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**"ENHANCING QUALITY EDUCATION TOWARDS
THE REALISATION of ASEAN COMMUNITY 2015"**

A Country Report (2012)
submitted to
The 27th Asean Council of Teachers (ACT) Convention

by

The Singapore Teachers' Union

on behalf of

Singapore Chinese Teachers' Union
Singapore Malay Teachers' Union
Singapore Middle School Chinese Teachers' Association
Singapore Tamil Teachers' Union and
Union of ITE Training Staff

PART 1

1. ASEAN Community 2015

1.1 This country report recognizes ASEAN's aim to realize the ASEAN Community by 2015 as envisioned by ASEAN Leaders at the Bali Summit of 2003 and reinforced in the Cebu Declaration of 2007 to accelerate the Establishment of an ASEAN Community by 2015. As understood, the ASEAN Community is based on the three intertwined pillars of economic cooperation (AEC), political and security cooperation (ASCC). ASCC has to be supported by the AEC to ensure that the populations of ASEAN are prepared for, and benefit from, economic integration. Through the ASCC, there will be greater caring and sharing within ASEAN, with more resources allocated for basic and higher education, training, science and technology development, job creation, and social protection. The development and enhancement of human resources is a key strategy for generating employment, alleviating poverty and socio-economic disparities, and ensuring economic growth (Ong, ASEAN Statement, 2004). The challenge of ASEAN Community 2015 is regional integration and interdependence in security, economics and social-educational matters. As Asean economies become more integrated with an accompanying demand for human resources, better skilled and educated, growing rapidly in an economy that is knowledge-based, this country report will focus on the condition and challenges of this demand and shows how Singapore education can contribute to the realization of ASEAN Community 2015.

1.2 In brief, this country report recounts those aspects of education that have been achieved in Singapore, benchmarked against the most successful systems in the world (see McKinsey Report of 2007) and which can be shared with ASEAN Community in the "enhancement of human resources". This report is structured in 5 parts: Part 1 introduces the concept of ASEAN Community 2015, while Part 2 outlines the larger global picture - which ASEAN cannot ignore - focusing on what is happening in the economic and educational domains outside ASEAN with globalization. Part 3 explains what is taking place in Singapore education itself, and Part 4 shows how Singapore's experience can be shared with the larger Asean Community. Part 5 summarizes the main thrust of this country report and explains the need for caution in cross-border borrowing of ideas and policies.

"Toward the goals identified in ASEAN Vision 2020, especially ASEAN's intention to become an integrated market, Mr. Ong cites a number of drivers to enhanced cohesion and common purpose including education, technology and cross-border exchanges of ideas and people. "We need to open up our respective countries for the young people to communicate with one another".

(Source: ASEANWEB, "Diplomacy in Asean", Oct 2005)

PART 2

2. The Larger Picture

2.1 Quality education is defined in the context of ASEAN. Since the stages of educational development in ASEAN vary widely, it seems reasonable to accept UNICEF's (United Nations Children's Fund) definition of quality education in these much broader terms, based on the rights of children:

- Learners who are healthy, well-nourished and ready to participate and learn, and supported in learning by their families and communities;
- Environments that are healthy, safe, protective and gender-sensitive, and provide resources and facilities;
- Content that is reflected in relevant curricula and materials for the acquisition of basic skills, especially in the areas of literacy, numeracy and skills for life, and knowledge in such areas as gender, health, nutrition, HIV/AIDS prevention and peace.
- Processes through which trained teachers use child-centred teaching approaches in well-managed classrooms and schools and skilful assessment to facilitate learning and reduce disparities.
- Outcomes that encompass knowledge, skills and attitudes, and national goals for education and positive participation in society.

2.2 This definition allows for an understanding of education as a complex system embedded in a political, cultural and economic context. Definitions of quality must be open to change and evolution based on information, changing contexts, and new understandings of the nature of education's challenges.

(Source: Sadig Rasheed, Director Programme Division UNICEF Headquarters, 2000)

2.3 In this report, in characterizing the education systems in ASEAN, we take a socio-cultural perspective on education, in which the focus is on knowledge, teaching and learning as distributed across schools as "communities of practice". "Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger, 006).

