



**LEADERS' INNOVATIVE PROBLEM-SOLVING
STYLES AMONG PARTICIPANTS OF THE NATIONAL
PRINCIPALSHIP QUALIFICATION FOR
EDUCATIONAL LEADERS (NPQEL) PROGRAM**

BY

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ABSTRACT

This study primarily aims to understand educational leaders' innovative problem-solving styles among participants of the National Principalship Qualification for Educational Leaders (NPQEL) program. Firstly, it aims to explore their perceptions of the changes that are happening in education and how they cope with the changes. Finally, it seeks to examine factors that influence innovative problem-solving styles and validate the model of innovative leadership. The respondents consisted of nine school principals who have been nominated for innovative leader award and two cohorts of National Principalship Qualification for Educational Leaders (NPQEL) program. The data was collected through a mixed method approach: semi-structured questions and questionnaires. Interview transcripts are analysed and emerging themes were clustered with several topics. Data from the Questionnaires were analysed using Principal Component Analysis and Confirmatory Factor Analysis to confirm the model fit. Finally, data was calculated for reliability and validity using discriminant validity test. The key findings showed that participants' perceptions of the changes were positive and they accept the fact that changes are important for improvements. Secondly, participants cope with the changes by learning new skills, creating experts teams and utilising the stakeholders. Thirdly, among the traits associated with innovative behaviour include self-confidence, boldness, perseverance, problem-solver, think-outside-the-box attitude, interaction with teachers, gradual implementation of innovative projects and principal as catalyst for change. Overall, the findings from this investigation can be utilised to measure innovative problem-solving styles among Malaysian school leaders.

ملخص البحث

يهدف البحث إلى فهم الأساليب الإبداعية لحل المشكلات التي يتخذها القادة التربويون وهم يشاركون في برنامج التأهيل القيادي للمديرين. ويهدف البحث في أول الأمر إلى الكشف عن وجهة أنظارهم نحو التغيرات التي تطرأ على مجال التربية وكيف يتأقلمون بها. وفي النهاية يختبر الباحث العوامل التي تؤثر في الأساليب الإبداعية لحل المشكلات. فالباحث إذن يستعين بكلا المنهجين النوعي والمنهج الكمي. أولاً، فإن المستطلعين يتكونون من المديرين من تسع مدارس الذين قد رشحوا لجائزة القادة الإبداعيين حيث تم إجراء المقابلات معهم، وتم اختيار دفعتين من المشاركين في برنامج التأهيل القيادي للمديرين بوصفهم المستطلعين للبحث. فالبيانات لهذا البحث تم جمعها عبر المنهج المختلط وهي مزيج من المقابلات شبه المخططة والاستبانة. وتم تحليل نصوص المقابلات واستخلاص المحاور مع ما تتضمنها من الموضوعات. وأما البيانات من الاستبانة فقد تم تحليلها باستخدام تحليل الأجزاء الرئيسية (بي سي ايه) وتحليل العوامل التأكيدية (سي إف ايه) وذلك للتأكد من صلاحية النموذج. وأخيراً تم التأكد من صدق البيانات وصدقها عن طريق اختبار الصدق المتباين. وأهم ما توصل إليه الباحث هو أن وجهة أنظار المشاركين إيجابية وهم يتقبلون أن التغيرات لها أهميتها لغرض التحسين. وثانياً، يتأقلم المشاركون بالتغيرات بأن يتعلموا مهارات جديدة، تكوين المجموعات المختصة والاستعانة بمن له مصلحة في المجال. وثالثاً، من السمات التي يتميز بها السلوك الإبداعي : الثقة بالنفس والجرأة، والمتابعة، محاولة حل المشكلات، التفكير خارج النطاق، التفاعل مع المدرسين، والتطبيق التدريجي للمشروعات الإبداعية، والمديرون بوصفهم المشجعين إلى التغيير. والنتيجة أن ما توصل إليه هذا البحث يمكن أن يزود برنامج التقييم بأدلة واسعة خصوصاً في تدريب مديري المدارس، وهو كذلك يمكن أن يضيف الجديد في ما يتعلق بأساليب حل المشكلات.

