
TEACHER TRAINING AND CONTINUING PROFESSIONAL DEVELOPMENT: THE SINGAPORE MODEL

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Abstract: This paper presents Singapore's initial teacher training and continuing professional development as a possible model of teacher education and preparation. Since the mid-1990s, several educational reforms and initiatives have been introduced into Singapore education with the goal of equipping her young citizens with knowledge and skills for a globalised economy and workforce, and for the challenges of the 21st century. Teachers are the frontline of any educational endeavour, which means that teacher quality is paramount to its implementation. Thus, the Ministry of Education invested heavily in building the teacher workforce and enhancing its quality in pursuit of the desired educational outcomes. Increased and sustained teacher recruitment enlarged the teacher workforce. Stringent criteria were used to select suitably qualified applicants who went through intensive pre-service teacher training at Singapore's sole teacher training institute, the National Institute of Education. Several policies were put in place to enable in-service teachers to continually develop and upgrade themselves professionally. For instance, every teacher was entitled to 100 hours per year of professional development. A multi-prong approach was deployed to encourage teachers' participation in professional training and development. These included workshops or short courses for deepening knowledge of subjects taught and for enhancing pedagogical skills, and conference or seminar attendance for sharing teaching practices and broadening experiences. Teachers were also initiated into "life-long learning" with various sponsorship schemes to pursue masters or doctoral level studies. On the belief that an educational system is as good as the quality of its teachers, this paper concludes with a discussion of Singapore education's continuing journey towards innovations in teacher development.

Keywords: *Pre-service teacher training, Teacher professional development, Teacher quality*

1 INTRODUCTION

Since the 1950s, Singapore education has undergone three distinct phases of change and development, i.e. survival-driven education (1959-1978), efficiency-driven education (1979-1996), and ability-driven education (1997-todate). The third phase, with its overall goal of better equipping Singapore young citizens with knowledge and skills required for a globalised economy and workforce as well as better prepare them for the challenges of the 21st century (Chen, 2000), is the focus of this paper as it discusses the Singapore model for teacher training and continuing professional development.

In 1997, the Ministry of Education (MOE) introduced two key initiatives. One initiative, labelled "Thinking Schools, Learning Nation" (TSLN), presented a vision of Singapore's education in the 21st century and

aimed at improving the education system to prepare her young citizens to face future challenges (Goh, 1997). Several reforms and changes were instituted in this initiative. The "Teach Less, Learn More" (TLLM) in 2006, and "TLLM Ignite" in 2008, were initiatives aimed at catalysing school curricula (Ministry of Education Singapore, 2008 January 8). TLLM involved reductions of curricula content in order that those more crucial subject-matter that remained might have more time and learning processes allocated to them for more experimental and of creative teaching and learning. TLLM Ignite was an addition to this curriculum reformation to enhance its inspiration and passion. A major effort was made in 2008 to include competencies needed in the 21st century into the Singapore curriculum (as articulated in Curriculum 2015). This was to provide students "with opportunities to be self-

directed and active in collaborating so as to enhance content transmission, discourse, clarity and the building of new knowledge” (Ng, 2008). Specific curriculum reviews at different schooling levels were also conducted. The junior college/upper secondary curriculum was reviewed in 2002, the primary education review and implementation (PERI) was done in 2008, and the secondary education review and implementation (SERI) in 2010 (Ministry of Education Singapore, 2002 October 15, 2009 April 14, 2010 December 28).

The other initiative was MOE’s master plan for IT in education (1997 - 2002), aimed at a comprehensive strategy for creating an IT-based teaching and learning environment in every Singapore school to equip young citizens with skills that are critical for the future such as creative thinking, the ability to learn independently and continuously, and effective communication (Chen, 1997). Two master plans, mp2 (2003-2008) and mp3 (2009-2014), were implemented in succession, to enrich and transform the learning environments of young citizens and equip them with the critical competencies and dispositions to succeed in a knowledge economy (Shanmugaratnam, 2002; Ministry of Education Singapore, 2008 August 5). An intensive programme for rebuilding and improving existing schools (PRIME) was also embarked upon since 1999 to put in IT-ready infrastructure for IT implementation in schools (Ministry of Education Singapore, 2008 January 29).

