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An Exploratory Study of the Factors affecting Teachers' Perceptions of Incentives in the Malaysian Education Context

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Abstract

Malaysia is in the beginning stages of a widespread education reform. Part of this reform includes looking at how we can motivate and reward teachers to produce excellent outcomes in schools. The topic of incentives in education is an under-researched area, and there has been remarkably little research published which focuses on teachers' perceptions in this area. In addition, research discussing the education reform in Malaysia is still in its infancy.

This paper will design a research study to explore teachers' perceptions of the current incentives provided in the Malaysian state school system. The results of this study will form recommendations for the Malaysian government when redesigning the incentive agenda in all state schools. A mixed methods approach will first learn about and explore the views of teachers from a qualitative perspective. This will lead into the design of the quantitative research, in the form of a questionnaire, given to a wider audience. Research will take place at ten Trust schools, who are working on various reforms in a pilot programme.

Introduction

Malaysia is in the midst of a wide sweeping education reform of its state schools. A range of incentives for teachers were trialled, rather haphazardly, over the past fifteen years in Malaysian schools with an insufficient research basis and little evaluation of their impact on schools (Yap, *pers. comm*., 15th December, 2010).

Motivating teachers to participate in the ongoing reform process is a clear and critical issue (Adams & Kirst 1999; Evans 2000). Incentives that tap into both the intrinsic and extrinsic motivation of these teachers will be crucial if the reform is to be successful.

The purpose of this study is to determine what perceptions teachers in the Malaysian state school context have of the current incentives available to them. The design of the study will take place over one academic year. The results will feed into a larger-scale project, which is a review and improvement of the current incentives for teachers in Malaysia.

This is a two-phase, sequential mixed methods study. The study mixes and matches philosophical assumptions ultimately taking a pragmatic philosophical position (Greene &

Caracelli 1997). This study assumes a variety of quantitative and qualitative methods with no measured scrutiny of epistemology. Instead, it capitalizes on the quantity of data researchers will secure, which will improve the final evaluation (Willenbring & Spicer 1991 cited in Greene & Caracelli 1997).

Priority refers to whether the qualitative or quantitative research is given emphasis (Creswell, 2003). In this case, because of the audience for the study, the Malaysian government, emphasis is on the quantitative part of the study. The goal of the first part of the research is to understand the participants' point of view and attitudes towards this issue. In addition, researchers will establish and refine the possible questions and the content and construct validity, of the larger quantitative part of the research. The final analysis will use data gained from both the qualitative and quantitative research.

The following research questions will guide the first part of the study:

1. What are teachers' perceptions of the current incentives?
2. How motivated are teachers to take advantage of the incentives?
3. To what extent do teachers feel the incentives are fair and achievable?

The results of the qualitative phase will help determine research questions in the quantitative phase but will include:

1. How do the quantitative findings help explain the initial qualitative results and vice versa.

This study will take place because there is a critical lack of research in this area. This significant gap means we do not fully understand the attitudes of teachers in Malaysia towards the current incentives. The basic logic of employing mixed methods in this research produce a richer, more relevant scrutiny into the phenomena by cultivating substantial insights that mirror a broad array of viewpoints (Greene & Caracelli 1997). The initial collection of qualitative data is because tools are not currently available to measure the constructs and theory of this context. The qualitative data will provide insights into the context and culture of the current incentive programme by acquiring teachers' evaluative, personal and affective experiences (Abelson 1979). This will aid with the design of an effective survey for a stratified group of Trust schoolteachers.

Motivation is a vital element of this research as we determine which incentives are working and which are not, from teachers' point of view. Vroom's expectancy theory (1964), Locke's goal-setting theory (1968) and Hertzberg's (1957) motivation-hygiene theory will support this research proposal.

Background

Ten schools in Malaysia are Trust schools working with Khazanah Nasional, one of the largest companies in Malaysia, to reform their education practices. The purpose of the Trust school project is for private enterprise to aid in the school improvement process of state schools.

These schools represent a cross-section of typical Malaysian state schools and include high, middle and low performing schools. The location of these schools is in Kuching and Johor Bahru provinces. The schools are a range of sizes and include primary, secondary, city, rural and boarding schools.

Teachers working in high, medium and low performing schools have remarkably different needs. Bespoke incentives must be available to teachers in these schools. Researchers will explore whether the current incentives meet the needs of teachers in these different types of schools.

Literature Review

Research suggests that a variety of incentives should be available for the various stages of teachers' careers. A World Bank evaluation corroborates the value of incentives towards improving teacher quality (Vegas & Umansky 2005). In addition, a 2004 study states, "A broader systemic approach is needed to enhance the quality of teachers and teaching, one that considers new recruitment approaches, proper incentives, adequate resources and long term policy commitments" (World Bank p.17).

There are various types of teacher incentives including working conditions, instructional support and financial (Kemmerer 1997). Financial incentives include monetary, in-kind support, benefits and bonuses. Instructional Support, alternatively, comprises items like the provision of

supporting materials, continuing professional development (CPD) and career opportunities. Lastly, class size, health and safety conditions and provision of adequate breaks fall into the category of working conditions (Kemmerer 1997). We find all of these, in some form in the Malaysian context; however, it is not clear how systematic and transparent the implementation process is.

Financial benefit is rarely a motivation for teachers to enter the profession (Goodlad 1991). Incentives, therefore, must not only look at financial compensation but other areas that motivate and inspire exemplary practice. These rewards can include satisfaction from appreciation, discovering new skills, high achievement from students or self-growth (Tomlinson 2000; Odden 2000; Evans 2000).

