

Teacher Professional Development in Malaysia: Issues and Challenges

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1. Introduction

Educational systems around the world have been experiencing changes and reforms. Stepping into the new millennium, many societies around the world are engaging in serious and promising educational reforms. This has also occurred in the field of teacher professional development, which has been changing so rapidly and frequently all around the world. It has been acknowledged that teachers are not only one of the ‘variables’ that need to be changed in order to improve the educational system but are also the most significant agents in this reform. This dual role of teachers as the subjects and objects of change has made the field of teacher professional development a growing and challenging area in this era. Teachers in today’s world are under a growing pressure to perform. Higher expectations and greater needs now pressure the teachers to perform effectively in classroom. It all comes down to quality teachers who are the determinants of student achievement. Even the most prepared and genuinely qualified teacher still has a great deal to learn when they begin to teach. Hence it is vitally essential that teachers are well prepared when they begin to teach and they continue to improve their knowledge and skills throughout their careers.

With globalization, professional teacher development has become an increasingly challenging task for Malaysia’s younger generation for Malaysia’s younger generation which has a higher set of values and greater expectations from life. With the growing needs and expectations of the society, teachers are not only expected and seen as imparters of knowledge but also to shoulder the responsibility of moulding and shaping a better citizenry. Based on this scenario, the Malaysian Ministry of Education constantly encourages her teachers to pursue courses in critical and relevant areas by offering remuneration packages and potential promotions.

2. A Brief Glance towards Understanding Malaysia

Malaysia is known as a tropical paradise, with a combined population of 28,073,200 (Malaysia, Economic Planning Unit, Malaysia, 2010), who are a multicultural and multiethnic society consisting of Bumiputera (Malays and other Bumiputera), Chinese, Indians and other ethnic groups (see Table 1). Although Malay is the official language, English is widely spoken especially when it comes to business and English is a compulsory subject in the schools. The diverse ethnic composition results in many religious practices like Islam, Buddhism, Christianity,

Hinduism, Confucianism and Taoism, with Islam being the official religion of the country. Malaysia is made up of two regions, Peninsular Malaysia and East Malaysia, with Kuala Lumpur being the capital city. The combined landmass of both regions is about 329,845 square kilometres (127,354 sq miles).

Table 1 *Population of Malaysia by Ethnic Group*

| | Unit | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Population by Ethnic Group | | | | | | | | | | |
| Malaysian Citizens | '000 | 22,492 | 22,891 | 23,276 | 23,628 | 23,985 | 24,345 | 24,702 | 25,056 | 25,409 |
| Bumiputera | '000 | 14,656 | 14,956 | 15,248 | 15,517 | 15,791 | 16,071 | 16,350 | 16,630 | 16,912 |
| Malay | '000 | 12,038 | 12,285 | 12,525 | 12,746 | 12,972 | 13,203 | 13,434 | 13,667 | 13,902 |
| Other Bumiputera | '000 | 2,618 | 2,671 | 2,722 | 2,770 | 2,819 | 2,868 | 2,915 | 2,963 | 3,010 |
| Chinese | '000 | 5,837 | 5,907 | 5,974 | 6,034 | 6,093 | 6,150 | 6,204 | 6,256 | 6,305 |
| Indian | '000 | 1,723 | 1,748 | 1,773 | 1,794 | 1,816 | 1,838 | 1,859 | 1,880 | 1,901 |
| Others | '000 | 277 | 279 | 281 | 283 | 285 | 287 | 288 | 290 | 292 |
| Non-Malaysian Citizens | '000 | 1,460 | 1,688 | 1,967 | 2,109 | 2,462 | 2,523 | 2,530 | 2,826 | 2,664 |

Source: *Economic Planning Unit, Malaysia (2010)*

Since the dawn of independence in 1957, education has figured prominently as the integral part of the government's developmental policy. Education has undergone tremendous change and development over the years. Malaysia has been keen in nation-building, and busy enhancing its national unity through a unified educational system, a national curriculum in which *Bahasa Melayu* (national language) has been the medium of instruction and communication for the past 30 years. Subsequent curriculum reforms in 1983, 1995 and 1999 and increased use of educational technology have enhanced quality education. Recent curricular revision has encouraged student-centred pedagogical approach which has brought about the inclusion of a positive attitude to knowledge and skills.

The Sixth Malaysian Plan (1990-1995), brought about a major focus on the expansion of educational opportunities, increased access to all levels of education and on strengthening and improving quality education. In the Seventh Malaysian Plan (1996-2000), the government not only improved the man-power needs in the fields of Science and technology but also boosted the objectives of education and training in order to produce an ample amount of skilled and quality workers. The Ninth Malaysian Plan (2006-2010) intends to move the economy up the value chain, and to intensify the development of human capital into a knowledge-based economy. Initiatives undertaken have improved the quality of accessibility to education, provided tertiary education of international repute, nurtured R&D and innovation capability, and continued upgrading in the quality of teachers and academic staffs.

Malaysia established a visionary policy, titled Vision 2020 to transform the country into a developed nation by 2020 (Government of Malaysia, 2008b). As Malaysia pursues its vision 2020,

access to quality education, human quality development and educationally competitive Malaysian schools ranks among its most important challenges. Hence, to ensure that its intentions are not derailed the Ministry of Education (MOE) has a crucial role to play in the professional development of her teachers. Working towards these criteria the MOEs effort to prepare quality teachers is guided by the National Philosophy of Education (NPE) and Philosophy of Teacher Education (PTE).

