

MOTIVATION TO LEAD FOR SCHOOL IMPROVEMENT: THE ROLE OF SCHOOL TEACHERS' STRATEGIC THINKING SKILLS

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Abstract

Efforts to capitalize on educational excellence demand the commitment of teachers as leaders in schools to develop continuous improvement strategies. Teachers are even encouraged to develop strategic thinking skills as a prerequisite for improving school leadership capabilities. In general, this study aimed to identify the influence of strategic thinking skills towards leadership motivation among school teachers. The cross-sectional survey method was applied in the quantitative data collection process involving 456 respondents selected using a stratified random sampling method. The instrument used consisted of three sections: respondent demographic information, Strategic Thinking Questionnaire, and Motivation to Lead Questionnaire. The results of the multi-level regression test showed that strategic thinking skills had a statistically significant effect on motivation to lead among school teachers. As such, it is hoped that school administrators will be able to provide professional development program focus on the aspects of strategic thinking skills and motivation to lead among teachers towards enhancing leadership capabilities and improving school performance in the future.

Keywords--- Motivation to Lead, Strategic Thinking Skills, School Teachers, Teacher Leadership, School Improvements

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INTRODUCTION

The implementation of the Malaysian Education Development Plan (MEB) (2013-2025) sets the goals and aspirations for upholding the quality education system in Malaysia. It is hoped that an effective united effort will be made through the cooperation of all parties, especially the commitment of educators in schools (Mohd Najib Abdul Razak, 2013). In this regard, to improve the quality of the education system in general and the excellence of the school, the national education system has focused on leadership at every level (Ministry of Education Malaysia, 2018; 2019). Usually at school level, leadership is often given to school principals. However, according to Norashikin Abu Bakar, Ramli Basri and Foo Say Fooi (2015) there is another dimension of school leadership that can help improve school excellence, namely teacher leadership. In this decade the principal is no longer considered the 'only leader' who makes the decision for continuous improvement of students' academic achievement (Greenwood, 2011). Besides principal leadership, teacher leadership has also been a topic of discussion in efforts to improve teaching professionalism and school reform (Billingsley, 2007)

Principals need teachers to improve teaching and learning in schools (Katzenmeyer & Moller, 2009). The MEB 2013-2025 states that school leadership will be extended especially to teachers holding leadership positions in schools. This means that, in addition to principals, school leadership can also be contributed by senior assistant teachers or regular teachers (Ministry of Education Malaysia, 2013). In fact, according to Caldwell and Spinks (1988), school organizations should have strong management and the ability to develop strategies that include aspects of analyzing the external environment, human leadership, structure, technology, politics, culture and education.

In addition, a review of scholarly literature found that strategic teacher leadership can impact student academic achievement in schools (Hairuddin, 2012; Hairuddin & Inas, 2019). Furthermore, Kowalski (2010) also emphasized that effective leadership strategies must exist at all levels in schools. In this regard, school teachers are required to develop strong leadership skills and are

able to master strategic skills to formulate effective school improvement strategies (Davies, 2004; Fullan, 2007).

The Ministry of Education Malaysia has given serious focus to the direction of national education through the implementation of the MEB (2013 - 2025) (Ministry of Education Malaysia, 2018; 2019). MEB (2013 - 2025) was designed in detail to ensure that educational progress is constantly improved by incorporating strategic thinking elements in developing leadership talent. According to Haycock, Cheadle and Bluestone (2012), if every member of an organization has a good level of strategic thinking, he or she will be able to use it beneficially in their daily actions leading to the achievement of the organization's goals and objectives. Furthermore, Ghorbani and Kiani (2012) also found that individuals who are able to think strategically, are always ready for change and are able to act towards realizing the goals of the organization. In addition, strategic thinking skill is an important component in identifying the level of leadership effectiveness in the organization (Pisapia, 2009; Pisapia et al., 2011; Yukl, 2013; Mohammad Javad Ershadi & Rouhollah Eskandari Dehdazzi, 2019). In fact, Davies (2004), Davies and Davies (2004), and Eacott (2006) have also suggested strategic thinking and the ability to take actions as elements that are capable of developing the intrinsic motivation, effort and ability of individual leadership, effectively.