2.4 There are two other aspects for us to focus on in the larger picture – we acknowledge the existence of a knowledge-based society and the changing demands for labour market conditions in the world.

2.4.1 *Knowledge* is now understood as a kind of energy or force or capacity to do things – effectiveness in action (according to M. Castells, cited in Gilbert) – not something to be picked up from textbooks. So Figure 1 below (based on Gilbert) shows Knowledge Society's view of knowledge, learning and the mind that will affect the role of teachers in schools:

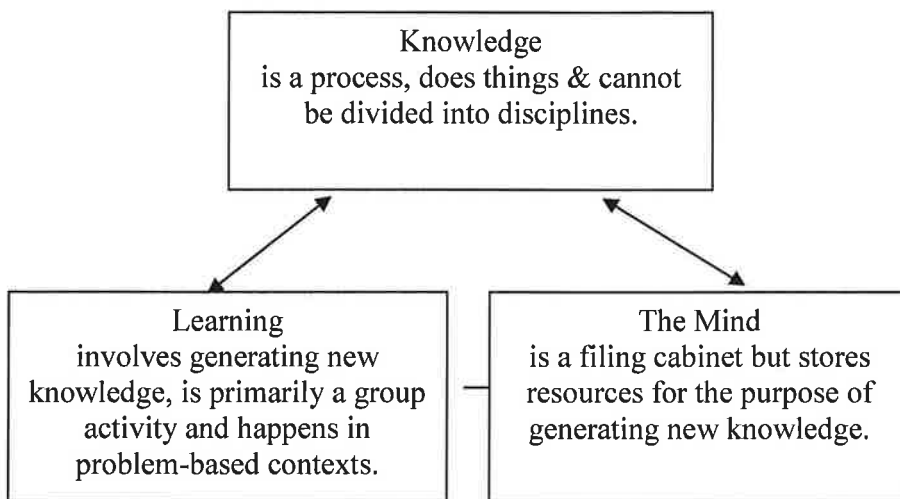


Fig 1. Elements of a Knowledge Society

Quite obviously all this has important implications for the way our schools prepare their students for the world of work. Schools should be able to anticipate the changes in the desired workforce skills and knowledge and then revise the curriculum and also teacher professional development accordingly.

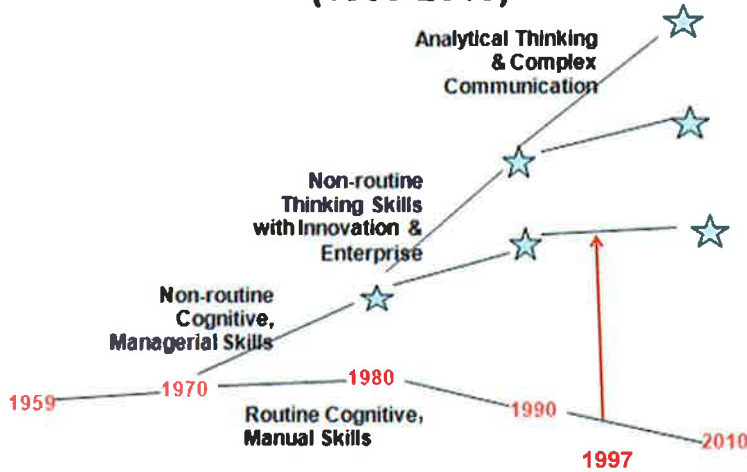
“During the last 20 years, the skills required to succeed in the economy have changed radically, but the skills taught in most schools [in the US] have changed very little. As a result there is the overgrowing mismatch between the skills of most graduates and the skills required by high wage employers”

Levy & Murnane, 2004

2.4.2 The demands of the world labour market is also changing fast. For instance, Levy and Murnane (2004) have shown in a chart (adapted in Figure 2 below) how these higher-skill demands have emerged in recent years in the US labour market. We have adapted this chart to reinforce the argument for change in our own education systems.

