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<th>The phases and paradoxes of educational quality assurance: The case of the Singapore education system</th>
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Abstract

Purpose – The purpose of this paper is to highlight three important insights into educational quality assurance, using Singapore as a case study. It is useful to policy makers and practitioners to understand the phases and paradoxes in their educational quality assurance journey so that they may recognise and manage better the complex dynamics of quality assurance in education.

Design/methodology/approach – This paper utilises a phase model to analyse the development of quality assurance and the challenges and paradoxes involved. This phase model is a framework of analysis of the quality assurance dynamics of primary and secondary education in Singapore with the following phases: standardisation; local accountability; and diversity and innovation

Findings – The paper finds that: quality assurance develops in phases, each with its own characteristics and challenges; quality assurance changes the nature of education; quality assurance is a paradoxical journey.

Practical implications – The Singapore case study serves as a mirror to other developing countries in recognising and managing the delicate dynamics of quality assurance.

Originality/value – The paper illustrates the phase model of educational quality assurance in Singapore and the analysis of the delicate balancing act between conformity and diversity, and between standards and innovation.

Keywords Schools, Self assessment, Quality, Innovation, Measurement, Singapore

Paper type Case study

Introduction

In many developing and indeed developed countries, the growing impact of globalization, capitalism and increased economic competition, which are usually beyond the direct control of nation states, have forced individual nation states to change their economic and supporting human resource development strategies in order to adapt to the demands of the changing external context. In particular, many governments turn to the education system to provide a critical piece of the puzzle in their overall strategy – quality education that will lift the “competitiveness” of their citizenry. There is widespread concern in many countries over funding, accountability, quality, and managerial efficiency related to education. The development of education quality assurance mechanisms becomes a key thrust in many education systems. However, while there is benefit in this endeavour, the journey of educational quality assurance is not without its share of challenges and dilemmas along the way. This article analyses a case study of the development of quality assurance in the primary and secondary school sector of the Singapore education system to shed some light on these issues. The Singapore experience will be useful as a mirror to other developing countries.
Singapore’s education system moved through the short history of nationhood of just over four decades from one which was rudimentary to one whose current excellent Trends in International Mathematics and Science Study (TIMSS) results have showcased its “maturity”. According to Goh (2005), investment in education, thereby enhancing human capacity, underpinned Singapore’s economic transformation and growth. Because of the critical importance of education, quality assurance in education became a primary concern. This quality had to be prevalent throughout the entire system, not just for the elite few. Current Education Minister Tharman Shanmugaratnam said:

We have avoided the large disparities in educational standards seen elsewhere, between schools for the privileged and those for the masses ... we have therefore achieved high standards across the spectrum of abilities, allowing a large proportion of Singaporeans to proceed to a high quality post-secondary and tertiary education ... it is precisely the strength of our education system, the fact that our fundamentals are in good working order that allows us to look ahead, identify the gaps that we need to close, set new directions, and move forward with confidence (Tharman, 2004).

Therefore, the government has emphasised educational quality assurance, with its associated concepts of accountability, performance standards and school excellence, reflected in this government statement:

Accountability in education is every body’s business and it involves reciprocal obligations. Schools are responsible to parents and the community for providing the best programmes and a high quality of education to their students ... every parent wants his child’s school to be a good school ... every child is entitled to a good school ... outcomes, be they in the academic areas or non-academic areas are useful because they challenge us to pay rigorous attention to what we have achieved and what more we can achieve; where we are and where we want to be (MOE, 2000).

This paper now describes and analyses the efforts by the government to address the needs of educational quality assurance. In particular, the analyses highlight three important insights into educational quality assurance that other developing countries can note from the Singapore experience:

(1) quality assurance develops in phases, each with its own characteristics and challenges;
(2) quality assurance changes the nature of education; and
(3) quality assurance is a paradoxical journey.

Phases of quality assurance
Quality assurance develops in phases. Jeliazkova and Westerheijden (2002) developed a phase model to analyse and schematise the developments in educational quality assurance in the higher education sector of The Netherlands. This paper adapts the idea and offers its own phase model as a framework of analysis of the quality assurance dynamics of primary and secondary education in Singapore:

- phase of standardisation;
- phase of local accountability; and
- phase of diversity and innovation.
It is important to note that this phase model is not meant to be a clinical description of the dynamics. While the major characteristics of each phase are somewhat different, overlaps occur. As one phase moves into the next, it is hard to clinically define the boundary because while the system tries to shift to a new focus, the dynamics of the previous phase is actually more dominant. In reality, a system may exhibit characteristics of different phases, although one phase will take central stage. This paper now examines the Singapore case study through the lens of this phase model.