PROBLEM STATEMENT

Looking from a macro perspective, the fifth shift in the implementation agenda of MEB (2013-2025) sets out a desire to bring together a group of leadership talent capable of embracing the values of wisdom, strategic thinking and leadership mindset (Ministry of Education Malaysia, 2012). In fact, efforts to incorporate school leadership skills are a key step in improving the quality of the education system and developing teacher professionalism (Hairuddin, 2012). Furthermore, Escudero, González and Rodríguez (2013) stated that the improvement of education for equity and professional development of teachers are important issues related to the fundamental rights of all well-educated students. However, there is still a misunderstanding about the importance of developing leadership skills in the

school improvement agenda (Kho, Hamidah Yusof & Syed Ismail Syed Mohamad, 2016). In fact, Katzenmeyer and Moller (2009) found that there are groups of teachers who do not recognize themselves as school leaders. This has raised concern over the successful implementation of MEB (2013 - 2025) (Akma et al., 2013). In this regard, the school needs to be proactive in establishing a learning community in order to provide a platform for teachers to work and to find new ways to improve the development of teacher professionalism and teacher self-motivation.

In a micro-review of teachers' tasks in schools, the mastering of strategic thinking can help to devise more effective task strategies (Bonn, 2005; Casey & Goldman, 2010; Mintzberg, 2000). However, Beatty (2010) stated statistics have shown that less than 10% leaders exhibited strategic skills in organizations. Furthermore, Fullan (2007) also found that school leaders as strategic planners in the school community were having difficulty to plan and implement strategic planning effectively. In addition, Asraf Mubarak (2013) found that teachers carry a relatively high burden of responsibility in implementing school improvement strategy agendas that will indirectly impact self-motivation and teachers' ability to translate their thinking in schools (Ahmad Johari & Mohamad Zuhairy, 2010). Hence, Alimuddin Mohd Dom (2006) emphasized the need for strategic planning at the school level to apply strategic skills to achieve the goals and objectives of improving the quality of education. Even in implementing the educational development agenda, aspects of strategic skills and teacher leadership should be the focus of discussion and research in the implementation of quality improvement education system (Hairuddin, 2012).

School Improvement

The excellence of educational institutions is the result of carefully planned efforts towards bringing about changes and improvements in administrative structure, management processes, teaching and learning and human resource management. The level of quality, training, adaptability and human resource capability determine the educational performance of the institution (Mariam, Mohammed Sani & Siti Rahaya, 2009). Previous studies have found that strategic approach and quality leadership practices are factors that determine the behaviors and behaviors of organizational citizens which in turn contribute to organizational performance improvement. According to Cheng (1994), leaders should be the driving force in the strengths of every member of the organization.

The success of a successful organization is measured by the ability of the organization to achieve and maintain extraordinary success for the benefit of the other institutions associated with the organization (Oakland, 2011). On the other hand, achieving something truly extraordinary is not easy and takes a long time. Thus, in an era of globalization or a borderless world that constantly pursues technological sophistication, rapid innovation, economic process changes and changing social and customer environments, it takes leadership support with sound policies and strategies.

Moreover, leaders should be wise in developing strategies to strengthen their leadership skills to cope with environmental factors that may impact an organization's operations. In support of this view, Muhammad Iqbal and Muhammad Zafar (2011) agree that leadership plays an important role in managing an educational institution. Thus, educational leadership provides the vision to enable education institutions to manage the current situation and environment, towards achieving international quality education and training.