Fig. 2

Changing Demands of the Labour Market (1959-2010)



(Source: Loosely adapted from Levy and Murnane, 2004)

2.5 It is important for countries in ASEAN, including Singapore, to take note of world trends in education. Two recent reports come to mind – (1) the McKinsey Report of 2007 on How the World’s Best-Performing Systems Come Out on Top and (2) the Chetty *et al* Harvard University Report of 2011 on The Long-Term Impacts of Teachers.

In the McKinsey 2007 Report, it is stated that these aspects are very closely related to education and the enhancement of teacher quality:

- Selecting the right people to become teachers,
- Improving instruction through continuous professional development, and
- Creating systems and targeted support to ensure that every child benefits from excellent instruction.

The 2007 McKinsey Report stresses the critical value of teachers by showing Fig.4 below.

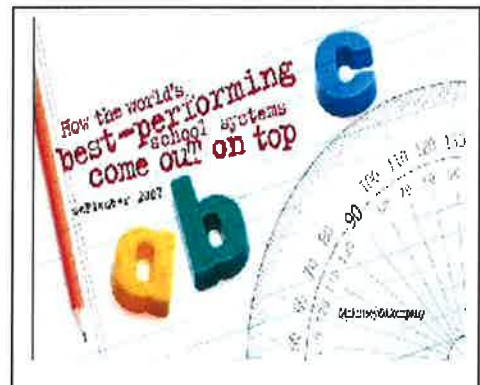
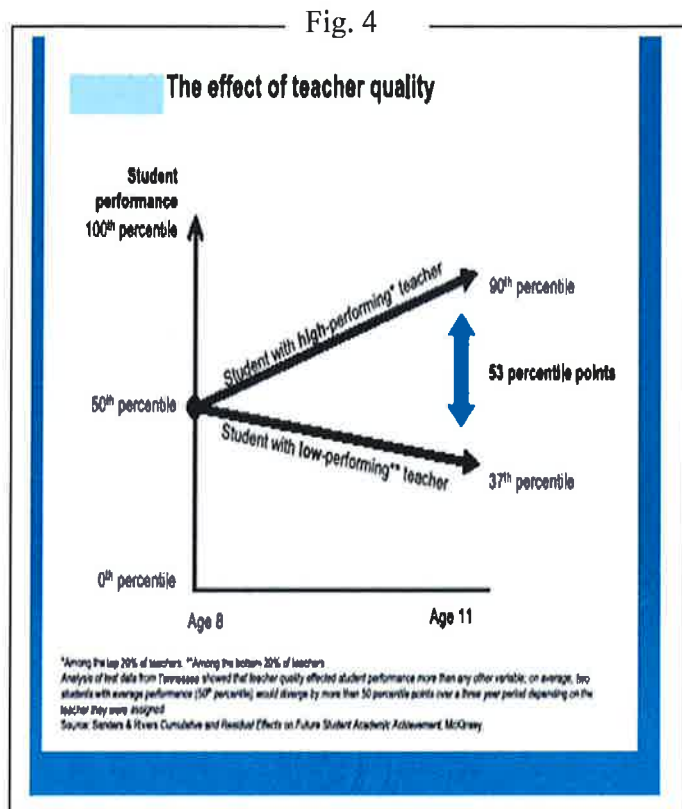


Fig 3. Cover of McKinsey Report 2007

What Fig 4 says is that two average students at the 50th percentile point when placed under two teachers of different quality or ability can result in student outcomes with at least 57 percentile points apart. The good teacher is what the Chetty *et el* report calls the *value-added teacher*.



In the Chetty *et al* Report, (to quote) “Students assigned to high-VA (value-added) teachers are more likely to attend college, attend higher-ranked colleges, earn higher salaries, live in higher SES neighborhoods, and save more for retirement. They are also less likely to have children as teenagers. Teachers have large impacts in all grades from 4 to 8.