**Phase 1: The phase of standardisation**

The first phase of quality assurance is the *phase of standardisation*. It usually starts with doubts about educational standards throughout the country. The role of quality assurance is then to prescribe certain standards to be achieved and aim for improvement through system-level interventions. This often involves external review, whose nature is summative – checking standards to report back to the state. The drive for reform comes primarily from the state.

In Singapore’s case, after independence in 1965, the government started to scrutinise various aspects of education. In the late 1960s and early 1970s, there were major weaknesses in the system. In particular, there were the problems of ineffective curriculum, low literacy levels and high resource wastage in the system. There was an urgent need to improve the quality of education in these areas. The subsequent results and recommendations of the review of the educational system cumulated in the 1979 Goh Report (Goh, 1979). Significant reforms were recommended in the areas of work processes, the management of schools and the curriculum. The main thrust was standardisation based on a prescribed performance model.

The weaknesses identified in this first educational reform were linked mainly to poor work processes and a lack of professional management of the schools (Wee and Chong, 1990). The quality of pedagogy and other subtle issues were not emphasised. Borrowing concepts from business organisations, many administrative work procedures and processes in schools and headquarters were standardised. For example, the procedures for staff appraisal, promotion and reporting on all teachers in the schools were put in place and standardised. The Pupil Data Bank, a mega-database of all students in Singapore, was introduced as part of a computerised management information system for prompt and accurate student information for planning and decision-making. Principals were issued guidelines and format for writing the School Rolling Plan, a formal school plan for school improvement and development, which had to be submitted to headquarters for planning, monitoring and review. In 1981, the Ministry of Education (MOE) published the Principals’ Handbook, a comprehensive reference book about policies, administrative procedures and guidelines to help principals run their schools from day to day (Wee and Chong, 1990). The MOE was also re-organised for better coordination of policy development and standardised implementation in schools. In particular, the Curriculum Development Institute of Singapore (CDIS) was set up to provide teachers with standardised curriculum material developed locally.

In 1980, appraisal of schools appeared on the education scene. School appraisal comprised a self-appraisal conducted annually by the schools and an external appraisal conducted once every four to five years by an external team of inspectors, comprising Inspectors of Schools, Specialist Inspectors and Guidance Officers from the MOE. Four main areas were appraised: management of school, instructional
programmes, extra-curricular activities and pupil welfare programmes. At that point in time, the main aim of school appraisal was to ensure that each school conformed to standards required in these areas. Although schools should do self-appraisal, the internal capacity to do so was not adequately developed and the emphasis was on the external review. Innovation was not the focus. Rather, conformity to standards was. Indeed, as Sharpe and Gopinathan (1996) opined, a diverse and divided educational inheritance has been centralised, standardised and made relevant to the political and economic realities of nation building and industrialisation.

**Phase 2: The phase of local accountability**

The second phase of quality assurance is the phase of local accountability. After the first phase (provided there is political and economic stability for the first phase to be reasonably successful), there is often an improvement in basic standards. The second phase then starts with recognising that there is a limit to the effects of standardised system-level interventions. While standardisation carries on, the focus shifts to improving local level efficiency and effectiveness. The role of quality assurance is then for local institutions to be “empowered” and be “accountable” for quality. The nature of the external review is still summative – checking standards to report back to the state. But its position shifts towards guidance for improvement. One “popular” quality assurance measure in this phase is the ranking of institutions using key performance indicators.

In Singapore’s case, the phase of local accountability began in mid-1980s. After Singapore was badly hit in a global economic crisis in 1985, many weaknesses in Singapore’s basic industrial economy were surfaced. A high-power review committee was set up to examine Singapore’s economic strategy. This effort cumulated in the 1986 Economic Committee Report (Economic Committee, 1986), which indicated that Singapore had to move towards high value-adding technology and service industries to promote a broader base for the economy. Education reform came to the fore front of the agenda again to support the economic strategy.