School employees should have the opportunity for a career path in which rewards are available for demonstrated excellence that taps into both their intrinsic and extrinsic motivation. Firestone and Pennell (1993) argue that intrinsic rewards are extremely beneficial to teachers. Moreover, Horng (2009) found teachers stated that extrinsic factors such as school buildings, managerial support, resource availability, and travel time are all more powerful than higher pay. Research suggests that although additional financial reward matters to teachers, it may not be the most successful at drawing and retaining teachers.

Many argue that an improvement in the typical salary scales most education systems and institutions around the world employ are performance based scales. Only a few countries have formalized robust systems of performance-related pay in any sector and even fewer in the education sector (Organisation for Economic Co-operation and Development 2006). Sclafani & Tucker (2006) indicate that, in order for performance- related pay to be effective, three ideas must come into play.

1. It must be possible to measure the output linked to the performance whether at the individual or team level.
2. The outputs from individuals or teams must improve the overall organisational outputs.
3. The delivery of the rewards must be in a manner that takes advantage of its likely incentive value for prospective recipients.

Many question if it is possible, in highly complex organisations such as schools, to develop fair evaluation systems linked to performance pay (Greenberg 2003; Corby & White 1999). Other concerns are that incentives linked to subject areas or exam results will narrow

the curriculum and that collaboration among teachers will suffer (Sclafani & Tucker 2006).

There is a variety of different performance models. Based on data such as student performance and lesson observations, merit pay is a form of financial reward given (McCollum 2001). Odden (2000) describes the knowledge and skill-based compensation as increased remuneration granted to teachers who earn further credentials, which supposes that these further develop teachers' abilities. Built on student performance, school-based compensation entails group based financial rewards (Odden & Kelley 2002). Research now clearly shows that performance based pay can increase collegiality between teachers by providing incentives aimed at building cooperation with each other, especially if it is group based. (Solomon & Podgursky 2001).

Figure 1 shows typical models of performance-based rewards. Positive effects on student achievement, have also been noted when incentives are provided for school staff, according to Odden and Kelly's research (2002). When complemented with ongoing professional development, the support of the Principal, precise and consistent recounting of student achievement, and sound feedback procedures these methods are immensely successful (Adam & Kirst 1999). When linked with clear evaluation and when sensitively planned, performance based procedures can be highly successful (Lazear 2001).

Typical Models of Performance-Based Rewards (Figure 1)

Characteristic	Knowledge and Skill-Based Pay	Merit-Pay	School-based
Recipient	Individual teachers	Individual teachers	Schools, who may have the discretion to distribute to employees
Scope	All teachers who can demonstrate the skills and knowledge are rewarded.	Mixed. Some programmes provide universal rewards, others are limited by quotas.	Mixed. Some programmes provide universal rewards, others are limited by quotas.
Compensation type	Mainly financial. Intrinsic rewards such as satisfaction from increasing student performance –may be regarded as a product of this system.	Financial	Mainly financial. Intrinsic rewards such as satisfaction from increasing student performance –may be regarded as a product of this system.

Areas evaluated	Specific skills and knowledge thought to be linked to improved performance. This maybe via additional qualifications.	A range of areas are assessed such as a portfolio of teacher performance, classroom observations, student performance.	Student performance is often used to evaluate schools – i.e. the exam results from one year to the next or absolute student achievement.
By whom	External review	A range of evaluators may include peer review, external review, Principal etc.	External review
Duration of the compensation	Short-term; generally requiring evidence that teachers maintain skills and knowledge.	Varied-most often annual.	Annual
Links to existing pay	Replaces the salary scale in full or in part.	Supplementary but can sometimes replace the salary scale.	Supplementary
Level of compensation	Ascending levels of rewards linked to increasing levels of knowledge and skills acquired	Mixed. Depends on the relationship to existing salary scales	One level of reward

Source: Harvey-Beavis 2003

Incentives in the Malaysian Context

Studies (e.g. Lee 1996; OECD, 2001) indicate that Malaysia offers a range of incentives intended to raise the status of and motivate its teachers; however, there is little significant research on the value of these incentives in the Malaysian context. Local experts, Yap, a government education advisor and Fitri and Ghana, university lecturers in the teacher education departments of a public and private university respectively, report that there is little systematic distribution or evaluation of incentive policies. This results in teachers not understanding or benefiting from many incentives. Any improvement in student achievement or teacher motivation is also unclear (pers*. comm*., 10th October 2010).

The incentives available for high, medium and low performing schoolteachers are quite different. For example, there is a variety of whole school incentives such as the Government Transformation Programme (GTP). The GTP indicates that High Performing Schools (HPS) are eligible to receive incentives comprising of annual RM700 000 allocations per school, RM1000, and RM700 for Principals and teachers respectively. These schools have more autonomy in

decision-making than lower banded schools (Teo-education 2010); however, there are few eligible for the incentive. This brings in to question the equity and fairness of the incentive agendas.

Performance Based pay incentives are also available. Principals who achieve their school Key Performance Indicators (KPI) targets will receive a cash incentive of RM7, 500. In addition, the top five per cent of teachers in those schools will receive RM1, 800 and the other teachers, RM 900 based on their performance reviews. Principals and teachers who increase the academic performance of their students beyond the combined mark of 92% for secondary schools and 84% for primary schools are eligible to receive the award (Malaysian Mirror 2010). However, there is concern now that these types of rewards have resulted in an exam-focussed society where schools are 'teaching to the test' for a large part of the school year.