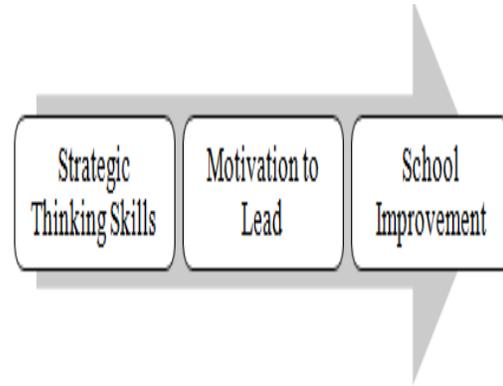


Figure 1. Key concept: The role of strategic thinking skills and motivation to lead among school teachers towards the school improvement

Understanding Strategic Thinking

Strategic thinking is an integral part of strategic planning in organizational management to identify and plan new innovations to sustain and stay relevant in the industry. Basically, strategic thinking can be defined as an individual thinking for the purpose of designing a competitive strategy within an organization (Haycock et al., 2012). However, Weyhrauch (2016) argued that through strategic thinking processes which are synthesis, high creativity, innovative, different and intuitive or hunch, can help materialize the strategic planning developed in accordance with the organization. In fact, based on a literature review, strategic thinking skills have a broad meaning. A popular pioneer in the development of strategic planning theory is Mintzberg (2000) who argues that strategy is an art in which it must be practiced primarily as an intuitive, creative thinking process.

Heracleous (1998) stated that strategic thinking has no clear meaning and is often debated in strategic planning. He defines strategic thinking as a management activity aimed at discovering novel, imaginative strategies that can reproduce competitive games and anticipate significantly different potentials from current situations. However, Jelenc and Pisapia (2015) have concluded that strategic thinking is an activity that influences an individual's proactive behavior in an organization to achieve their vision and mission. Therefore, when strategy thinking is at a high level, it is likely that members of the organization will think more creatively, proactively, work hard, demonstrate perseverance and diligence, and exhibit high collaborative behaviors, which in turn support the implementation of strategies designed to be more effective. The strategic thinking skills in this research referred to the skills of individuals who practice thinking activities to benefit the organization. The goal is to find detailed competitive strategies towards achieving organizational goals. These thinking activities are also able to contribute to the broader concept and focus on the future direction of the organization in order to continue operations in line with current situation. (Haycock et al., 2012).

This paper focuses on three main dimensions based on the strategic thinking theory introduced by Pisapia (2009) namely systems of thought, reflection and re-thinking. The system of thinking refers to a leader's ability to view the system holistically by understanding the nature, power, pattern and relationships that shape the behaviour of the system that provides the option for action. While reflection is a leader's ability to think logically and rationally through perceptions, experiences and information to evaluate what has happened and to form an intuitive principle as a guide for future action. Re-thinking refers to a leader's ability to draw attention through a variety of perspectives, frameworks, models of thought, and paradigms to build new

insights and choices for action. These three dimensions are key factors that shape strategic thinking.

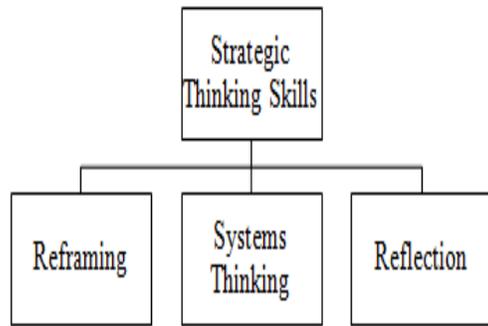


Figure 2. Dimensions of strategic thinking skills (Pisapia, 2009)

Motivation to Lead

The definition for motivation to lead is based on three dimensions of social norms in which the individual is motivated to become the leader of social and normative causes, such as a sense of commitment to the group, or as a duty to a particular norm within his or her environment.

A person is motivated to lead by the inner desire that results from the satisfaction and pleasure of being a leader. Individuals who are found to be motivated by this type of affective identity are happy to lead others. Individuals with social norms choose to lead because they have a sense of responsibility to do so. Whereas non-calculative individuals lead only if they do not consider the major costs and benefits of being a leader and neglecting their own interests (Chan & Drasgow, 2001). Therefore, when the level of leadership motivation is high, an individual is more likely to exhibit high leadership behaviors and could effectively realize the leadership agenda.

According to Chan and Drasgow (2001), motivation to lead is defined as the priority of individuals to strive for leadership status. Motivation to lead is a variety of non-cognitive capabilities such as personality and values related to leader behavior through individual motivation to lead, which in turn impacts individual participation in leadership roles and activities.