Through the efforts of the 1970s, schools have achieved a basic standard of effectiveness and efficiency in delivering education to the masses. But this was now insufficient. Beyond the standardised package served up by the headquarters, schools had to improve quality at the local level and be accountable for it. One of the key thrusts was for schools to be given support to strive for excellence on their own. This translated into two concurrent movements. For the majority of the schools, they were given more resources to “level up” their performance. For the few established and high-achieving schools, they were given more autonomy to look for breakthroughs.

A few examples will illustrate the standardised levelling up process. In 1991, the Improving Primary School Education Report (MOE, 1991) recommended that all children were to be given a minimum of ten years of education. The Primary School Leaving Examination (PSLE) was modified to become a placement, rather than a selection, examination to emplace children into appropriate courses at the secondary school level. In the same year, an Edusave scheme was launched to give every child between 6 and 16 years old, through the school, a grant to meet specified educational expenses. The money could be used for additional classes in schools, extra courses such as music and IT education, educational tours and textbooks. In 1996, the Edusave scheme was widened to provide needy students with merit bursaries.
scheme helped greatly in the “levelling up” process because it was given to every child regardless of academic ability and every school regardless of academic standing.

A further move to “level up” the entire education system was the upgrading of teacher education in 1991 with the formation of the National Institute of Education (NIE) as an autonomous institute of the Nanyang Technological University. All teachers and school leaders in Singapore were trained through the NIE and this pegged teacher education in Singapore at the graduate and post-graduate level.

Ranking of schools appeared on the scene in 1992. Since then, all secondary schools and junior colleges have been ranked annually and the results made known publicly through local media. Secondary schools have been ranked on three main criteria. The first was the students’ overall results in the national examinations. The second was the “value-added-ness” of the school by comparing the students’ examination performance with the score with which they gained entry to the school. The third was the students’ performance in the National Physical Fitness Test and the percentage of overweight students in the school. Ranking generated competition among schools to keep them on the path of improvement on standardised criteria. The ex-Minister of Education called it a “tool of accountability” at the local level (Teo, 2002).

While the move to standardise and level up schools continued, there was a move in the opposite direction to give some schools a little freedom from central control. These schools were generally the “high-flying” schools. In 1988, based on the recommendations of the review report *Towards Excellence in Schools* (MOE, 1987), three such schools in Singapore became independent schools. These schools were “freed” from the central system in the areas of hiring and firing of school leaders and teachers, setting fees, deciding on admission policies, undertaking financial projects and developing curriculum. These schools were meant to serve as role-models for the other schools, raising standards for all. In 1994, the MOE established another category of schools called the autonomous schools. These schools were government schools with outstanding academic results and they were given 10 percent more in annual per capita government grants than the non-autonomous ones. The principals of such schools were given discretion to admit up to 5 percent of their students based on demonstrated talents in specific niche areas such as arts and sports, a departure from a long tradition of a central student posting system based on national examination results. The move to free schools was a prelude to ushering in the phase of diversity and innovation in Singapore’s quality assurance journey.

**Phase 3: The phase of diversity and innovation**

The third phase of quality assurance is the phase of diversity and innovation. In this phase, local accountability is still a dominant feature but the focus shifts to promote diversity and innovation. The main reason for this shift is in many ways the fruits of the first and second phase. The quality assurance measures of the previous phases have achieved a level of conformity to standards and reliance on external appraisal that there is now a need to improve the innovation capacity and internal quality assurance capacity of the institutions to provide more quality educational pathways. The role of quality assurance is then both for public accountability and stimulation of self-regulation and self-renewal in the institutions. The information base is changed from external audit reports to self-evaluation reports. The nature of the external review is then a validation of these self-evaluation reports, rather than direct scrutiny. The
institutions are expected to improve or innovate based on their self-evaluation and validation reports. The reports are usually confidential to the institution and the state. The role and form of ranking is questioned and refined.

As this phase matures, increasing marketisation of education, diversity and innovation pose new challenges to educational quality assurance. There is now a dilemma between public accountability based on a standardised framework and creating a platform to allow institutions to break through the existing educational paradigm. There may also be dilemmas of how far decentralisation should take place and whether the institution’s self-evaluation and validation reports be made public to increase “customer” information and choice. There may even be a question of whether in a diversified landscape, there is a need to standardise certain important things again for public accountability. It may appear that the phases have gone a full cycle.