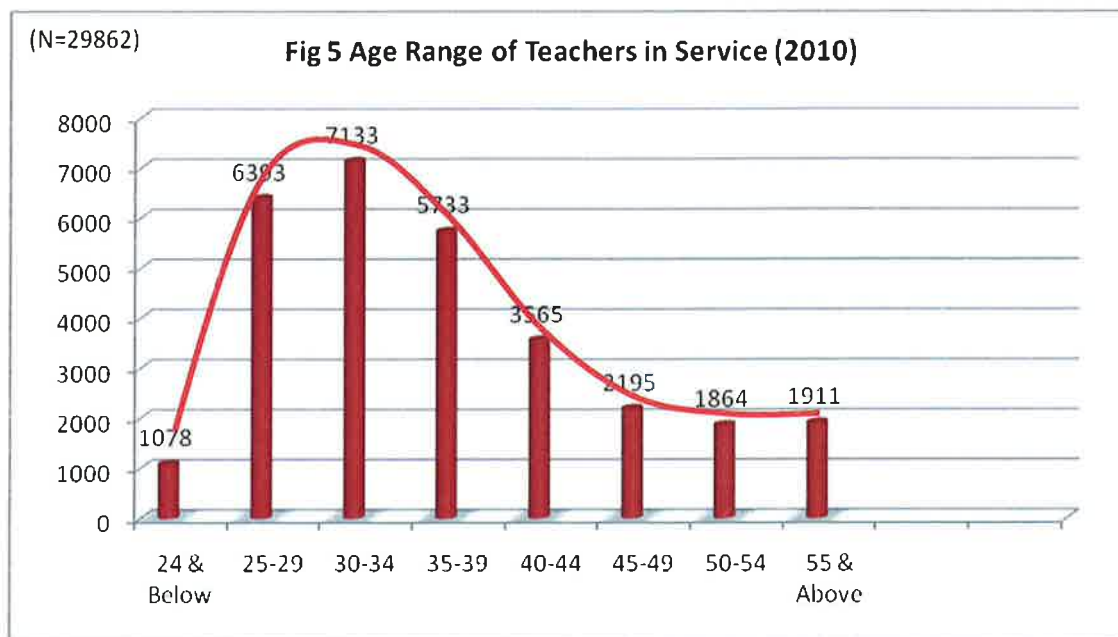
3. Enhancing Quality Education in Singapore

3.1 In Singapore, we recognize the critical value of teachers. As stated in the McKinsey Report (2007) --

“The quality of an education system cannot exceed the quality of its teachers”

Source: McKinsey and Co Report 2007

This was why over the years the Singapore Ministry of Education has recruited teachers from the top 30% of the cohorts of school and university graduates. As a result of intensive recruiting campaigns, the average age of teachers in service has been lowered, as shown in Fig 5 below, with many of whom in the 25 to 39 age range.



3.2 As early as 1999, our former Minister for Education (RADM Mr Teo Chee Hean) had sounded the clarion call for dynamic change to meet the challenges of a knowledge society. He said, among other things, “Singapore must remain relevant to the rest of the world, by adding value to the global economy. We should not only strengthen our capabilities as a manufacturing centre for MNCs [multi-national corporations] and as a regional services hub. We must upgrade our economy to one that is driven by knowledge-intensive industries and bubbling in innovation. In short, we must build towards a knowledge-based economy”.

The Minister added, “Science and technology will be the key driving forces in a knowledge-based economy. The exploitation of science and technology in knowledge-intensive activities has led to quantum leaps in productivity and competitiveness even in existing industries”.

The message is that if we want our schools to be (and they have to be) responsive to events in the world outside of schools, we do need to throw out the sorting function of education, the subject-based approach and traditional ways of teaching children. The more fundamental implication is that schools have to be transformed from what are essentially hierarchical organizations to networked ones or what Crawford *et al* (2009) have called “network-centric organisations”. In a hierarchy, which tends to foster formality, and unquestioning behaviour of subordinates (in this case, teachers), there is a powerful message for teachers to be compliant and unquestioning. The hierarchical nature of a school’s organisational structure shapes the way we look at knowledge,

education and the learners. Instead, the emphasis will be on nurturing thinking through inquiry rather than through exhortation and transmission of facts and knowledge.