Based on this definition, Chan and Drasgow (2001) proposed motivation to lead as a precursor in leadership behavior and functions as a mediator for leadership characteristics and leadership behaviors. In addition, other researchers such as Barrick and Mount (2005), Yukl (2013), Yukl, Mahsud, Prussia and Hassan (2019) and Zaccaro (2007) also argued that motivational constructs usually act as mediators for traits and leadership or organizational performance relationships. Motivation to lead can be conceptualized and measured on a three-dimensional basis.

These dimensions are social normative, non-calculative, and affective identity (Chan & Drasgow, 2001). This study used the definition of motivation to lead from Chan and Drasgow (2001) who stated that constructs of various non-cognitive abilities such as personality and values are related to leader behaviors. Motivation to lead individuals affects the individual's participation in leadership activities and the role of leadership. Therefore, Chan and Drasgow (2001) stated that motivation to lead is a precursor of leadership behavior that also acts as a mediator in the relationship of other characteristics and leadership behaviors such as personality, cognitive ability, and values.

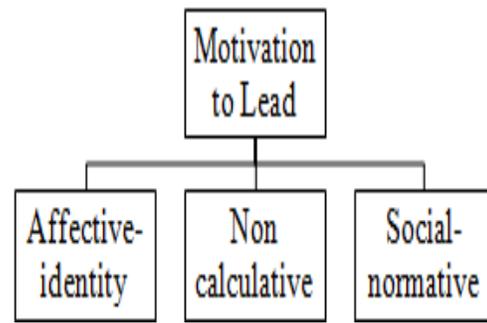


Figure 3. Dimensions of motivation to lead (Chan & Drasgow, 2001)

Research Objectives and Hypotheses

Based on the implications of the strategic approach to improving school leadership effectiveness, this study was conducted to examine the relationship between strategic thinking skills and motivation to lead among school teachers. In addition, the predictor factor in determining the level of motivation to lead was also discussed as an important empirical evidence for the members of the education organization, in general, and all stakeholders to make the national education transformation plan successful. The null hypotheses generated and tested are as follows:

Ho1: There is no significant relationship between strategic thinking skills and motivation to lead among school teachers.

Ho2: The dimensions of strategic thinking skills have no significant effect on motivation to lead among school teachers.

RESEARCH METHODOLOGY

Research Design

Generally, this study was a cross-sectional approach survey using quantitative data collection through a questionnaire distributed to study sample of teachers in selected schools. The data collection procedure began with a letter of approval from the Ministry of Education Malaysia which was then forwarded to the Director of the local Department of Education for data collection approval.

Sampling Technique

The target population of this study was teachers who teach in national primary (SK) and secondary (SMK) schools in the northern part of Peninsular Malaysia. A total of 456 respondents from 40 schools of urban and rural locations were involved in the study. Samples were selected using a stratified random sampling method based on the recommendations of Cohen, Manion and Marrison (2011) and Chua (2006). The participation of the study respondents was based on voluntary participation.

Research Instruments

The instruments used in this study were Strategic Thinking Questionnaire (STQ) (Pisapia et al., 2011), and Motivation to Lead Questionnaire (MTLQ) (Chan & Drasgow, 2001). Both questionnaires were translated from English to Malay (Bahasa Melayu) using standard back translation procedures as suggested by Creswell (2012, 2014). The translated version of the questionnaires were validated through the validation and pilot review process before the actual study was conducted. All items are arranged on 7 points Likert Scale ranging from "strongly disagree" to "strongly agree". Respondents' demographic information was also collected without personal identification information to ensure the confidentiality of each respondent.

Strategic Thinking Questionnaire (STQ)

The STQ is 18 items instruments that measures strategic thinking skills which was constructed based on three

dimensions namely re-framing, reflection and systems thinking. Reliability analysis of this questionnaire established a high alpha Cronbach value ranged from 0.84 to 0.92 for all three dimensions.

Motivation to Lead Questionnaire (MTLQ)

The MTLQ was used to assess leadership motivation among participants which consists of 27 items. There are three main dimensions that are measured namely affective, normative and non-calculative. The internal reliability (Alpha-Cronbach's value) of this scale has ranged from 0.719 to 0.866 for all three dimensions.