National, State and District level awards including Most Promising School and Best Environment are available. These have had various rewards attached to them from large cash sums to overseas trips. However, some were unsustainable because of their high costs. The Excellent School Awards introduced in the year 2008 for different categories of schools e.g. town schools, rural schools, interior schools awarded the school Principals with an overseas benchmark trip to countries like Australia, Italy, or Japan. In addition, every teacher and non-teaching staff in the school received RM500; however, this form of the award was not sustainable and such rewards are now unavailable (Fitri *pers. comm.,* December 15, 2010). Many incentives in Malaysia appear to have been haphazard in their implementation and are not consistently awarded bringing to question the effect on teachers' motivation and engagement with the incentives.

Another incentive available is teachers can become 'Excellent Teachers'. They must apply for these posts when advertised and then go through a review process including peer review and external inspections. Benefits for Excellent teachers holding the C Grade Post are as follows, housing allowance; maid allowance; house maintenance allowance; entertainment allowance; travel business class on domestic flights; travel first class on international flights (Yap, *pers. comm*., December 15th, 2010). While this appears to be an impressive award, teachers indicate that appraisals have been unfair and discriminatory (Fitri, *pers. comm*., January 10th, 2011).

According to the Economic Planning Unit, the New Deal or "The Bai'ah" for Principals and Head teachers that started in 2010 rewards them financially and non-financially for exceptional performance. Approximately 2% of Principals or Head teachers are eligible for the reward.

Determination of which teachers receive rewards is by a variety of improvement measures. Rewards are for value-added, making it possible for all Principals and head teachers to gain this reward.

Those Principals and head teachers in the bottom 10% of results will receive remedial training. In addition, 14,000 school Principals will obtain leadership training and programmes from the Aminuddin Baki Institute.

The government is investing RM160 million in this program over 2010-2012. Additionally, teachers will receive incentives under the New Deal including faster career promotion based on competencies and performance, instead of tenure, enhanced CPD and a new evaluation and performance management system (Economic Planning Unit 2010).

These appear to be a fairer and more equitable incentives, in that value added is judged making all eligible; however, it will be interesting to discover how teachers perceive the New Deal or if indeed they have all the information needed to assess its value.

Ongoing Professional Development is another form of incentive available. Adams and Kirst state, "Agents are motivated to change when their personal goals are aligned with change, when they are confident in their ability to change, and when the feel supported in attempting the change" (1999 p.484). Certainly, the scholarships available for state universities in Malaysia would help motivate those who strive to improve in the reform process through a higher education. The Ministry of Education also has a distant learning degree program from the local universities for teachers of the rural primary schools.

Teachers and Principals may engage in advanced studies, in three modes. They may receive full pay, with no scholarships to cover tuition; they may receive half pay, with scholarship given to cover tuition and other associated costs; or they receive direct scholarship offers from other institutions and have to ask permission from the relevant Ministry of Education department for approval. Decisions occur on a case-by-case basis (Fitri *pers. comm*., 15th November 2010). While, these types of incentives should help teachers to feel confident in the changes taking place it appears a difficult process to receive the incentive, deterring the majority.

In addition, there is an entitlement for all teachers to seven days per annum of training.

However, feedback suggests this to be of unsatisfactory quality and with a haphazard delivery (Ghana, *pers comm*. November 16th, 2010). Poor quality professional development could not only demoralise teachers but demotivate them in other areas of the educational reform having a detrimental effect of the schools.

Bennel (2004) indicates there are many incentives to recruit teachers to rural areas where many low performing schools are; however, there is limited research on their effectiveness. According to Malaysian educational consultant, Yap (*pers. comm*., December 15th, 2010) teachers in rural or interior schools receive a monetary incentive ranging from RM700-RM1500 per month on top of their salary and living or housing allowances. These schools are often very remote and have poor facilities deterring teachers who themselves have children from moving to such locations.

Although many incentives are in place in Malaysia, the awarding of them is inconsistent. In addition, there is a critical shortage of research into teachers' perceptions, motivations and the impact the incentives have. Motivation of teachers is a key issue to ensuring the incentive agendas in place are effective.

Motivation and Expectancy Theories

Motivation theory tries to enlighten us as to "how behaviour gets started, is energized, is sustained, is directed, is stopped and what kind of subjective reaction is present in the organism" (Jones 1959, cited by Lawler 1969 p. 427). In this study, we are examining whether the teachers' perceptions of incentives indicate they are motivating.

There is a large collection of research on motivation (e.g.-Keller 1993; McCrimmon 2008; Holcomb 2004). There are two types of motivation commonly discussed. The first type is extrinsic. Extrinsic motivation is rewards given by others and which satisfy lower-order needs. Another kind of motivation is intrinsic and comes from an accomplishment itself. Needs such as self-actualization and a sense of worth develop internally with these types of rewards (Deci & Ryan 1985). They result in employing and advancing an employee's skills and capabilities and therefore feelings of achievement (Ryan & Deci 2002).

Locke & Lantham (1990) show that employees motivate themselves by having

transparent goals and clear feedback. They also show that how difficult a goal is, has an impact on the motivation to accomplish the goal. Locke (1968) indicates that aiming for a goal provides a foundation for self-inspiration and motivation, which in turn improves performance. Locke also shows how having a difficult but specific goal can be motivating. This could be a vital process in the Malaysian reform as schools determine what steps need to occur to motivate teachers.