2 TEACHERS – A KEY DRIVER IN EDUCATION REFORMS

Teachers are the centre of any education reform. Besides having enough teachers to drive a reform, teacher quality is equally paramount to its implementation. For this, the MOE have invested heavily in building up the teaching force and enhancing its quality. Policies were established to encourage in-service teachers to continually develop and upgrade themselves professionally. Thus, in 2001, MOE announced a comprehensive plan for professional and career development in the education service. Two packages, GROW 1.0 in 2006, and GROW 2.0 in 2007, were articulations targeted at the growth of education officers through better

recognition, opportunities and seeing to their wellbeing (Ministry of Education Singapore, 2006 September 4; Shanmugaratnam, 2007).

2.1 Achieving Teacher Quantity and Quality

In the 1990s, there were about 22,000 teachers in service. Teachers who taught at the primary level were not university graduates, although they had all graduated at college level teacher education and training befitting primary-level teaching. University graduate teachers taught at the secondary and pre-university levels, while much lower secondary teaching was done by teachers trained for primary school teaching. Active teacher recruitment helped build up the capacity of the teaching workforce. The teaching workforce grew to about 26,400 in 2005, and 32,800 in 2013. Stringent criteria were used to select suitably qualified applicants who went through intensive pre-service teacher training at Singapore’s sole teacher training institute. Today’s teaching workforce has much improved academic qualifications. Of the 14,800 teachers who teach at primary level, 70 percent are university graduates, nine percent hold Master’s degrees, and less than 0.1 percent hold doctoral degrees. Of the 15,000 teachers who teach at the secondary levels, 94 percent are university graduates, 15 percent hold Master’s degrees, and 0.3 percent hold doctoral degrees. Of the 3,000 teaching the pre-university level, almost all are university graduates, 22 percent hold Master’s degrees, and 1.6 percent hold doctoral degrees (Ministry of Education Singapore, 2014). And many primary teachers who have not university degrees have undergone enhanced teacher education and training programmes.

A unique tripartite partnership, between Singapore’s only teacher education and training institution, the National Institute of Education (NIE), and her Ministry of Education and schools, has been responsible for such maintaining of teacher quality as mentioned above, delivering suitably qualified teachers for students at all levels of the nation’s education system. NIE works in close collaboration with the Ministry of Education and schools.

2.2 Initial Teacher Training

NIE offers three initial teacher preparation (ITP) programmes, which target three groups of aspiring teachers. Each programme equips trainee teachers with the knowledge and skills to competently meet the demands and challenges of teaching a particular subject to a particular age-group of students. There is the two-year Diploma in Education programme which prepares trainee teachers to become generalist teachers in primary schools. There is the four-year Bachelor of Arts/Science (Education) programme, an undergraduate university degree programme (NIE is an institute within the Nanyang Technological University which confers the degree) which provides students with both university-level academic education in the subjects they will teach, and professional development for teaching. This programme has two tracks – the primary track which qualifies students to teach in primary schools, and the secondary track which qualifies them to teach in secondary/pre-university classes.

Then there is the one-year Postgraduate Diploma in Education (PGDE) programme which provides professional certification for university graduates (National Institute of Education, 2014). Aspiring teachers are carefully selected into one of three training tracks – primary, secondary, and junior college teaching. To be selected for the PGDE (Secondary) teaching track, candidates must have a relevant degree related to the major subject they intend to teach. The PGDE (Junior College) teaching track was started in 2009 to specially train teachers for teaching at the pre-university level. Stringent academic requirements are applied at selecting suitably qualified candidates, who must have at least an honours degree in the subject they teach.

Selected candidates undertake comprehensive and intensive initial teacher preparation. Take for instance the one-year PGDE programme. This programme has four main components – education studies, curriculum studies, teaching practice, and language enhancement and academic discourse skills training. Education studies focuses on key educational concepts, principles, and aspects for reflective practice in schools. Curriculum studies require trainees to study the

methodology of teaching the specific curricular contents at primary, secondary, and junior college levels. Trainees pursuing the PGDE (Primary) specialize in the teaching methods associated with two or three subjects at the primary level, while those in the PGDE (Secondary) specialize in the teaching methods associated with two subjects at secondary school level. Candidates in the PGDE (Junior College) specialize in methods of teaching one subject at junior college level as well as one subject at secondary school level. The latter subject must align with the candidates' junior college teaching subject. Junior college PGDE candidates also engage in “knowledge and skills training” to help them develop the values, knowledge, and skills expected of junior college teachers.