In the case of Singapore, many features of the phase of diversity and innovation became prominent in the later half of the 1990s, the result of the initiatives in the previous phases and a continuation of the move to free schools from central control. The quality assurance measures of the previous phases have indeed achieved a level of conformity to standards and reliance on external appraisal that there was then a need to improve the innovation capacity and internal quality assurance capacity of the schools to provide more quality educational pathways. Having excellence in a few high-flying schools was no longer enough – human resources were scarce. All schools in Singapore needed a boost. Although Singapore found economic success through an education system that has been generally operating in an efficiency-driven paradigm, this success formula that was good for the 1980s was obsolete in the 21st century knowledge economy.

A key milestone in the phase of diversity and innovation was the launch of the Thinking Schools, Learning Nation (TSLN) vision in 1997. This official vision emerged from a strategic review of education, motivated by a pre-occupation with the future. It guided subsequent initiatives in the education system until today. Senior Minister Goh Chok Tong, then Prime Minister, declared TSLN as a vision “for a total learning environment, including students, teachers, parents, workers, companies, community organisations and the government” (Goh, 1997). Thinking Schools is a vision of a school system that can develop creative thinking skills, lifelong learning passion and nationalistic commitment in the young. Learning Nation is a vision of learning as a national culture, where creativity and innovation flourishes at every level of society.

Several major educational initiatives followed in the footstep of TSLN. In particular, the education system adopted an ability-driven education paradigm (ADE) to replace the old efficiency paradigm in an attempt to tailor education to the ability and potential of the child (Teo, 1999). National Education (NE), launched in 1997, was another significant initiative, to develop national cohesion, the instinct for survival and confidence in the future by fostering a sense of identity, pride and self-respect as Singaporeans. Creativity and entrepreneurship were emphasised. Syllabi, examinations and university admission criteria were changed to encourage thinking out of the box and risk-taking. Students were then engaged in project work and higher-order thinking questions. Singapore’s Masterplan for Information Technology (IT) in Education, launched also in 1997, laid out a comprehensive strategy for creating an IT-based teaching and learning environment in every school, so that every student could become IT literate (Ng, 2005a).
Despite these policy initiatives, education minister Tharman Shanmugaratnam acknowledged that the system was still too rigid and standardised and saw a need to “loosen up the educational structure at key points to create a less bounded environment” so that they could be diverse pathways for different sorts of students (Tharman, 2003). The introduction of the Integrated Programmes (IPs) in 2002 was an example of creating a more diversified educational landscape. The distinguishing feature of the IP was that students in the programme would no longer need to take the General Certificate of Education Ordinary Level (GCE “O” level) examinations. Instead, they were on a “through train” to the General Certificate of Education Advanced Level (GCE “A” level) examinations, bypassing the “O” levels, to give the students more time to explore other critical areas of learning, without the stress of preparing for high-stakes examinations. Specialised schools, such as the Sports School and the National University of Singapore (NUS) Mathematics and Science High School, were also set up.

One sure sign of the phase of innovation and diversity was the shifting of the focus of TSLN to “Innovation and Enterprise” (I&E) in 2004, which aimed to develop an innovative and enterprising spirit in the young through the schools (Ng, 2005b). The latest MOE initiative was innovation and diversity in the curricula and pedagogical aspects of education. Launched in 2005, “Teach Less Learn More”, first called by Prime Minister Lee (2004), aimed to enhance the quality of teaching and learning through diverse and innovative methods tailored to the students’ needs.

In the midst of the flurry of reform for diversity and innovation, two significant milestones emerged in the quality assurance journey of the country. One was the introduction of the School Excellence Model (SEM) in 2000. The other was the modification to the school ranking system in 2004. Both were interesting initiatives because they sought to retain the rigorous standards of the past while concurrently embracing diversity and innovation.