Respondents' Profile

A total of 500 sets of questionnaires were distributed to teachers in 40 schools around the northern zone of Peninsular Malaysia and 484 sets were returned. However, only 456 questionnaires were found to be complete for analysis and were analysed according to various demographic characteristics. The data obtained were summarized to explain the profile of the study respondents. Table 1 shows the distribution of respondents' demographic characteristics in this study. According to the table, 219 (48.0%) respondents represented the secondary school (SMK) while 237 (52.0%) respondents represented the primary school (SK) category. The distribution of respondents based on school location indicated that the school in the city dominated the category of school location. A total of 255 respondents (55.9%) were employed in urban schools while 201 respondents (44.1%) were employed in rural schools. Meanwhile, in terms of gender, however, it was found that the number of female respondents surpassed the number of male respondents. Male respondents were 105 (23.0%) compared to 351 female respondents (77.0%). In addition, the findings also showed that 21 (4.6%) respondents were between 20 and 29 years old, 147 (32.2%) were between 30 - 39 years old, 180 (39.5%) aged 40 to 49 while 50 and above were 108 (23.7%).

Table 1. Profile of Respondents Based on Demographic Characteristics Distribution (n = 456)

Demographic Characteristics	Frequency	Percentage
1. School Category		
Secondary	219	48.0
Primary	237	52.0
2. School Location		
Urban	255	55.9
Rural	201	44.1
3. Gender		
Male	105	23.0
Female	351	77.0
4. Age		
20 - 29 years old	21	4.6
30 - 39 years old	147	32.2
40 - 49 years old	180	39.5
50 years old and above	108	23.7
5. Teaching Experience		
1 - 10 years	98	21.5
11 - 20 years	148	32.5
21 - 30 years	185	40.6
More than 30 years	25	5.5
6. Academic Qualification		
PhD	1	0.2
Master	58	12.7
Bachelor	331	72.6
Dip/Certificate/STPM/	49	10.7

7. Teaching Qualification	STAM		
	SPM	17	3.7
	Bac of Edu Teaching College	25	5.5
	Bac of Edu Public University	69	15.1
8. Position	Dip of edu Teaching College	280	61.4
	Dip of Edu Public University	82	18.0
	Senior Assistant	29	6.4
	Field Head	34	7.5
9. Attended Leadership Course	Class Teacher	125	27.4
	Panitia Head	90	19.7
	Secretary	29	6.4
	Regular Teacher	149	32.7
	Yes	276	60.5
	No	180	39.5

The distribution of respondents in terms of teaching experience revealed that 98 (21.5%) had less than 10 years teaching experience. The total number of experienced respondents taught more than 10 years each are as follows: 148 (32.5%) experienced between 11 - 20 years old, 185 (40.6%) experienced between 21 - 30 years and 25 (5.5%) experienced more than 30 years. Reviewing the academic qualification aspect, the number of undergraduates dominated the respondents' overall academic qualification factors. One of the respondents was a Doctor of Philosophy holder (0.2%), 58 respondents (12.7%) had a Master's degree, 331 (72.6%) had a Bachelor's degree; 49 people (10.7%) had pre-university qualifications while 17 (3.7%) had at least a Malaysian Certificate of Education.

Meanwhile, the proportion of respondents according to their teaching qualifications recorded 25 respondents (5.5%) having a Bachelor's Degree in Education from the Teaching College, 69 respondents (15.1%) having a Bachelor's Degree in Education from the Public University, 280 having a Diploma in Education from the Teaching College while the remaining 82 respondents (18.0%) had a teaching qualification from the Public University. Respondents' profiles also included positions and experiences attending courses or programs related to leadership. Data analysis showed that 29 respondents (6.4%) were senior assistants, 34 respondents (7.5%) were the head of the field, 125 respondents (27.4%) were classroom teachers, the panitia heads were 90 respondents (19.7%), 29 respondents (6.4%) were the secretary of the school-level committee while regular teachers made up 149 respondents (32.7%). The data also showed that 276 respondents (60.5%) had attended the leadership course while 184 respondents (39.5%) had never attended the course.