Practicums are compulsory for all trainee teachers. Each trainee has to do two stints of practice in schools. Before each practicum, the NIE, with input from the Ministry of Education, contacts the respective schools to ensure they can provide opportunities for the trainee teachers to teach their subjects of specialization. During the practicum, each trainee teacher is mentored by an NIE supervisor, who periodically visits him or her in school to observe and advise on his or her teaching. Each trainee is also supported by in-school mentors, namely the school's co-ordinating mentor, and co-operating teachers.

Trainee teachers furthermore participate in two special programmes. The first is the Group Endeavours in Service Learning (GESL), a community outreach service-learning programme that provides trainees with opportunities to perform community services facilitated by an NIE facilitator. The second is the Meranti Project, a Ministry of Education-funded personal and professional development programme that provides trainee teachers with opportunities to experience social-emotional learning, share personal aspirations with peers, and express their opinions in an open and creative environment.

3 CONTINUING PROFESSIONAL DEVELOPMENT

Teachers' learning does not stop at their initial teacher preparation. To encourage teachers'

take-up of continuing professional development (CPD), MOE uses a multi-prong approach. In place are several policies to encourage in-service teachers to continually develop and upgrade themselves professionally. For example, there was the 1999 review of teacher training entitled “every teacher to 100 training hours per year”, which entitled in-service teachers time to refresh their skills and knowledge in line with the latest understandings and developments in education (Ministry of Education Singapore, 1999). There are also “milestone programmes” to develop teachers for leadership roles.

3.1 Scholarship and Sponsorship Schemes

Various MOE scholarship and sponsorship schemes are available for every in-service teacher to pursue continuing professional development (CPD) throughout his or her career. There are also different CPD pathways for teachers to upgrade their knowledge, keep abreast of developments and initiatives in education, receive updates on pedagogical innovations, gain new competencies in response to societal needs and demands, gain training in research and management skills, and enhance their teaching effectiveness through a commitment to life-long learning. These include workshops and short courses for deepening subject content knowledge or for enhancing pedagogical skills, conference and seminar attendance for sharing of teaching practices, and industry attachments and sabbaticals for broadening experiences.

Teachers are encouraged towards life-long learning with various sponsorship schemes made available for them to pursue masters or doctoral level studies. MOE’s Professional Development Continuing Model (PDCM) sponsorship scheme implemented in 2005 is one such example (Shanmugaratnam, 2004). It was meant for in-service teachers to pursue professional postgraduate studies on a part-time basis. For this, the ministry has worked closely with NIE to have on hand a wide variety of master-level programmes designed to meet teachers’ professional needs in the areas of values as well as skills and knowledge

3.2 Academies

A significant part of teachers’ professional development is their participation in short courses, seminars, workshops, and talks conducted by tertiary institutions, the Academy of Singapore Teachers (AST), etc. NIE works closely with MOE to put out relevant short courses and workshops based on training needs articulated by schools or by MOE’s curriculum departments.

The AST, established in 2010, aims to build a teacher-led culture of professional excellence for the teaching fraternity (Ministry of Education Singapore, 2010). One special feature of the academy’s work is its various network learning communities, grouped by teaching subject, teacher role, and interest. The objective of these communities is to nurture and support teachers in their teaching roles and practices. Teachers participate in subject groups called subject chapters; each chapter is led by a core team of school teachers recognized as among the best in their subject or by specialists from the Ministry of Education and NIE. The role of these leaders is to enhance teachers’ curriculum knowledge, pedagogical skills, and assessment literacy.

Another three academies were set-up by MOE in 2011. The Singapore Teachers’ Academy aimed at enhancing the professional excellence, practice and growth of art and music teachers, the Physical Education and Sports Teacher Academy (PESTA) aimed at building a teacher-led culture of professional excellence to enhance the professional development of in-service Physical Education (PE) and Sports teachers, and the English Language Institute of Singapore (ELIS) aimed at promoting excellence in the teaching and learning of English in Singapore schools and providing in-service professional development for English language and English-medium teachers (Ministry of Education Singapore, 2011 July 27, 2011 August 8, 2011 September 5).

