DEO itself—the average grade for that district, parental involvement, and any national level achievements—so success depends on levels of achievement."*

In short, indicators of change management from the DEO Excellence Rating aspect ensure that all instructions and procedures for managing change are complied by each DEO.

In general, in terms of the practices of a learning organization, team learning was evident among all the DEOs involved. Sharing of information was frequent; they have discussions in DPs, morning briefings, meetings, etc. Information-sharing also takes place when any member of the organization receives new information about DTP. The findings of this study support the study findings by Keong et al. (2018), indicating that schoolteachers should share feedback or information, especially on how to improve learning and teaching activities related to student achievement. This sharing of information further provides greater knowledge to all staff, which can be used in performing their tasks. Nor Foniza (2012) affirmed that team learning is a process of sharing and collecting data from colleagues with various experiences, expertise, and ideas. It was also evident that leaders were encouraging staff to attend courses, and the staffs also attend courses on their own initiative. Doing so will help the staffs increase their knowledge and skills in carrying out their tasks. This finding is in line with the study by Ishak et al. (2014) on leadership practices at high-performance schools, which found that attending courses is significant in increasing one's knowledge and skill.

Findings from the interviews also indicate a shared vision, which is evident in discussions between leaders and staff. Heads of DEOs admitted that they frequently share their vision with the staff, particularly on matters related to DTP. This can increase the commitment and teamwork of an organization (Ong 2012). This is also in line with Senge's claim (1990) that a shared vision can motivate staff in contributing to the success of an organization. Then, in implementing changes in DEOs, the DEO heads build mutual trust in staff through friendships in which they learn the weaknesses and strengths of the staff and have a good relationship with the school. The findings of this study support the findings of the study by Yaakob et al. (2017), that collaborative practices can foster a sense of belonging among teachers in the school.

For mental models, staff were able to visualize the goals of DEOs in its environment, including its underlying goals. The changes carried out by all DEOs

require that all individuals develop a positive perception for the strengthening process to be achieved. In addition, systems thinking was evident in DEOs when heads describe the competency needed to make comprehensive decisions and handle issues that occur in the DEOs. This is also in line with the study by Mishra et al. (2010) on the need for an empowerment process in developing a learning organization. The study also showed that decision-making has a positive effect on learning organizations.

CONCLUSION

This study determined the relationship between strengthening processes and change indicators, the impacts of strengthening processes on change indicators, as well as identified the change indicators in the context of strengthening the DEOs. There is a strong positive relationship between strengthening processes and change indicators. The highest predictor that contributed to the change indicator in the DEO were support, followed by source, and accountability dimensions. Qualitative findings revealed nine change indicator themes in DEOs, which were the roles and responsibilities of DEO Heads, Program Managers, School Improvement Partners+, and School Improvement Specialist Coaches+, Performance Dialogue, Allocation Management, Key Performance Index, Performance Dashboard and DEO Excellence Rating. The findings implicate that change indicators and change management indicators are needed to strengthen the DEO and assist policymakers and DEO staff to ensure that the DTP goals are achieved and in the right track. The absence of an indicator would hinder monitoring of the change and raise issues related to benchmarking the DTP change. The DTP change indicator must be the "red flag" that indicates whether the change implementation is on the right track. Positive or negative change will be detected in the running of the program, and thus immediate intervention can be taken. In conjunction to the findings, the Ministry of Education and Institut Aminuddin Baki can plan relevant training and courses for all educators. Ultimately, this study is significant to principals, headmasters, and teachers for the guidance and support they would receive from the SIP+ and SISC+ to increase their schools' performance, in addition to being a means of detecting issues or problems as an early intervention in the transformational program. In-depth studies are recommended to explore the factors that influence the success of change and practice in the DEO's learning organization.

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