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DECLARATION

I hereby declare that the findings of this thesis are the product of my research efforts. I also declare that it has not been previously or concurrently submitted as whole for any other degree at IIUM or other institutions.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF STUDY

This thesis is an exploration into leadership innovative problem-solving styles and the changes that happen within Malaysian education setting. The idea for this study came at the time when the Malaysian Ministry of Education (MOE) encouraged school leaders to display creative and innovative behaviors. Many school leaders were unclear of the concept and the way to emulate the characteristic of an innovative leader. Evidently, school principals are generally used to changes in the education system and are perhaps suspicious of any new policies that the authority has implemented. This is because Malaysian schools today are faced with many challenges and issues, which include policy inconsistencies and new approaches to classroom teaching and assessment. In addition to managing the school, one has to juggle with various managing issues like students' disciplines, teachers' working styles, organization's budget, complaining parents and other petty tasks. Thus, it is vital that school principals equip themselves with the right tools and skills in order to manage a school.

When comparing the schools' environment 20 years ago and the schools of today, it is noticeable that there are various levels of changes that have taken place for example: the use of technology in schools, the shift to English (then back to Malay) as medium of instruction in science and mathematic subject and new approach to assessment for year 6 and Form 3. Today, schools environment has changed and a good principal must realize that in order to face the challenges, they must equip

themselves with new competencies. School principals carry substantial responsibilities and new roles to be able to manage the schools. New skills are created and need to be taught and learned. This is when the role of school leaders is crucial in that he or she will be the catalyst for change towards the students, teachers and school as a whole.

Therefore, when a teacher is promoted to be a principal, it is usually assumed that the principal is knowledgeable in managing the school well. The principal is also expected to lead academic staff in the curriculum and technical aspects of the teaching and learning. Basically, a principal must be experienced in managing schools. With years of experience, the tacit knowledge he has gathered when he was a senior teacher helps in making decisions. Nevertheless, not all principals are excellent in managing schools. There are many examples of principals who have brought their schools to excellence and there are also principals who only “administer” their schools (Leithwood, 2007). Many excellent principals are praised on their achievement and are categorized as innovative principals. Thus, this study will look at this phenomenon and recommend to the Ministry of Education (MOE) on ways to measure how principals solve problems in an innovative way. Furthermore, this study will also recommend to low-achieving principals several strategies on innovative problem solving styles.

Therefore, the researcher believes that a comprehensive study should be done to examine how leaders solve problems in an innovative way. These strategies in turn can be applied by struggling principals to improve and excel at their own schools. To be able to understand how to be an innovative leader is the key to achieve excellence for the school and so as to be able to understand and manage change. Change occurs all the time especially in the education system. To resist change would likely create an unproductive effects to the environment and this is detrimental in the progress of the school. To persuade oneself and others to accept the changes and find different

strategies to solve problems in school is a part of the process of an innovative principal. Thus, it is important that principals know how to be innovative and competent in facing the problems at schools. This is fundamental in the managing of schools.

If we look at the differences between the concept of innovation and creativity, there exists a general confusion between the two. There are distinctive differences between creativity and innovation. Ahmed and Sheppard (2010) define creativity as, “the ability to consistently produce different and valuable results. A vital component in the production of valuable outcomes is a discipline process that helps to channel creativity and keep it focused to achieve results” (p. 43). They further argue that one of the most important contributors to individual creativity in organizations is the sense of confidence in his or her creative abilities. When we are confident, then changes become a challenge. In addition, they suggested the characteristics of a creative person would include: Possess intellectual interest and artistic values, attracted to complexity, concern with work and achievement, perseverance, independence of judgment, tolerance of ambiguity, need for autonomy, self-confident and orientation towards risk-taking.

Meanwhile, Puccio, Mance and Murdock (2012) describe creative leadership as:

The ability to deliberately engage one’s imagination to define and guide a group towards a novel goal; a direction that is new for the group. As a consequence of bringing about this creative change, creative leaders have a profoundly positive influence on their context (workplace, community, school, family) and the individuals in that situation. (p. 28)

If creativity is the process of novel ideas, innovation is the process of actually putting them in practice. In its simplest form innovation “focuses on the use of resources (people, time and money) to invent or develop a new product, service, new way of doing things, new way of thinking about things” (Ahmed and Sheppard, 2010,

p. 5). While creativity is happening at a cognitive level, innovation is the extension and involves the process of implementing creativity in organizations. Tushman and Nadler (1996) define innovation as, “creating any product, service or process which is new to the business unit” (p. 43). They argue that innovation is a social process arising from the delivery of increased value to customers. It may arise from many sources including technology. A focus on the customer and his values is the key to success.