3.3 Professional Development Communities

At the school level, teachers have opportunities to share, collaborate, and co-develop new and better ways of teaching. For instance, teachers are provided with “white space” within professional development communities (PLCs)

to develop such areas as lesson plans and to refine instructional materials, as well as teaching strategies and assessment practices (Ministry of Education Singapore, 2009 September 17). The subject chapters at the AST support PLCs in schools by providing teaching resources and instructional leadership in their subjects. They also identify and share good pedagogic practices throughout the school system. To date, more than half of Singapore schools have formed PLCs.

3.4 Multiple Modes of Learning

Teachers can furthermore avail themselves of multiple modes of learning, such as conferences, mentoring, research-based practice, network learning, and reflective practice.

4 INNOVATIONS IN TEACHER DEVELOPMENT

The initiatives of 1997 were launched as part of Singapore's efforts to bring teaching and learning up to the standards required in today's twenty-first century classroom environment. Over the last decade, Singapore education has improved significantly and this achievement has attracted international recognition. Singapore students have been ranked among the best performers at international assessments of student achievement in mathematics, science, and reading literacy. These accolades reflect the high quality of Singapore's teaching workforce. As highlighted in a report produced under the auspices of McKinsey & Company and titled "How the World's Most Improved School Systems Keep Getting Better" (Mourshed, Chijjoke, & Barber, 2010), Singapore's education system actively intervenes to build up teachers' instructional skills and capabilities. It invests heavily in various professional development packages and programmes.

Recently, MOE stressed her commitment to enhancing the quality of the teaching force introducing a policy framework labelled "TEACH", indicating the intention, with "Teachers", to "Engage" them with regard to their "Aspirations", "Career" and "Harmonious workplace relations" (Ministry of Education Singapore, 2011 March 3). MOE also launched the "Teacher Growth Model" (TGM) as a way to further consolidate efforts to promote teachers' continual upgrading of their

knowledge and skills, and their taking ownership of their own professional growth and personal wellbeing (Ministry of Education Singapore, 2012 May 31). The NIE, a key leader in teacher professional education and training, works closely with the MOE and schools to provide high-quality relevant programmes for teacher development. The innovations in teacher development are briefed as follows.

NIE redesigned its four-year undergraduate ITP programme to attract Singapore's best young adults into teaching. The NTU-NIE "Teaching Scholars Programme" (TSP) was launched in 2014. This four-year programme added a multi-disciplinary curriculum to the core curricula of the Bachelor of Arts/Science (Education). Offering a wide range of course electives, seminars, and leadership programmes, the TSP aims not only to broaden students' perspectives both about local and global issues but also to train graduates in intellectual rigor and strong leadership skills. For Singapore, ITP programmes such as the TSP are integral to raising teacher quality and in turn the calibre of school teaching and learning (National Institute of Education, n.d).

NIE also redesigned a "milestone" programme for developing teacher leaders. The "Teacher Leader Programme" (TLP) is a series of three programmes that develops leaders among teachers on the "teaching track", i.e. those whose job involves largely teaching and who do not hold administrative positions. These leaders are Senior Teachers, Lead Teachers and Master Teachers. The programme is aligned with the Teacher Growth Model (TGM), which aims to nurture teachers as ethical educators, competent professionals, collaborative learners, transformational leaders and community builders (National Institute of Education, n.d).

NIE also develops teacher education pathways to flexibly meet teachers' continuing professional development needs. For example, the "Professional Development-Higher Degree" (PD-HD) pathway allows for in-service teachers to pursue up to four master-level courses as a non-graduating student. If they so wish, upon successful admission into NIE's higher degree programme, they may apply for course accreditation based upon the courses they

completed, subject to meeting the necessary requirements (National Institute of Education, 2013)

4 CONCLUSIONS

MOE sums up teachers' key role in education and its support for developing them in that role in the following policy statement (Ministry of Education Singapore, 2014 September 23).

"Teachers play an important role in building our nation by bringing out the best in every child. The Ministry of Education (MOE) will further strengthen efforts to grow our teachers by providing opportunities at every stage and in every way to deepen their skills and expertise. Through this, MOE aims to strengthen a culture of learning among our teaching force, a culture of teachers growing teachers, and in the process, nurture a pipeline of teacher leaders who are accomplished in their profession and able to lead fellow educators".

This statement aptly summarizes the delineations in this paper of the varieties of schemes and initiatives Singapore education has through the years, and in recent times, put in place for teacher education, training and continuing professional development.

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