The way that the SEM operates has been discussed by Ng (2003). As this is the current quality assurance model in Singapore, it is worthwhile here to recapitulate some of its salient features, before describing some challenges to quality assurance, especially in an era of diversity and innovation in the later sections. The SEM is a self-assessment model for schools, adapted from the various quality models used by business organisations, namely the European Foundation of Quality Management (EFQM), the Singapore Quality Award (SQA) model and the education version of the American Malcolm Baldrige National Quality Award model (MBNQA). The SEM aims to provide a means to objectively identify and measure the schools’ strengths and areas for improvement. It also aims to allow benchmarking against similar schools to stimulate improvement activities. Using this model which is aligned with the SQA, schools can in fact pitch themselves against national benchmarks for organisational excellence.

The SEM basically describes an excellent school as one in which the leaders lead staff, devise strategies and deploy resources, all of which are systematically fed into clearly identified student-focused processes for which targets are set and performance monitored and managed. These “enablers” then produce results in staff and stakeholder satisfaction, as well as impact on society, all contributing to the achievement of school results and excellence. According to the SEM, an excellent school is one that achieves good academic results and provides a holistic education.
Excellent results as those which meet target, are sustained over a number of years and show positive trends. The SEM comprises nine quality criteria against which schools can be assessed (MOE, 2000):

1. Leadership.
2. Strategic planning.
3. Staff management.
4. Resources.
5. Student-focused processes.
6. Administrative and operational results.
7. Staff results.
8. Partnership and society results.

An external team from the MOE validates the self-assessment results using the same criteria approximately once in five years. The assessment process is explicit in requiring evidence to justify a certain score. So, even when a school is thought to perform well against a particular criterion, if there is no evidence of this, the model permits no score beyond that for ad hoc performance. Moreover, to score well, a school, in addition to having explicit evidence relating to a criterion, must also have evidence of continuous improvement through trend analysis.

Closely associated with the SEM is the Masterplan of Awards for schools. There are 3 levels of awards. The first level comprises the Achievement Awards given to schools each year for current year’s achievements. The second level comprises the Best Practices Award (BPA), which recognises schools with good scores in the “Enablers” category and the Sustained Achievement Award (SAA), which recognises schools with sustained good scores in the “Results” category. At the apex of the awards is the School Excellence Award (SEA), which gives recognition to schools for excellence in education processes and outcomes. Schools may also apply for the Singapore Quality Award (SQA) just like any other industrial or commercial sector organisation. Schools may request for additional external validations, other than the once-in-five-years mandatory external validation, to qualify for these awards.

The ranking exercise, an initiative during the phase of local accountability, came under scrutiny in 1997. The MOE commissioned an external review team and it reported the negative aspects of school ranking (MOE, 1997). Some of these negative aspects included increased stress, competition and conformity. But, after a number of parliamentary debates about it, ranking continued. Teo Chee Hean, then Minister for Education, explained in Parliament:

I think academic ranking is still important, because it is a matter of accountability to you. If we do not have ranking, you would ask for it, which is what happened in the United States, in the United Kingdom and other jurisdictions. The parents, taxpayers and Members of Parliament wanted to know how their schools are doing, in relation to other schools in the world ... We will be silly to give up ranking, because it is an important tool of accountability for schools. We can rank them on a number of different areas. That I agree. But to stop ranking them, I think it would be to give up a tool of accountability to you, something which our schools and educators owe to you (Teo, 2002).
Interestingly, the minister acknowledged that teachers did not appreciate the ranking of schools:

Of course, in any jurisdiction in the world, I have never been to a school district where the teachers like ranking. Of course, they do not. Why would you want to be held accountable if you can get away without being accountable? I have never met a school district where the teacher said, “Yes, ranking is a wonderful thing.” But I am surprised that Members of this House should say that we should stop ranking. Because, if we stop ranking, we would have no instrument of accountability (Teo, 2002).

However, the debates were enough to set up a momentum to re-examine the ranking system. So, although ranking continued after the introduction of the SEM in 2000, it was modified in 2004. Instead of ranking schools based on exact academic scores, schools with similar academic performances are now banded together and exact ranking positions are not made known to the public. Streaming in primary schools is also scrapped with effect 2008 and is replaced by subject-based banding. The moves are aimed to maintain standards while sending signals to the society to embrace a broader notion of success, as the following newspaper report on the release of the 2004 national examination results illustrate:

The Education Ministry has departed from its usual practice of releasing the list of schools which had 100 per cent of their students scoring five or more O-level passes. Nor is it telling which schools showed significant improvement in percentage passes. It is doing so, its spokesman said, because it wants to make the point that success in education should not be measured by academic results alone. Instead, it wants to focus on “system-wide achievements” which are impressive (Ng and Davie, 2004).