Sufean Husain (2002) defines innovation as, “renewal, modification of idea/thing/knowledge and art creation enhancement to fulfill certain requirement” (p. 67). He argues that innovation happens in two stages: individual stage and organizational stage. In the former stage, the individual takes an active role in collecting information and builds on that to improve the idea while in the latter stage the organization moves as an entity to improve on several ideas or procedures. The management guru (Drucker, 1986) states that, “innovation is the specific tool of entrepreneurs, the means by which they exploit changes as an opportunity” (p. 56).

Meanwhile, Dutin (2009) defines innovation as, “an idea or practice that reflects an emergence trend and offers an optimistic alternative for current situation of dissatisfaction” (p. 40). In Dutin’s (2009) own study of an innovative school, she discovered that there were three ways to cope with organizational restrictions: setting organizational goals, finding new ways to solve problems and creating a team. This clearly illustrated the need for concerted efforts to achieve innovative and more on the leadership part to play. It is crucial for the subordinate to realize that the success of any group dynamic is the co-operation of the member of the goals and how to achieve them.

1.2 THE MEANING OF CHANGE AND INNOVATION IN AN ORGANIZATION

Fullan (2007) argues that there are many cases where innovations failed in schools. He asserts that change is best described as:

Non-linear, loaded with uncertainty and sometimes perverse. If change involves implementing single, well developed, proven innovation one at the time, perhaps it could be blueprinted. But school districts and school are in the business of implementing a bewildering array of multiple innovations and policies simultaneously. (p. 24)

Mort as cited in Ball, (1993, p. 64) study on the process of change shows that:

1. The best single predictor for school innovativeness is educational cost per pupil.
2. A considerable time lag is required for the widespread adoption of new educational ideas.
3. The pattern of adoption of an educational idea over time approaches an S-shaped curve. At first only a few innovator schools adopts the idea, then the majority decides that the new idea is desirable and finally the adopter curve levels off as the last remaining schools adopt.

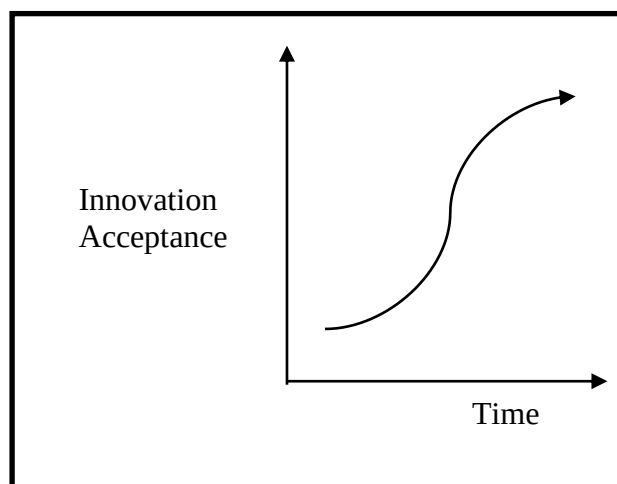


Figure 1.1 Development of Innovation acceptance over time.
Source: Mort (1930, p. 89)

This notion of the time factor is repeated in Bishop's (1986, p. 56) process of planned change. He argues that any process of innovation involves 4 major factors:

1. The change agent-the person or group who usually have the authority to implement innovation. He or she decides upon and initiates the innovation or educational change.
2. The innovation itself- the product or process that is used to do thing differently.
3. The User – the person or group at which the innovation is targeted.
4. Time- the duration that it takes for it to be successful and accepted.

This idea of the phases of technology diffusion is further discussed in Rogers (2010) in that he defines diffusion as the process by which 1) an innovation 2) is communicated through a channel 3) over time 4) among the members of social system. The implementation of this process, according to Rogers is not easy as it takes time and acceptance.