Vroom (1964), on the other hand, suggests that motivation of workers comes if they trust there is a correlation between effort and reward. Valence, instrumentality and expectancy are all valuable concepts that must work together in Vroom's theory. In his theory, Vroom indicates there is a link between two variables regarding an employee's motivation to work harder. The probability a person feels it is likely that putting a certain effort into a task will correspond in the granting a valued outcome is called 'effort-reward probability'. Two factors influence this, the probability that effort will determine work performance and the probability that work performance will produce a reward. Vroom (1964) calls these subjective probabilities 'expectancy' and 'instrumentality'.

The concept of the reward value, in the eyes of the receiver, is the other variable that is pertinent in this case. This proposes that these variables will this lead to more effective outcomes by the employee. As Lawler mentions "although most expectancy theories do not specify why certain outcomes have reward value, for the purpose of this study I would like to argue that the reward value of outcomes stems from their perceived ability to satisfy one or more needs. Specifically relevant here is the list of needs suggested by Maslow that includes security needs, social needs, esteem needs, and self-actualization needs" (Lawler 1969, p. 427).

Lawler (1969) indicates that to establish an individuals' motivation the 'effort-reward probability' and 'reward value' combine in a multiplicative manner. Therefore, no motivation will be available if either is in short supply or absent. For example, if a teacher values monetary bonus based on outcomes but does not perceive a connection between putting in more effort with students and receiving a bonus, then for her the bonus is not a motivator. A teacher may see the connection between the outcomes and bonuses, but it may not matter enough, or the amount of the bonus may be inadequate to motivate the teacher to change. Therefore, we can argue that a multiplicative blend of the rewards' importance and the apt 'effort- reward probability' is essential for a personal outcome or reward (Jones 1959 cited in Lawler, 1969).

Evans (2000, p. 173) in her research on teachers' motivation demonstrates that " the morale of school teachers and academics is the subject of concern, and negative job-related attitudes amongst these two groups of education professionals is attributed, in the main, to low salary, low status and, in particular, the impact of government reforms". This is especially pertinent in this study, as teachers' face numerous reforms. The government may not be being looked adequately at teachers' motivation and morale and how appropriate incentives may help this situation. This study will add to the research to support this area.

Many sources influence an individual's motivation (Hertzberg 1957; Vroom 1964; Locke 1968). Motivation-hygiene theory (Hertzberg 1957) says that we can positively influence motivation with responsibility, stimulating work and recognition. Intrinsic conditions of the job itself, such as gratitude, achievement, or self-growth create these positive motivations. On the other hand, hygiene factors are extrinsic. These are, in the main, related to the job environment and that may cause dissatisfaction if missing, for example, salary, and status or vacation time.

Sergiovanni 1967 (cited in Duttweiler 1986) replicated Hertzberg findings specifically with teachers and found that conditions related to their performance of the work its self was motivating while conditions related to the work environment accounted for the dissatisfaction.

McCrimmon (2008) suggests that according to Herzberg's theory, it is feasible to be satisfied in one's job although the working conditions remain inadequate and it is feasible to be satisfied by the working conditions although one is not highly motivated to deliver any additional effort. In fact, Herzberg's key idea is that his two types of factors are separate and not ends of the spectrum. Thus, it is essential to merge information related to a variety of varied results to establish each person's motivation (Lawler 1969). This is important in this study as we determine whether participants also agree that the two issues are separate as this would change the kids of incentives that might be most appreciated by teachers.

In this study, we want to investigate teachers' perceptions to determine if the current incentives in the Malaysian education context have a positive impact on teachers' motivation, as they alter a person's viewpoint regarding the probability that clear rewards emerge from giving greater amounts of effort. To aid in the achievement of incentives we want to investigate

if clear goals are set. We also want to explore which incentives are important to teachers and if these relate to Hertzberg's motivation-hygiene theory.

Deficiencies in the Literature Review

Past studies on incentives in education in a global context are overwhelmingly quantitative studies that explore the direct impact of incentives on student performance. They tend to overlook the teachers' attitudes and perceptions of these incentives and how these might influence the choices made available. This study will help to design better incentives in the future that support and empower teachers to improve student outcomes and keep teachers motivated about their work in schools.

Mixed methods research allows epistemological and ontological issues to complement and integrate with each other to a large degree as pragmatism surfaces when mixing quantitative and qualitative stances (Onwuegbuzie & Leech 2005; Bryman 2007). For example, in the first qualitative part of this research, we approach the research from an emotionalist point of view, digging deeply into the stories of the teachers. This allows us to see the world through their eyes, find out what matters to them and why. It allows flexibility not available with a quantitative approach. In the second part of the research, we shift gears and want to explore a larger scale, more generalisable phenomena. For this aspect, we choose a survey that is more guided and focussed on specific areas. In this lens, we see the world as more predictable and following an empirical sequence. Little qualitative or mixed method research into teacher incentives has taken place in international contexts; therefore, this research will add to this small, developing collection of research.

Greene & Caracelli find that mixed methods research causes readers to have a paradigm shift as we intentionally mix methodologies that "represent disparate philosophical paradigms and thus different or even conflicting assumptions about the nature of social phenomena and our claims to know them" (1997 p.6). In this study, the mixing of methodologies is apparent throughout to gain the most knowledge of the context to make appropriate recommendations for the incentive reform.