Therefore, educational quality assurance in Singapore has gone through different phases of development. As of now, the focus is still on diversity and innovation. What is the way ahead for it? With increasing diversity, will quality assurance come full cycle again one day with a need to standardise for public accountability? Only time will tell.

Measurement changes the nature of the object of measurement
While quality assurance develops in phases, during each phase, one important insight is that measurement changes the nature of the object of measurement. To measure the temperature of a beaker of water at a point in time, one has to introduce a thermometer into the beaker. But the thermometer will absorb heat from the water. The resulting measurement is not the same as the temperature of the water at that point of time. The temperature of the water has also changed.

That measurement changes the nature of the object of measurement is an important dynamic in educational quality assurance. The fact that one measures certain education outcomes affects the nature of education. The moment one defines a scale to education, one has changed the nature of education. The quality assurance system is an active player in the system – it does not just measure behaviour; it changes behaviour. In fact, what one measures may not be the actual natural behaviour, but rather the behaviour induced by the act of measurement. School inspections in themselves have an impact upon the school, both positive and negative (Ehren and Visscher, 2006; Lee, 2006). Beyond the issues of more work, external inspections can have a negative emotional impact on academic staff (Perryman, 2007) and present a high level of risk to individuals (Raban, 2007). Staff members tend to resist quality
assurance when it appears to be a façade. A good example of this was found through a research by Anderson (2006), which showed that Australian academics would continue to resist quality processes, treating them as games to be played and systems to be fed until university management, university quality agencies and academic staff in universities could draw on mutually agreed understandings of quality. The reconciliation of accountability and school improvement was indeed a more complex issue than what was commonly presented (Vanhoof and Van Petegem, 2007).

In Singapore, the SEM in theory is for self-assessment and improvement. The awards are meant to promote quality in different areas and celebrate different forms of excellence. But in reality, some school leaders may still interpret these as measures for scrutiny, which can affect their school’s competitiveness and their own careers, hence the acute need to score well. Quality assurance, while ensuring quality on the one hand, creates its own side effects to compromise quality on the other.

In recent years, newspapers have reported several incidents of schools dropping certain sports from their co-curricula activity list in order to focus on their niche areas, areas of strength where they were more likely to reap results and win awards (eg. Ho and Almenoar, 2004). Other schools are reported to make students drop subjects to attain better overall results in their examinations. Singh (2007) wrote:

There was never a problem with a student opting for a subject and failing in it. It was no reflection on the school... But things changed when the ranking of schools was introduced in the early 1990s. Suddenly, schools were making students drop subjects like hot bricks to stay competitive – schools are primarily ranked on their students’ academic performance, and the fewer subjects a student takes, the better his chances of scoring.

In the same vein, Tan (2005) wrote:

It is arguable that the use of the SEM may result in some schools using more of the same covert strategies that they have been using thus far, this time in a wider spectrum of school processes and activities in order to boost their schools’ performance in as many of the aspects that are being assessed as possible. For example, principals may narrow the range of available co-curricular activities in order to focus the schools’ resources on those activities that are considered more fruitful in terms of winning awards in inter-school competitions.

Therefore, may it be ranking, banding or self-appraisal, quality assurance brings with it the danger of a rat race. Increasing the number of types of awards may simply increase the number of fields for schools to compete in. Some form of competition and benchmarking is healthy but too much of that will make quality assurance an exercise in developing evidences, impeding a real drive for diversity and innovation. Davie (2004) related the story of how various staff members of a top Integrated Programme school in Singapore expressed the need for the school to get awards because “now that their students will skip the O levels, these achievement tables have become the only means by which they can show that their programmes and methods produce tangible results”. A top school that had the “strength” to break away from the mainstream system found itself “pulled” back into the system. Measurement changes the nature of the game. In a competitive environment, awards are powerful marketing tools to convince “customers” of the school’s superiority. Yet, in an era of diversity and innovation, schools such as the above one, will be undertaking ventures beyond those recognised by a fixed quality system. The effort to break new grounds may sometimes
be compromised by a “need” to win awards on old ones. Therefore, there is tension between the quest for diversity and innovation and the pull of the existing system.