RESULTS

Level of Strategic thinking skills

Overall, the school teachers' strategic thinking skills level was relatively high (M = 4.57, SD = 0.55). However, the level of strategic thinking skills in the SMK category schools (M = 4.58, SD = 0.57) was higher than the level of strategic thinking skills in the SK category schools (M = 4.56, SD = 0.53). An analysis of the dimensions of strategic thinking skills found that the dimension for systems thinking (M = 4.81, SD = 0.72) were higher than the mean for reflection dimension (M = 4.63, SD = 0.74) and the dimension for re-framing (M = 4.13, SD = 0.79).

Table 2. Level of Strategic Thinking Skills by School Category

Variables	Overall (n=456)		Category secondary (n=219)		Category primary (n=237)	
	Mean	SD	Mean	SD	Mean	SD
Strategic Thinking Skills	4.57	.55	4.58	.57	4.56	.53
Reflection	4.63	.74	4.68	.78	4.59	.69
Systems Thinking	4.81	.72	4.84	.74	4.78	.69
Re-framing	4.13	.79	4.08	.84	4.17	.73

Level of Motivation to Lead

In summary, the results of the descriptive analysis showed that the mainstream school teachers as a whole have shown a relatively moderate level of motivation to lead. (M = 4.22, SD = 0.58). When examined the descriptive analysis of motivation to lead dimensions, in more detail, both categories showed a relatively higher level in social normative dimension than the other dimensions. However, the social normative dimension in the SK category (M = 4.51, SD = 0.79) was higher than the social normative dimension in the SMK category (M = 4.48, SD = 0.84).

Table 3. Level of motivation to Lead by School Category

Variables	Overall (n=456)		Category SMK (n=219)		Category SK (n=237)	
	Mean	SD	Mean	SD	Mean	SD
Motivation to Lead	4.22	.58	4.17	.59	4.27	.55
Affective Identity	4.15	.59	4.12	.61	4.17	.58
Non calculative	4.05	.80	3.95	.82	4.14	.77
Social Normative	4.48	.84	4.44	.87	4.51	.79

Relationship between Strategic Thinking Skills and Motivation to Lead

The result of the Pearson correlation test showed that strategic thinking skills had a statistically significant positive relationship (r = .32, p <.01) with motivation to lead among school teachers. Based on this result, H₀₁ hypotheses is successfully rejected. Hence, this significantly positive relationship indicated that teachers with high level of strategic thinking skills exhibited high level of motivation to lead, while low level of strategic thinking skills exhibited low level of motivation to lead.

Table 4. Relationship between Strategic Thinking Skills and Motivation to Lead

	(1)	(2)
Strategic Thinking Skills (1)	1	.32**
Motivation to Lead (2)		1

**p<.01 (2 tailed)

Influence of Strategic Thinking Skills on Motivation to Lead

To determine whether the dimensions of strategic leadership were predictors of readiness for continuous quality improvement, Stepwise multiple regression tests were used. These tests were used to identify predictor factors for change of a dependent variable in a linear relationship. The result of the first-level analysis showed significantly that the predictor variable, namely strategic thinking skills were incorporated into the regression model at the level p < 0.05. This means that strategic thinking skills were a predictor of motivation to lead (β = .32, p <0.05). The R² of .10 indicated that as much as 10% (β = .32) change in the variable criteria, namely motivation to lead

was caused by changes in the predictor variables (strategic thinking skills), as shown in Table 5 below.

Table 5. Regression Analysis: The Influence of Strategic Thinking Skills on Motivation to Lead

Variable	B	Beta	R	R ²	Adj R ²	t	F	P
Strategic Thinking Skills	.33	.32	.32	.10	.10	7.10	50.37	.000

Default error: 0.55. Strategic thinking skills accounted for 10.0% of the motivation to lead variance.