3.3 This community of practice has, over the years, moved, as in the case of Singapore, from **being**

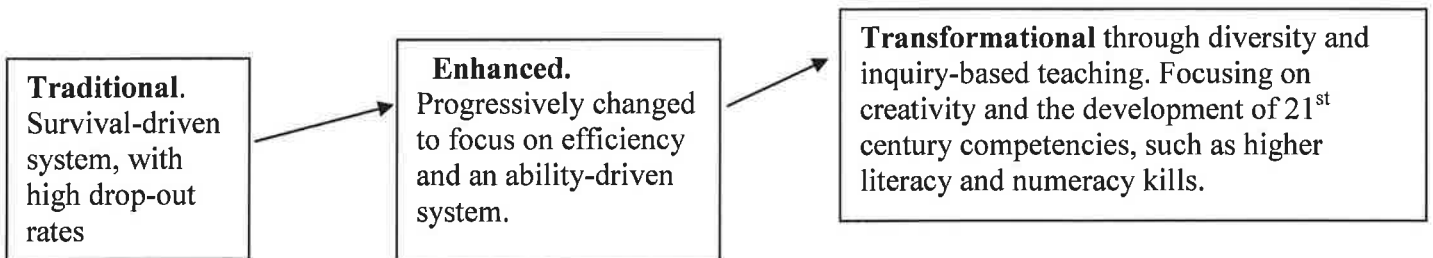
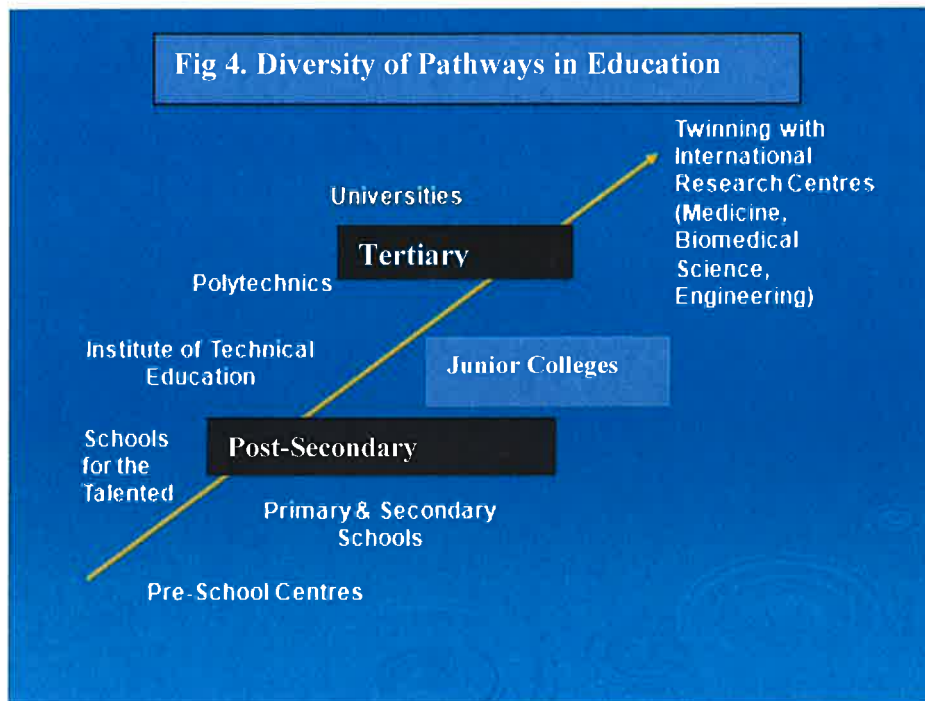


Fig. 3. The three orientations in teaching and learning in Singapore

The *traditional* orientation of teaching was primarily the transmission of knowledge, skills, and values from teachers to learners, while in the 1970s and 1980s in Singapore the *progressive* orientation stressed pedagogical skills and techniques with the introduction to IT. In the *transformational* orientation, teaching principally involves more of facilitating, encouraging, and motivating the learner in the learning process – the teacher is the role model in thinking and life-long learning. Much of this report will deal with the *transformational* with the teachers' role very much affected by *globalization* and an increasingly *networked learning environment*.