In addition, although there is a wealth of research available on what incentives are offered globally, there are few studies on the impact of these incentives or teachers' thoughts and motivations towards them.

Research Design

The researchers will use mixed methods for this study. As Creswell (2007) indicates mixed methods research should not simply collect data using both qualitative and quantitative methods, but should enable the two types to work together, so the overall research is stronger than using either approach separately. Drawing from both qualitative and quantitative assumptions, this research will first explore through qualitative work, teachers' perceptions to incentives. This piece of the research allows us to hear more about the context or story of the teachers and gain an understanding of their perceptions. It will then narrow the focus, so the wider quantitative study concentrates more precisely on the identified issues from the qualitative phase. As Figure 2 shows, the final analysis will use both sources of data.

Table 1 shows a time line for the study. The first phase will be a qualitative exploration of the teachers' perceptions by collecting semi-focused interview data from Trust schoolteachers at all of the schools. This study will be from an emotionalist standpoint that is trying to generate a greater insight into people's experiences.

Researchers will use findings from this qualitative phase, in the second part of the study. A questionnaire, for a larger stratified sample of Trust schoolteachers will encompass these phase. A pilot phase will take place with testing on participants in each of low, medium and high performing schools prior to the dissemination of the final survey.

The number of teachers in all of the high performing, low performing and medium performing schools will be stratified to match the national figures. To ensure that the sample population replicates the proportions of teachers in the high performing, low performing and medium performing schools at a national level will be critical for future generalisability. The administration of the questionnaire will occur over a forty-five minute period in the regular staff meeting after school in the week first week of July 2012.

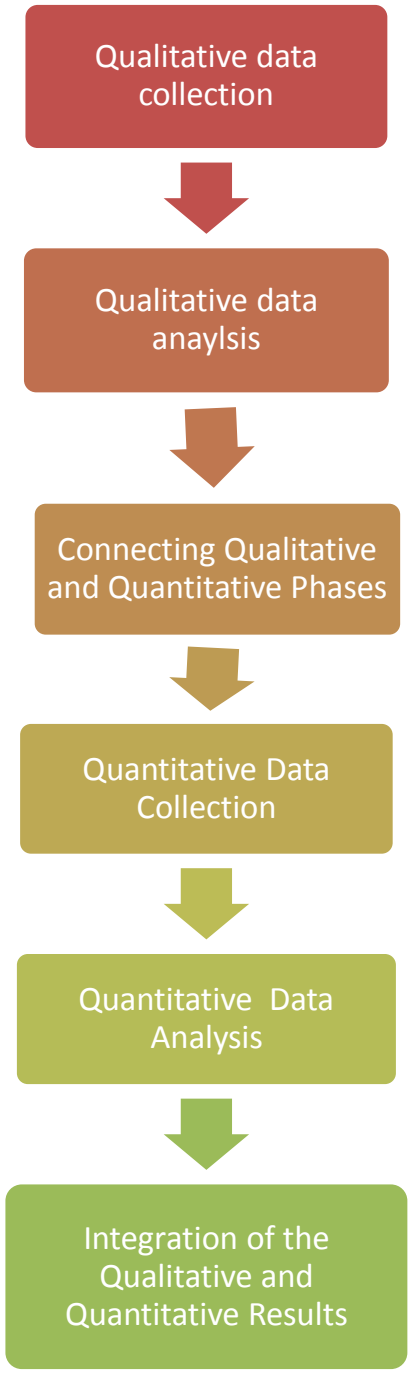
Neither the qualitative nor the quantitative study alone is sufficient to examine this situation thoroughly. These approaches are complementary and enable a greater vigorous

investigation of the situation. While the study appears to jump from subjectivity to objectivity and from realism to relativity, it is the mixture of these approaches that will bring a clear and purposeful analysis (Greene & Caracelli 1997).

Figure 2

Visual Model for Research Design

Phase	Procedure	Product
	In-depth face to face semi-structured interviews	Interview transcripts
	Coding and thematic analysis Cross-thematic analysis Respondent validation	Coded themes Codes and themes Similar and different themes and categories Cross thematic matrix
	Developing Survey questions from the interview data	Survey of a stratified sample (n= 866; N1 N2, N3)
	Cross sectional, in person survey (*n*= 866)	Numeric Data
	Data screening Factor analysis	Descriptive statistics



Interpretation of qualitative and quantitative results

Future research
Implications for current Malaysian incentive program

(Adapted from Teddlie & Tashakkori 2009).

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A timeline for the research study is in the table below.

Table 1

January 2012	Approach Trust school Principals regarding the study and fix dates
March 2012	Interviews with Trust school teachers in selected high, medium and low performing schools Analysis of the interview data
April 2012	Respondent validation of the interview analysis
May 2012	Design of the questionnaire
June 2012	Pilot of the questionnaire Amendments of questionnaire
July 2012	Main questionnaire given to participants
August 2012	Questionnaire Analysis
September 2012	Meeting to inform participants of the results
October 2012	Dissemination of the results and recommendations to the intended audience.

Qualitative Design

In order to find out what teachers' perceptions of incentives are, the research design will use a qualitative approach first. This will enable to researchers to ensure the questionnaire is valid and that it addresses relevant issues. It will also add depth in the analysis of the quantitative part of the study.

Sample and Research Design

Three teachers from each Trust school will take part in this section the study *(n=30).* Teachers will be randomly selected for participation. If a teacher declines or is unable to participate, the next randomly selected teacher from the school will participate, if willing.