In summary, strategic thinking skills were predictors of motivation to lead because the regression coefficient of strategic thinking skills (β = .32, p <0.05) was significant which indicated that these variables were factors or predictors of motivation to lead. This result successfully rejected the hypotheses (H₀₂) that were built. As for the dimensions of strategic thinking skills, the data analysis results showed that significantly two (2) out of three (3) predictors, the systems thinking (β = .27, p <0.05) and re-framing (β = .13), p <0.05), were included in the regression model at p <0.05. This means that only two (1) predictor variables were factors for motivation to lead [F (1, 454) = 26.75, p <0.05]. On the other hand, the dimension of reflection was not a predictor of motivation to lead among school teachers. Table 6 below shows the result of the regression analysis obtained.

Table 6. Regression Analysis: The Influence of Strategic Thinking Skills Dimensions on Motivation to Lead

Dimension	Beta	T	P
Strategic Thinking Skills			
Reflection	.02	.40	.69
Systems Thinking	.28	4.67	.00
Re-framing	.13	2.82	.01
R ² Value			.106
R ² Adjusted Value			.102
F Value			26.745
p			.000

DISCUSSION

Basically this study examined the impact of strategic thinking skills on the motivation to lead among school teachers. Therefore, the existence of other factors that influenced the motivation of the school teachers' motivation to lead was not taken into account. As such, the results of the research analysis only focused on the skills of strategic thinking. However, this study does not conclude that mere strategic thinking skills alone influence school teachers' motivation to lead. This study also does not deny the existence of other factors that influence the motivation to lead among school teachers.

Level of Strategic Thinking Skills

The high level of strategic thinking skills showed that teachers in mainstream schools were constantly emphasizing the need for thinking approach in order to implement MEB (2013 - 2025). The plan outlined 11 strategic shifts demanding sustainability of strategic approaches capable of translating implementation strategies into actions that enhance the quality of education in schools. Indeed, this finding has proven that strategic thinking skills practiced in schools could reach and mobilizing all members of the school organization to work together to realize the objectives of MEB (2013 - 2025).

The high level of strategic thinking skills is also in line with the suggestions of scholars in the field of school improvement in facing the challenges of globalization in the 21st century. (Davies, 2006; Davies & Davies, 2004; 2009; Eacott, 2008; Ronquillo, 2011). Organizational capabilities and individual characteristics demonstrated by school teachers have set strong collaborative norms and strategic communication which were needed to drive school vision and mission (Davies & Davies, 2009). Strategic leadership relationships (Kouzes & Posner, 2003) will further lead to a review of the strategies and frameworks in progress.

Level of Motivation to Lead

The result of the statistical data analysis found that the level of motivation to lead among school teachers as a whole was relatively high. When examined in detail, it was found that motivation to lead among SK category teachers showed the highest level of leadership motivation ($M = 4.27$, $SD = 0.55$) compared to the SMK category ($M = 4.17$, $SD = 0.59$). Analysis of the motivation to lead dimensions also showed a high mean score with mean values of 4.15 (relatively high level) for affective identity dimension, 4.05 (relatively high level) for non-calculative dimension and 4.48 (relatively high level) for social normative dimension.

The results of the statistical data analysis revealed that the level of motivation to lead among SMK school teachers as a whole was lower than that of SK school teachers. This was due to the fact that there were three dimensions of variables for motivation to lead whereby each had individual characteristics with a tendency to lead differently. The level of motivation to lead among teachers was highest for the social normative dimension followed by the non-calculative dimension and the lowest was the affective identity. This indicated that an individual was motivated to become a leader by social and normative reasons, such as a sense of commitment to the group, or a duty to a particular norm in his or her environment. This finding is in line with Ying, Catano and Hui (2010) who asserted that individuals with high social normative motivation are expected to play a leadership role in long-term group projects.

Relationship between Strategic Thinking Skills and Leadership Motivation

The importance of strategic thinking skills among school teachers in influencing motivation to lead was evident from the results of the study. Improvements in strategic thinking skills were found to increase motivation to lead primarily in affective identity and social normative aspects. This positive relationship showed that high strategic thinking skills have a high level of motivation to lead, while low strategic thinking skills showed low levels of motivation to lead. The results of this analysis are in line with Pang and Pisapia (2012) who stated that the key aspects identified in driving leadership effectiveness are factors in strategic approach. Pisapia (2009) strongly advocated the direct development of strategic thinking skills in the early stages of the formation of a leadership profile towards enhancing the organization's highest management team. Therefore, the findings of this analysis will enable management to accept without prejudice that the transformation of leadership in organizational management and readiness into leadership skills development depends directly on the style of approach and strategic thinking of the management organization.