3.4 Diversity of Pathways to Learning. One of the strengths of the Singapore education system today is the provision of progression pathways to excel in learning for students of different abilities, needs and aspirations. As Fig 4 below shows, in the secondary school sector there are the schools for those with special talents (eg. School of the Arts, Sports School and the NUS High School for Maths and Science). To create more pathways to match the interests and aptitudes of students, for example, for those who are more technically inclined, such as Normal (Technical) students, there will be two specialized schools for them. There will also be an extension of the Integrated Programme (IP) to more secondary schools, which prepare students for for the university track.



As for university education in Singapore, one minister (Wong, 2011) put it. “Over the years, our universities, whether NUS, NTU, SMU or UniSIM, have worked hard to establish themselves as academic institutions of excellence. Our universities today command strong public confidence in their ability to offer an education that is high-quality and industry-relevant. It is important that we maintain these high standards of education and admissions, even as we expand the university sector to cater to a wider spectrum of students with different abilities and talents”. UniSIM provides, on a part-time basis, degree opportunities for those in the workforce. The fourth government-funded University is SUTD (Singapore University of Technology and Design), which has, as partners, MIT (Massachusetts Institute of Technology) and Zhejiang University of China. NUS Medical School has also linked up with Duke University Medical School USA) to form the Duke-NUS Medical School. Late last year (2011), Singapore's first liberal arts college, the Yale-NUS College, was officially launched at the National University of Singapore campus - a collaboration between NUS and Yale University, which brings together two universities with distinctive strengths to create a model of residential liberal arts education that is unique in Asia.

3.5 What should learning be like today?

Instead of concentrating on increasing in students’ minds the acquisition of factual knowledge related to specific subject areas such as Social Studies and Science, students in teams will be expected to engage in solving complex, authentic problems that cross disciplinary boundaries. Likewise, rather than disseminating knowledge as in traditional **classrooms, teachers** instead set up projects, arrange for access to appropriate resources, and provide the facilities to help students succeed. Technology plays a role in this approach of providing students with tools and information that support their problem solving, communication, collaboration, and knowledge creation”, according to McGhee and Kozma. In the context of inquiry-learning, the student is no longer a passive learner, imbibing what information is given out – he is, in McGhee and Kozma’s terms, “self-learner”, “team member” and “knowledge manager”.

"In the industrial model of student mass production, the teacher is the broadcaster. A broadcast is by definition information to a receiver in a one-way, linear fashion. The student is the receptor..."
(Don Tapscott, *Today*, 6 Sept 2010)

As cited in Hord (1997), Sergiovanni (1996) has maintained that classrooms must become communities of learning, caring, and inquiring. For this to happen, the school must become a place where teachers are involved in a community of learning, caring, and inquiring. "Key to community in both classrooms and schools is a commitment to inquiry, and a commitment to learning as the basis for decisions" (p. 147). "If our aim is to help students become lifelong learners by cultivating a spirit of inquiry and the capacity for inquiry, then we must provide the same conditions for teachers" (Hord, 1997, p. 52). Educator preparation programmes can help to bring about these conditions.