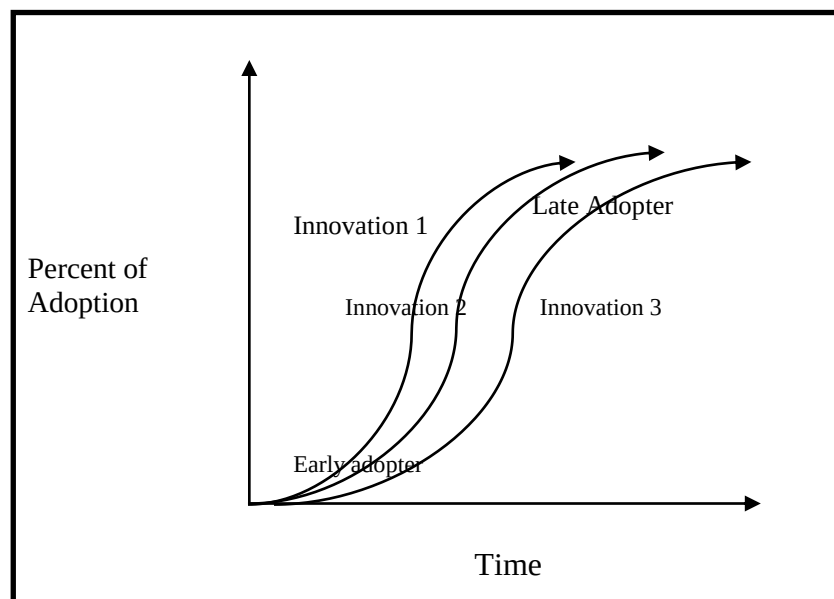


Figure 1.2 Innovative Diffusion Process
Source: Rogers (2010, p. 56)

Rogers (1995) augmented Mort's (1930) argument in that any new idea or innovation will take time to be accepted by the public but added another dimension to the equation; societal values and culture. In many examples, one of the pivotal factors that play an important part in technology acceptance is the values and cultures that people have. This means that change can only be accepted when the public has value and culture that considers change is good and beneficial. When negative values are present, then change would be resisted. Nevertheless, innovation is likely to be accepted later when people apply the wait-and-see attitude and when they see that everybody is utilising the innovation.

Consequently, there exists a kind of perceptions among Malaysian schools leaders that the agent of change is the policy maker in the Ministry of Education and they are only the one who implement policies (Preliminary Report, PPPM, 2013). Most of the time, in Malaysian setting, schools are required to implement projects handed from the top officials. They are the front-liners or the people who make the policy works or vice-versa. Nevertheless, there are many schools leaders and teachers who are genuinely the agent of change and strive towards excellent and cope with changes in schools. Havelock and Hubermann (1986) explain:

It is important to understand that innovation is not adopted by people on the basis of intrinsic value of the innovation but rather on the basis of the adopter's perception of the changes they personally will be required to make. Those designing, administering and advising projects do not generally have to make very many changes themselves. It is others who will have to modify their behavior and very often in a rapid manner. This is an example of showing dangers of in cases where the innovator is separated from the public. (p. 303)

Thus, most of the time the Principals do not want to change his or her mindset but requires his or her subordinates to make the paradigm shift for the sake of the school (Vijayaamalar Gunarasa et al., 2013). Most school principals feel that they are

only the administrator and they are too old to learn new things. They will delegate the tasks to younger or more experienced teachers and monitor the development. This is what Havelock and Hubermann (1986) mean when they say the innovator is separated from the public. They further explicate on the four factors as being significant in determining the likely success or failure of innovative projects: Infrastructure, authority, consensus and resources.

Infrastructure relates to the procedural configurations the process involved in the various phases of the innovativeness. It is simply a system, which can identify correctly the needs and the problems that comes with it. Solutions are sought after the implementation is carried out. Next, authority is related to leadership values. A high level of leadership will ensure the implementation of projects. Consensus on the other hand means that the user of the innovation agrees with the objectives and the way it is being implemented. Finally, Resources means funds, materials, equipment, facilities and personnel that round off the success of the projects. Figure 1.3 below illustrates the profile of innovation based on Havelock and Hubermann (1996):