Influence of Strategic Thinking Skills on Teacher Leadership Motivation

The results of the analysis significantly showed that predictor variables, namely the level of strategic thinking skills, were included in the regression model at $p < .05$. This means that strategic thinking skills were predictors of motivation to lead ($\beta = .32$, $p < 0.05$). R^2 value of .10 indicated that as much as 10% ($r = .32$) of the change in the criterion variable, that was motivation to lead, was due to the change in predictor variables namely

strategic thinking skills. The analysis of this study is in line with Ovretveit's (2005) statement that effective leadership practices in effective management and strategic planning can be seen as a major contributor to quality improvement in an organization. Therefore, it is clear here that strategic thinking skills when practiced effectively can boost increased readiness to enhance leadership skills and thus enhance motivation to lead among school teachers and increase school excellence.

As for the dimensions of strategic thinking skills, the data analysis results showed that significantly only two (2) of the three (3) predictor variables, namely systems thinking ($\beta = .28$, $p < 0.05$) and re-framing ($\beta = .13$, $p < 0.05$) were included in the regression model at $p < 0.05$. This means that only two (2) predictor variables were factors contributing to motivation to lead [$F(2, 453) = 26.745$, $p < 0.05$]. On the other hand, the dimension of reflection was not a predictor factor in school teachers' motivation to lead. This analysis is in line with the statements of Marrewijk (2010) and Wong (2018) who suggested that strategic systems thinking orientation is fundamental in developing dynamic leadership strategies in a certain order, enhancing organizational efficiency, and creating a genuine rhythm to organizational dynamics. By using this theory one can understand the nature and systemic constraints of the organization, revealing the basic features of establishing a plan of action towards sustainable performance improvement and development of thinking and leadership competencies. It can therefore be concluded that strategic systems thinking orientation if implemented effectively can boost continuous improvement in leadership skills and enhance organizational competitiveness and sustainability.

The findings also showed that there was a significant relationship between strategic thinking skills and motivation to lead among school teachers. There were two dimensions of strategic thinking skills, systems thinking and re-framing that have a significant relationship with motivation to lead. Both of these dimensions were also predictive factors for motivation to lead among school teachers. The findings of this study are in line with Jelenc and Pisapia (2015), and Pang and Pisapia (2012) who stated that the key aspects identified in driving leadership effectiveness are the factors of strategic approach. Pisapia (2009) and Pisapia et al. (2011) strongly advocated the development of direct strategic thinking skills in the early stages of establishing a leadership profile towards enhancing the organization's highest management team.

CONCLUSION

The results of this study are expected to contribute to the implementation of the PPPM (2013 - 2025) in line with the National Transformation Plan and the Economic Transformation Plan (PTE) and to make a significant impact on aspects of school leadership and community acclimation; and the nation that focuses on improving the quality of school leadership. This study will also help to identify key dimensions of strategic thinking that influence motivation to lead and further highlight interventions for school-based leadership and strategic management processes that can serve as a guide for school leaders in implementing a quality and economical work culture. Thus, the findings of this study will enable the management to accept without prejudice that the transformation of leadership in organizational management and readiness into leadership skills development depends directly on the style and approach of strategic management thinking of organizational management. Therefore, it is hoped that school administrators will be able to provide appropriate development program (Banu Ramanan & Mua'azam Mohamad, 2020) which focus on the aspects of strategic thinking skills and motivation to lead among school teachers. Furthermore school management should practice the strategic approach to develop strategic skills among members of the

school organization (Hairuddin Mohd Ali, 2012; Hairuddin Mohd Ali & Inas Zulkipli, 2019). It is hoped that this study will serve as a source of reference and information for those who will continue their struggle as researchers in the field of education management and training in the future.

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