3.6 The Changing Role of Teachers

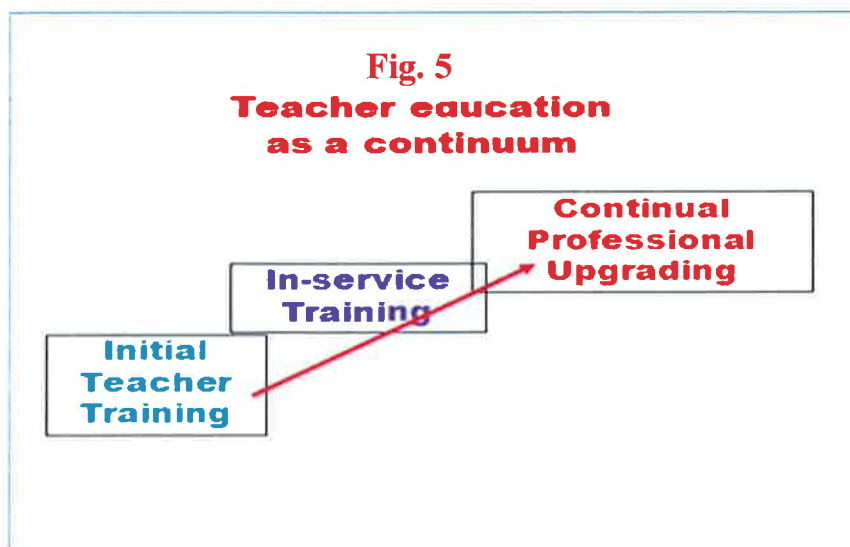
The changing role of the Singapore teachers is best seen against the overriding framework of *Thinking Schools, Learning Nation*, which aims to nurture a generation of thinking citizenry, capable, entrepreneurial and committed to lifelong learning. The role of teachers, as we know it, has been changing since the mid-1980s in Singapore and it continues to change from that of an instructor or purveyor of book knowledge to that of facilitator, mentor, and designer of learning environments. In addition, at another level, while teachers retain their traditional roles of form teachers and classroom managers, there are several new roles in classrooms that are technology-based. Among these roles in Singapore schools, they are: instructional designer, coach, or team/group-work coordinator. Each role is associated with specific activities and made possible by the use of technology in support of project-based learning and inquiry-based education.

3.7 Inquiry-Based Classrooms

As the facilitator of inquiry-based learning to guide the discussion or inquiry procedurally, the teacher is also serving as a co-inquirer, leading the inquiry down a particular path. The student is thus engaged, and this engagement can be critical, creative and caring. In an inquiry-based classroom, students are able to question ideas, beliefs and norms. As a partner in learning, the teacher is competent in a variety of teaching approaches, allowing students to set the course of inquiry through the establishment of a non-threatening learning environment.

3.8 Clearly the teacher today is no longer a storehouse of knowledge but at best a designer of learning strategies. At the same time, teachers need a system of support for integrating technology and overcoming their isolation as they grapple with new and unfamiliar approaches to teaching and tools for learning.

In assuming their new roles, teachers are expected to upgrade their knowledge and acquire new skills in areas such as pedagogy, assessment and curriculum development. For good reasons, Singapore has made a high investment in the teaching profession through careful selection of teachers, pre-service training, in-service training and continuing professional development (see Fig. 5).



PART 4

4. Enhancing Quality Education Towards the Realisation of ASEAN Community 2015

From what is said in the preceding sections on quality education in Singapore, there is much that Singapore can share with partner countries towards the realization of quality education in ASEAN. There have been significant starting points, eg. ASEAN Scholarships offered by Singapore, the ASEAN University Network and the ASEAN Council of Teachers (ACT), the meeting of which is rotated across the 10 ASEAN members. This country report is being prepared for the 27th ACT Convention.

4.1 ASEAN Scholarships

The ASEAN Scholarships, awarded for secondary school and pre-university study and undergraduate work, aim to provide the young people of ASEAN with opportunities to develop their potential and training them in the skills that will enable them to step confidently into the new economy. The ASEAN Secondary and Pre-University Scholarships lead to the award of the Singapore-Cambridge General Certificate of Education (GCE 'O') Level and (GCE 'A') Level. Outstanding students are able to secure further scholarships to study in the local universities (eg. National University of Singapore, Nanyang Technological University, Singapore Management University or Singapore University of Technology and Design) after they have completed the GCE 'A' Level Examinations. The value of the awards is substantial, and there is no bond attached to the scholarships.

4.2. ASEAN University Network (AUN)

As stated in the Charter of AUN (to quote), “The Fourth Meeting of ASEAN Heads of Government held in 1992 emphasized the need to hasten the development of a regional identity and solidarity, and promote human resources development by considering ways to strengthen the existing network of leading universities and institutions of higher learning in the ASEAN region

with a view to ultimately establishing an ASEAN University based on this expanded network. It also declared that ASEAN Member Countries shall continue to enhance awareness of ASEAN among the people in the region through the expansion of ASEAN Studies as part of Southeast Asian Studies in the school and university curricula and the introduction of ASEAN student exchange programmes at the secondary and tertiary levels of education”.