On a more positive note, because measurement drives behaviour, quality assurance can be used to bring about positive changes. Hitherto, many of the assessed criteria in the SEM do not have established valid and reliable measures. It is hopeful that the introduction of the SEM will drive the development of educational processes and its associated measures. Also, the SEM has the potential to focus the attention of school leaders on the key thrusts in the education system. For example, because of the requirement within the SEM, Singapore schools are “forced” to consider how the various stakeholders can be meaningfully and profitably involved in school, something that is important but not particularly urgent (Khong and Ng, 2005).

Quality assurance is a paradoxical journey
Another insight into educational quality assurance is that it is a paradoxical journey. Quantum physics shows that light concurrently exhibits both wave and particle properties. These two descriptions form a paradox – a wave cannot be a particle and vice versa. Yet neither description is complete by itself. This wave-particle duality “forces” one to embrace paradoxes or face greater contradictions. Reality is often filled with paradoxes that powerfully show the two sides of the same coin to many issues.

Educational quality assurance is a paradoxical journey in many ways. It is both the “saviour” and the “devil”. It can drive certain performance standards at the macro level. It can also drive undesirable behaviours at the local level, contrary to what it professes to achieve. One can possibly foresee a certain big emerging picture from quality assurance initiatives. But one can hardly predict the nature of the individual local responses. The real outcomes of quality assurance efforts are positive and negative concurrently, predictable and unpredictable at the same time. They are not contradictions. They are paradoxes that help one to appreciate the dynamics of quality assurance better.

Another paradox of quality assurance is that it is often concurrently centralisation and decentralisation, especially at the more mature stages. In Singapore, the government has repeatedly stated its intention to decentralise its power to the schools to encourage diversity and innovation. However, the government still carries a great responsibility for achieving national outcomes and providing high value for public money. Given the national level strategies, the functioning of the schools must be aligned to the goals of social and economic development in Singapore. Thus, there is a need to ensure accountability and standards.

So, the government’s effort is much more accurately described as a paradoxical form of centralised decentralisation (Ng, n.d.). On one hand, the government attempts to decentralise power, give autonomy and devolve responsibilities to the schools. On the other hand, there is a risk of declining educational standards once government controls are lessened, hence the need for a robust quality assurance system, to insure against the loss of control and facilitate authoritative communication and managerial scrutiny (Watkins, 1993). Certain fundamentals, like high stake examinations, though modified, are not made obsolete. Tharman (2004) said:

Our exams serve a key purpose in education. They are an anchor in our meritocratic system. They provide transparency in the system, and give parents and students confidence that access to a school or tertiary institution is based on merit – confidence which is often lacking in other systems.
Therefore, the schools face a paradoxical trend of centralisation within a decentralisation paradigm. The more the decentralisation of tactical matters, the more the centralisation of strategic directions. The government wishes to maintain and promote high quality education on the one hand, and to empower schools to be flexible enough to diversify and innovate on the other. Schools are therefore put in a position of having to think out of the box while doing well within the box. The challenge is for educators to embrace this paradox to achieve the best of both worlds.

Conclusion
The Singapore experience highlights three important insights into educational quality assurance. Firstly, quality assurance develops in phases, each with its own characteristics and challenges. Secondly, quality assurance changes the nature of education. Thirdly, quality assurance is a paradoxical journey.

Educational quality assurance is therefore not a simple and clinical act of introducing standards and measuring against those standards. The Singapore experience amply illustrates powerful and paradoxical dynamics at work and the case study serves as a mirror to other developing countries in recognising that quality assurance is a delicate balancing act between conformity and diversity, and between standards and innovation.

Glossary of terms

- GCE “O” Level: General Certificate of Education Ordinary Level
- GCE “A” Level: General Certificate of Education Advanced Level
- I&E: Innovation and Enterprise
- IP: Integrated Programme
- IT: Information Technology
- MOE: Ministry of Education
- NIE: National Institute of Education
- NUS: National University of Singapore
- SEM: School Excellence Model
- SQA: Singapore Quality Award
- TSLN: Thinking Schools, Learning Nation

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