Determining key trends and themes regarding the attitudes towards the current incentives on offer, in order to produce a high quality quantitative survey to give to a wider audience is the goal of the qualitative part of this study. The aim is to stimulate reflection and exploration through the interviews. This design will help to advance the theoretical understanding of teachers' perceptions to the current incentives.

Research tools

This first part of the research will comprise of semi-structured interviews. These are useful and beneficial in exploring what perceptions teachers have of current incentives and if the incentives are motivating and effective. Such interviews are not exploitative and appreciate the current position of these teachers, currently in the midst of radical reform initiatives. The researchers will revert to the interviewees with the results of their data analysis in order to refine them based on the interviewee reactions to them.

Participants will provide historical data through this 45 minute, face-to-face interviews. This approach allows questioning to change direction and enables a sharp focus on the teachers' perceptions. However, it still encourages participants' views about what is most significant for them.

As the interviews progress, questions may be revised due to the flexible dialogues and the open-ended discursive make-up of the interviews. This process will be ongoing so thoughts from earlier participants may influence the discussion with participants later in the process. The interviews will follow the ten criteria of a successful interview, that is "to be knowledgeable, structuring, clear, gentle, sensitive, open, steering, critical, remembering and interpreting" (Kvale 2007 p.91). Planning will take place in advance for sensitive questions to make certain that teachers will not feel obliged to answer any uncomfortable questions.

The following are examples of some potential questions.

- Which incentive do you feel is most valuable to you personally and why
- If you could redesign the incentive programme what would you change/add/delete and why
- Do you feel the incentives are fair and achievable, why or why not?

Videotaping and transcribing of interviews in order to search the interviews thoroughly for meaning will aid in the final interpretation. All notes will include observations about body language. All participants will have the right to refuse the use of a recording device. In addition, the interviewer will take notes in case there is any electrical failure.

Data Analysis

Coding of the interviews will use NVivo as the tool to do a thematic analysis to search between the similarity and differences in interview discussions. The model for this analysis will follow Miles and Huberman's model (1994) as it allows data to be compared in a rigorous way. Analysis of the consistencies and inconsistencies in the whole narrative of each interview and the whole interview batch will take place. Areas can be prioritised based on the number of occurrences in this initial interview phase. Clustering of the data into to categories and behaviours will also aid in the final evaluation. Data will be input into SPSS after coding the questionnaires, to consider what trends emerge.

Transcription (verbatim) and writing up of interviews will occur within two days of the interviews taking place in order that nuances and impressions will not be lost. Conversation analysis will be part of the transcription so pauses, body language and other details are captured in the process.

Deviant case analysis will ensure the use of all data in the analysis and not merely the pieces that fit. "Persuasiveness is strengthened when the investigations theoretical claim is supported with evidence from informants' accounts, negative cases are included, and alternative interpretation is included". (Riessmann forthcoming cited in Silverman 2006 p.271). This analysis will ensure all data is fairly and transparently presented with a clear theoretical stance.

Quantitative Research

After determining themes and key words in the qualitative data, the creation of the cross-sectional survey, as a questionnaire will occur. The intention of the survey is to generalise the attitudes and data about incentives from the Trust school sample to all Malaysian

state schools (Babbie 1990) Teachers in the Trust school project will have the opportunity to complete the survey at after school meetings. By scrutinising a sample of the group, surveys offer a numeric explanation of the beliefs, ideas and attitudes of the group (Creswell, 2009), in this case the Trust school teachers.

Sample and Research Design

The Trust schools already preselected by the Malaysian government represent a cross sample of the types of schools available in Malaysia. Sampling will be single stage. This is because researchers have access to all the teachers working in the Trust schools.

The use of a survey is an economic way in which to reach the views of a large population and offers a quick turnaround in the data collection (Creswell, 2009). We will be able to determine the qualities relating to a sizeable population from a smaller population by using the questionnaire (Babbie 1990; Fowler 2002).

In order to ensure generalisability and be typical of schoolteachers in Malaysia state schools, stratification of participants according to school type will take place. Eight hundred and twenty three trust schoolteachers will be invited to participate. This represents 0.0041% of the total population of schoolteachers in Malaysia. Stratification will be as follows: Teachers from low school performing schools (N^1), teachers from medium performing schools (N^2) and teachers working at high performing schools (N^3). While the teachers working in the trust schools are more heavily weighted in the high performing schools, in the national population the low performing teacher far outweigh the numbers in either the medium or high performing schools. These strata will mimic the national numbers of teachers working at each type of schools across Malaysia. All groups have experience of working with a variety of incentives in place in the past. After stratification, the researchers will use a random numbers table to choose individuals to participate (Gravetter & Wallnau 2000 cited in Creswell 2009).

As teachers' needs and motivations are more homogenous within strata than across the teaching population as a whole, we can assume better statistical precision and less variance using this method (Creswell 2009). Additionally, there will be sufficient instances from all subgroups to construct meaningful subgroup conclusions (Babbie, 1990). We will also be able

to ensure we have sufficient sample points to maintain an independent scrutiny of any subgroup.

Trust school Principals will receive the questionnaires to complete during their regular staff meeting enabling high levels of completion expected. It will be paper based because of the lack of web access in many of the schools at present. Pencils will be available as these are scarce in some of the schools. A researcher will be available in each school at the time teachers take the questionnaire. Two researchers will take part, one at the five schools in each province. The data collection will run over a two-week period.