4.3 STU’s Regional Projects

Two of STU’s regional efforts may be briefly mentioned here. One was a short-term training project for a visiting group of university undergraduates from Thailand to learn what good English is. The other is a major project spanning two years. From 2005 to 2006, over two full years, STU conducted a major training project for teachers in a school in Soroako, Sulawesi, Indonesia. STU’s task was to train the kindergarten and primary school teachers to use English exclusively in teaching English, Mathematics and Science (EMS). This project was launched in January 2005 for the Kindergarten and the Primary School, when a number of classes were

designated as Project classes. The Project teachers were trained to use the Singapore curriculum in English, Mathematics and Science.

Based on the empirical evidence of the project, the outcomes were positive and encouraging. It was observed that much English was being used in the Project classes, much more than would be expected after a little more than one year of change and training.



Fig 6. In a Kindergarten 2 class in Soroako, Sulawesi, Indonesia.

4.4 ICT for ASEAN Schools. The Singapore Government’s reading of the emergent new economies is that they require of school leavers entirely new sets of skills. The growth of the service sector and a speeding up of market liberalization for banking and telecommunication and the possibilities emergent in a technology-driven economic environment put a high premium on training and productivity.

The advent of a digital knowledge-based society has brought about significant changes in many ways. Specifically, educational problems are becoming more diverse, and tasks more complex, which necessitate the ability of teachers to apply feasible solutions to individual solutions, as well as the flexibility to adapt to changing environments. These changes call for a paradigm shift in education to one that is search- and discovery-centred, emphasizing creativity and initiative, and valuing interaction and collaboration.

Singapore schools have an ICT-infused pedagogy and curriculum, having taken a progressive approach to build familiarity of ICT systems and procedures. The lessons learnt have shaped the Third IT Masterplan. Taking into account Singapore’s experience in introducing ICT to its schools, ASEAN school leaders would like to know, for example: As ICT enters every classroom, what is the impact on teachers? Does it give them more work, or less? Is it a tool that helps them to teach the curriculum or does it add extra curriculum content? Does it change what

they teach and how they teach it? It is beginning to look as though ICT and, in particular, connection to the Internet will have profound effects on schools.

- 4.5 In contributing to ASEAN Community 2015, STU is prepared to share its expertise in
- the teaching of English, Mathematics and Science to the ASEAN Community Teacher Leaders, and
 - the introduction of ICT in the interested country's school system, given that the required resources are available in that country.

Following Chong's (2002) point about Asian teachers and their shared identity, it can also be said that ASEAN societies share certain aspects of their cultures and historical background. He added, "This uniqueness and individuality reveals a rich pedagogical philosophy, educational curriculum and teaching system". Each ASEAN country has its own educational content and methodologies. Sharing these resources and ideas across physical boundaries can lay the foundation for bonding among teachers in ASEAN and work towards building a cohesive professional community.

PART 5

5. Concluding Remarks

5.1 We started by trying to define quality education in the ASEAN context, which has a diverse range of systems and academic standards, and to suggest looking outside ASEAN for new trends following globalization. But more importantly, "In the Knowledge Age *everyone* needs the kind of knowledge and skills traditionally only provided in post-secondary education. We need new ways of organizing education based, not on the one-size-fits-all, production-line model, but on new models that allow flexibility, multiplicity, and new ideas about ability. Secondly, we need a new way of thinking about what we teach and why we teach it, a new way of thinking about the traditional disciplines that underpin the school curriculum" (see Gilbert, 2003).

5.2 STU recognizes that educational reform is a continuing and complex process. So is the building of an ASEAN Educational Community, but with the use of information technologies and given the will, in the long term we can together help to create knowledge and intellectual capital, which will have a far-reaching impact on the lives of the populations of ASEAN. At the same time, we must also recognize that the export of ideas and policies across physical boundaries is a complex matter. "Educational reforms are complex and embedded contextual, cultural and historical stories. The extrapolation and recontextualization of innovation, reform, and method need to be undertaken with caution" (see Luke, 2011).

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