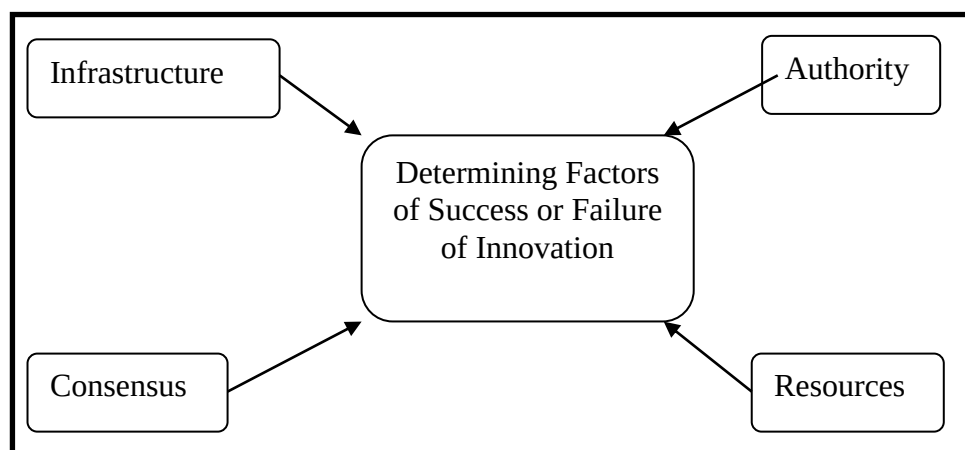


Figure 1.3 Profiles of Innovations
Source: Havelock and Huberman (1986, p. 89)

From the diagram above, Havelock and Huberman however only focus on the external factors but do not really look into the internal factors like values and cognitive process. This is at a macro level and nothing is discussed about the micro level or what is happening at the cognitive level. The question that begs an answer seems to be how does an innovator's mind work? What type of process is happening when an innovator tries to solve a problem? A handful of literature and theories on innovations are concerned with the external factors but pay less attention to the internal factors.

1.3 THE MALAYSIAN EDUCATIONAL EXPERIENCES

Malaysian education system has gone through many changes since the pre-independence days. When Malaysia was formed in 1963, the education system had already gone through a process of change and development in accordance with the nation's policies (Saedah Siraj, 1993). According to Rosnani Hashim (2004), education was more focused on the religious aspects of the Malays and knowledge were disseminated through 'madrasah' or 'pondok' (small huts or building) with syllabi which includes learning Arabic, memorizing the Al-Quran and the Muslim way of life. Then, the British colonial administration started to set up vernacular schools throughout the Malaya but it was seen as a threat to the Muslim way of life. A typical day in these schools would consist of learning the alphabets, reading and writing. Math and geography were included to equip students with essential skills. The Malay, Chinese and Tamil vernacular schools were separated from the English 'Free' schools where English is placed as an important language to communicate.

Consequently, the Barnes report in 1951 tried to create a dual education and suggested that only the Malay and English school would be established. The ethnic

Chinese and Tamil protested and looked at it as an attempt to assimilate their culture into a Malay or English culture. Due to this, another report by Fenn-Wu in 1951 tried to establish a more liberal education system where the cultures of the Chinese and Tamil would not be compromised. Subsequently, it was the Razak Report in 1956 that took on the unity of the different races as the basis in drawing up of the curriculum and afterwards The Rahman Talib Report in 1960 changed the educational landscape once again. It was noted that the government in 1979 ordered a study being done on the state of education in Malaysia and a report was created to outline several key issues that needed to be addressed. This 1979 Cabinet report was the turning point in Malaysian education system as it outlined few important key issues that would be resolved in years to come. Presently, the Educational Act 1996 is a base for Malaysian education. The point of this historical description is that Malaysian education system has gone through many changes in the curriculum according to the changes in society and political dimensions in the country (Rosnani Hashim, 2004).

According to Ginsburg and Lindsay (1995), these policy changes are in fact connected with power and how resources are distributed among the different cultures in the country. Educational changes on the other hand, are designed to deal with problems that the nation is going through and in a way is trying to deflect the problem from its real issue. It is a way of treating the symptoms and not the cause of the problems. Thus, we see many policies, which are based on the socio-political issues that see education as the main solution. One of the policies is the Innovative Policy that has been implemented since 1956. Due to the wave of globalization and the influence of English as the lingua franca of the world, the policy aims at creating well-rounded individuals who are equipped with the appropriate skills to face the world. Thus, we see the shift of emphasis to English in teaching science and mathematics has

taken place. This has also materialized in the National Curriculum or its *Kurikulum Bersatu Sekolah Menengah* (KBSM) (Sufean Husain. 2008).