Piloting of the survey will occur in each of the Trust schools with a small group (*n=5*) of teachers per school to ensure there are no glitches or poorly worded questions. Volunteers will be part of the pilot phase. Planning of dates for both the pilot survey and the final survey will occur well in advance with the intention that they do not to clash with other school events.

The large number of teachers involved in this study supports the use of a quantitative approach to part of the research. Focus groups or interviews with fewer teachers would not be substantial enough to illustrate the views of the group as a whole. In addition, no earlier large-scale correlational review is available to determine teachers' perceptions on the incentives in place. Besides, although the research had provoked a number of compelling research questions through several small studies, there has been no context specific or large scale studies to statistically test these research questions.

Research tool

The tool for this survey is a 90-item questionnaire. Data collection will be at one point in time and will use interval data on a Likert like scale of 5-points, forced rank ordering and nominal type questions. A final section will allow for open-ended comments.

Section I will provide demographic information such as gender, age and teachers' qualifications and the type of school. The next three parts cover constructs of (II), (III), and (IV). Each of these constructs will have 14-18 items. Likert scales will establish the magnitude of the various feelings and opinions assumed by teachers about the current incentives. Section IV

asks for information about preferred incentives by providing forced ranking of incentives. The final section uses open-ended spaces to include other remarks.

Face validity of the questionnaire will result from evaluation of its format and content by academic staff. Furthermore, validity will be developed during early pilot testing with Trust schoolteachers (*n*=30) who are not included in the main study.

Data analysis

Cross tabulation and frequency counts will help to analyse the qualified information. After coding the questionnaires, they will be input to SPSS to consider what trends emerge using the general linear model. Data will be analysed in terms of what school type teachers work in but also according to the location or the school, rural or city based and by teachers' gender. This is because teachers working in rural locations may have very different needs to those in a city circumstance. In addition, female teachers may be motivated by different incentives to male teachers. T-tests will be used for inferential statistics.

To figure out a complete count for each construct (parts II and III) we will add the scores of all the pieces in a construct. Furthermore, we will use univariate and bivariate analysis. The bivariate analysis will comprise of Pearson correlation coefficient, a paired sample *t*-test and an independent *t*-test depending on the function of the statistical test and the category of data. Multiple regression and path analysis will occur to analyse the data. Response bias by using non-respondent analysis will aid in the evaluation of data.

In addition, researchers will reflect on the qualitative data and include this in the analysis of the quantitative data, to offer a clearer and fuller picture into the meaning behind the data.

Validity and Reliability of this Mixed Method study

"There is some truth in the quip that quantitative methods are reliable but not valid and that qualitative methods are valid but not reliable" (Britten and Fisher 1993). By using a mixed methods approach and integrating both methods, the study will gain strength and have greater reliability and validity.

Looking at qualitative data

There are some areas of social reality, which 'statistics cannot measure' (Silverman 2006 p. 43). In this first part of the research, we attempt to learn about phenomena which not available elsewhere. We will also try to define and refine the teachers' perceptions towards incentives so that in the quantitative phase of the study, the definition we have selected is one we are happy to use.

The research process will be transparent and systematically recorded in detail to allow others to replicate. Since the full procedure of the interviews will be recorded, another researcher should be able to replicate the qualitative part of this research. Validity is centred on a deep understanding of the participants' responses. This type of interviewing permits participants to use employ their distinct ways of characterizing humanity and the circumstances in their world and allows participants to raise any additional significant issues (Denzin 1970).

Inter-rater reliability inspections on the coding of answers will take place. The interviewers will meet before interviews take place to ensure consistency in approaches and understanding. Pre-testing of the interview schedules will take place.

Looking at quantitative data

In the quantitative phase, instructions will be standardized across all settings where the test is taking place. As the sample is large, the reliability will increase. As the pilot survey will remove any unclear items, this should improve the reliability of the test. The survey will determine for concurrent and convergent validity of these measures (Campbell and Fiske 1959) by employing factor analysis. Testing of the questionnaire for internal consistency reliability using a coefficient alpha will occur.

Reliability analysis on all constructs in the questionnaire will determine internal consistency. In addition, the reliability of responses could be questioned, as we do not know whether teachers may answer questions without thinking in order to complete the survey quickly. However, the number of unsure or unchecked boxes will give some indication of this (Creswell 2009).

The validity of the questionnaire must be considered. The content validity will increase as it comes from the qualitative interview data and the piloting of the questionnaire. Additionally, triangulation of responses with the interview data collected at the beginning of the research will aid with the analysis.

As the sample is relatively large, the reliability will increase. The pilot survey will remove any unclear items this should improve the reliability of the test. The reliability of responses could be questioned, as we do not know whether teachers may answer questions without thinking in order to complete the survey quickly. However, the number of unsure or unchecked boxes will give some indication of this. However, the questionnaire will be tested for internal consistency reliability using coefficient alpha. The survey will also require exploration for concurrent and convergent validity (Campbell and Fiske 1959) by using factor analysis.

Those from a postpositive perspective may criticize the interviews as being too open-ended and for not using standardized questions to increase reliability. On the other hand, for an emotionalist, the questioning brings real validity to the table. It was imperative to take the emotionalist point of view and delve deeply into the teachers' insights and belief systems. The perspective chosen elicits authentic accounts of a subjective experience.

A survey approach permits the researchers to gather the views of a group of people that can then be further generalised. Constructionists may argue that, it is tricky to guarantee that there is a common understanding and shared terminology employed in the questionnaire by those taking the survey and that the responses sent back have the identical significance for all participants (Mays and Pope 1995). In this study, carefully planned questionnaires will use the wording learnt about and explored in the qualitative phase of the study. This is going to help to develop that common understanding between the researcher and the participants of the survey. The researcher feels there is logic in using a quantitative approach in this instance supported by the knowledge gained from the qualitative position in the first part of the research.

It is precisely because of these differences that a mixed methods approach was selected for this study.

Limitations

This study has several major limitations that could undermine the findings and usefulness of this research.

One of the major limitations of this study could be that how individuals express they are going to act and how they do act may be conflicting. This disparity amid affirmed and genuine behaviour is as LaPiere (1934 cited in Bryman 2007) asserts that often-stated behaviour is not actual behaviour. "Positivist social scientists...have shown that a great deal of what people say about their lives and experiences is (either deliberately or inadvertently) at variance with facts" (Kitzinger 2004 cited in Silverman 2006 p.120). As this study is researching teachers' perceptions, it could be argued that these are merely what teachers would like us to believe they would do or say and that they are fabricating their responses to meld with societal expectations rather than stating their true actions and feelings. In this case, the research would be worthless and not show anything but how teachers' want to be perceived.

In addition, Belson (1981) has carried out comprehensive research of how individuals decode questions intended to assess behaviour and attitudes and found that perceptions and behaviour often do not align. Indeed if this is true, it could make the entire study without merit as the responses given would not answer our research questions adequately.

Another limitation could be that the researchers bring their own perceptions to the study, so there may be a bias towards certain questions thus drawing out different information that may vary at a different time or with a different researcher. Furthermore, the researcher may present a bias in their interpretation of the results (Roulston et al. 2005). This could certainly sway the results of the study and void or alter the conclusions made.

In the qualitative part of the study, some positivists would argue that this type of research is only a collection of anecdotes and personal stories (Mays and Pope 1995; Silverman 2006). They may argue that the qualitative data results in a lack of generalisability. Additionally, they may claim that the voices of a few are determining the questions to be asked on the questionnaire to the larger group and these may not be the same questions had a different group of teachers been interviewed.

In addition, there is an argument that during interviews we construct a truth related to the context of the interview by the nature of being human and knowing we are in an interview context (Baker 1982). In fact, Byrne (2004) indicates that an interview generates only a particular representation or account of participants' views. If this is true, the study will claim to represent the views of many when, in fact, it only truly represents the views of a few.

Limitations of this sample are that it may not accurately portray the full breath of teachers across Malaysia, as the location of Trust schools is only in two states of Johor Bahru and Kuching. In addition, data collection comes from only one source, Trust schoolteachers. This could, in fact, cause others to question the generalisability and value of the study. For example, there could be different provincial concerns that are not addressed due to the selection of participants and this could cause serious concerns for the findings of this study.

A final limitation of this study is that there may be some difficulty to replicate findings due to the time and cost of such a large study. A large company with a vested interest in the project will fund the study. It would be nearly impossible for another person to find the resources needed to replicate it and to have access to the same teachers. This makes the issue of credibility key; as it is doubtful, anyone would attempt to replicate it. The fact the company with a vested interest is funding the project may even put into question the legitimacy of the study.

These limitations need to be carefully thought through to determine if the study is worth completing. The large expense and time commitment aside, the fact that the results may end up not be generalisable is a major issue for the researchers.

Ethical issues

The researcher will obtain university ethical approval prior to the study. Before both the interviews and the written questionnaire, a memo updating participants about the study and guaranteeing anonymity and confidentiality of their data will be issued.

All teachers will be asked to sign an informed consent document before participating in this research. Contact details will be provided if the participants require further information before deciding to participate. This document will indicate who the researchers are and notify

participants that Khazanah Nasional is sponsoring the study. It will also inform participants about the procedures for selecting of teachers, benefits of participating, purpose of the research, amount of participation expected, any risks and an assurance of confidentiality of individual results. This document will also guarantee the teacher can withdraw if needed at any point. It will also provide phone and email details for additional questions (Sarantakos 2005).

Other ethical considerations are that the sponsor of the study, Khazanah Nasional Trust, has a stake in the successful result of the Trust school projects. As such, the cover letter and the researcher attending the research sites will make clear that the Khazanah Nasional is sponsoring this research. Anyone not wishing to participate in the research study will have that option without their withdrawal affecting their relationship with the researchers, their school or Khazanah Nasional. Teachers will be assured that only the researchers will know their individual results and these will not shared with Khazanah Nasional or their school principals. Ensuring the confidentiality of these results will be crucial to ethical base of this study. All personal data will be destroyed after the study is complete.

Interviews will occur during teachers' non-teaching time in order to minimize disruption to the school and to ensure teachers do not have to stay after school hours. This will need careful coordinating by the researcher with the school timetables.

Researchers will invite participants to an optional session to disburse the study findings.

Summary and Conclusions

Malaysian state schools have a limited research base. Little research is available specifically on the Malaysian incentive agenda hence this work will add to this small database. The mixed methods approach will enable a clear and comprehensive picture to develop in the area of teachers' perceptions to the current incentives in place. Combining the results of the qualitative and quantitative sections of the enquiry through narrowing and refining the relevant questions for the survey phase when developing quantitative data will result in a better quality of inferences (Tashakkori and Teddlie 2003).

This research will investigate the data to make sense of the current situation and provide opportunities to make suggestions for the future of these incentives in the Malaysian state school system.

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