Presently, Malaysian schools have seen many projects being implemented to improve the process of teaching and learning. One of the policies is the implementation of the Information and Communication Technology (ICT) projects in schools. It started in 1997 when a number of schools were declared Smart Schools and chosen to be in the pilot project. Then in 2008, the project was approved to be implemented in all government schools in stages. This was seen as an innovative move by the Ministry of Education and lauded by the world as a bold step towards an excellent education in Malaysia. Nevertheless, only a number of studies were done to examine the impact of these projects towards teachers who have to use computers in the classrooms. Teachers are compelled to follow the directive by the upper administration in the Ministry and do whatever they can to use computers in the classrooms. Nevertheless, we see that there were resistances to this change against their routine in the classroom. Thus, this aspect has been a focus in this study in which it will look into the changes in education and to understand the process of change and innovative problem solving among school principals in Malaysian schools.

The Smart School Project was first introduced in 1990 with the launch of 90 Pilot Schools. Planning has started since 1995 with the help of experts in the field. The Smart School Blueprint (2004) states the mission statement as, “To develop a world class quality education system which will realize the full potential of the individual and fulfill the aspirations of the Malaysian Nations (p. 12).

The Smart School Blueprint (2004) further draws a list of objectives for the Smart Schools. To:

1. Develop a loyal and united Malaysian nation

2. Produce citizens who believe in God, possess high moral standards, knowledge, competence and who are capable of achieving high personal well being.
3. Develop human resources for national development.
4. Provide access to education to all citizens of Malaysia. (p. 15)

As a result, smart schools were projected to produce a more technological literate, thinking workforce, able to perform in a global work environment and use the tools available in the information age. Traditional approaches to learning in schools would be transformed from the memory-based to one that is technology assisted learning. The smart school project is set as one of the flagship of the Multimedia Super Corridor (MSC), which is a national policy that consisted of development in infrastructure and education sector.

According to the plan, by 2010, all ten thousand Malaysian schools would be smart schools. Learning would be self-directed, individually paced, continual and reflective. Learning would shift from teacher-centered to student-centered. Among the key players in this project included the administrators, teachers and students. The school would be equipped with state of the art management system to cater for the day-to-day routines like attendance, examinations, students' academic development and communication with stakeholders. Teachers would be trained in the handling of the equipment and the materials to be used in the class. Classes will be connected with a network to facilitate faster access to the Internet. (The Smart School Blueprint, 2004)

Another project that has caught the world's attention was the teaching and learning of science and mathematics in English or the Malay acronym *Pengajaran dan Pembelajaran Sains dan Matematik dalam Bahasa Inggeris* (PPSMI). It was first

introduced by the then Prime Minister Tun Dr. Mahathir Mohammad in a special cabinet meeting on 19 July 2002. The implementation of this project was in stages starting from the first school session in 2003. The pilot project was the Year 1 and Form 1 students in primary and secondary schools. Consequently, the full implementation was in 2007 for secondary schools and 2008 for primary schools.

According to the Ministry's circular (2002) the rationale behind the implementation was that there was concern that students are not skillful enough especially in English to be integrated into the job markets. There was a need for these students to be able to compete with other nations with higher command of English. In addition, there was a general realization that science and mathematics are the basis for the development of a developed nation and this is through the medium of English. Many innovations and new discoveries are happening in the world, which are documented in English, and to have the ability to understand and synthesize this information would be a great asset to students. In general, the project would increase the learning of English among the students.

Subsequently in 2010, the Malaysian government launched another policy that was called The National Key Results Areas (NKRA). All ministries were assigned with Key Performance Indicators (KPI) and were evaluated in a period of time to see whether they could be achieved. This was lauded as an excellent strategy to set tangible indicators to measure performance.

In the education sector, this was manifested in the launch of sub NKRA:

1. Sub NKRA 1 – Pre-School
2. Sub NKRA 2 – Year One Literacy and Numeric Skills (LINUS Project)
3. Sub NKRA 3 – High Performance Schools
4. Sub NKRA 4 – School Leaders' Assessment