3. The Professional Development of Teachers

Professional development, in a broad sense refers to the development of a person in his or her professional role, be it a teacher, lawyer, engineer or doctor etc. To be more specific Glatthorn (1995) states that, “Teacher development is the professional growth a teacher achieves as a result of gaining increased experience and examining his or her teaching systematically” (Glatthorn, 1995, p. 41). These professional developments could be either formal experiences (as attending workshops or professional meetings, mentoring, etc.) or informal experiences; such as reading professional publications, watching television documentaries related to any academic disciplines, etc. (Ganser, 2000). Further Glatthorn (1995) defines it as “the growth that occurs as the teacher moves through the professional career cycle”, and it is definitely broader than staff-development which is “the provision of organized in-service programmes designed to foster the growth of groups of teachers; it is only one of the systematic interventions that can be used for teacher development” (p. 41).

Previously professional development was thought as a short-term process where teachers gather information on a particular aspect of work. But only in recent years it has been thought of as a process which is long-term that includes regular opportunities and experiences planned systematically to promote growth and development in the profession. Two concepts about teacher professional development as seen by Hoyle(1982) were firstly, as ‘a process in which a teacher continues to develop the knowledge and skills required for effective professional practice as circumstances change and as new responsibilities are accepted’. Secondly as ‘knowledge acquisition and skills development which should to a greater degree than in the past be more directly related to substantive problems faced by teachers’ (p. 164).

4. National Education Philosophy

It is also essential to look into the National Education Philosophy formulated in 1988 to understand the importance of establishing education in Malaysia.

“Education in Malaysia is an ongoing effort towards further developing the potential of individuals in a holistic and integrated manner so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious, based on a firm belief in and devotion of God. Such an effort is designed to produce Malaysian citizens

who are knowledgeable and competent, who possess high moral standards and who are responsible and capable in achieving a high level of personal well-being and being able to contribute to the betterment of the family, society and nation at large”.

Malaysian Educational policy is the transformation of the National Philosophy and as documented in the Ministry of Education circular 1988, the policy focuses on improving the quality and increasing the quantity of output to meet the workforce requirements as well as to produce disciplined citizens who have high moral values and good work ethics. It is designed to equip students with essential skills in a holistic and integrated manner so as to produce individuals who meet the requirements of the National Philosophy of Education and are functionally literate. Its aim is to inculcate and also nurture national consciousness by promoting common ideas, values, aspirations and loyalties; fostering national unity; producing a work force for economic and national development; and instilling desired moral values in students so that they can make effective contributions towards nation building.

5. Overview of Teacher Education in Malaysia

The philosophy of teacher education formulated in 1982 determined the direction of teacher education. The philosophy gives emphasis to the desire to educate and produce teachers who are noble and caring, knowledgeable and skilful, creative and innovative, resilient and competent, scientific in outlook, committed to upholding the aspirations of the nation, proud of their heritage and dedicated to the development of the individual and preservation of a united, progressive, and disciplined society.

This underlying philosophy is translated in principle to the teacher curriculum, which encourages the development of a balanced, well-rounded individual, who is a trained and skilled individual thus ensuring that the ministry aspirations are met.

The Ministry of Education's (MOE) main concern is to provide pre-service as well as in-service training for its teachers in order to meet the needs of its schools. Both the teacher training colleges and universities undertake the mission of teacher education and training. Before the establishment of the Ministry of Higher Education (MOHE) on 27 March 2004, teacher education and planning were under the jurisdiction of the Ministry of Education (MOE). Since 2004 secondary and primary school teacher training were separated and given to MOHE and MOE respectively. The MOHE trains the secondary school teachers via government-funded universities and the MOE trains primary teachers via the Institute of Teacher Education (ITE), to ensure professional development is encouraged and its goals and aspirations are achieved.

6. Teacher Professional Development in Malaysia

Teachers are an important workforce for achieving the Malaysian educational aims in enhancing the education quality and developing the human capital of the nation. The need for

professional development for teachers in Malaysia was recognized as early as 1995 by a special committee¹ set up by the Education Ministry to look into teachers' professionalization, professionalism and professional development. Teachers' professional development was recognized as a means to enhance the teaching profession. Some of the recommendations put forward by the committee were:

- Teachers should be encouraged to attend in-service courses
- Teachers should be encouraged to further their education
- Opportunities should be given to teachers for study visits overseas to study current developments in education
- Induction programmes be given to teachers appointed to new posts and with new responsibilities
- Management courses be provided to those teachers who have been promoted to head teachers
- Staff rooms should be subject-based
- Teacher centres should facilitate the professional development of teachers; they should be built in strategic locations, equipped with modern technology, fully funded and adequately staffed (as cited in Mohd Sofi Ali, 2002, p. 45).

In line with this agendum the government has made efforts to establish training centres for its teachers. The teacher education division which comes under the MOE and MOHE initiates both the pre-service and in-service training for the primary and secondary school teachers.

The Teacher Education Division (TED)

The Teacher Education division is a department within the Malaysian Ministry of Education which oversees the teacher training education in the country. In order to support its aspirations for the achievement of its national target to become a 'developed country' the TED has taken up the task to develop its teachers. The TED carries out its various operations with the help of the Planning and Policy Unit which plans and determines the direction of teacher education. The Curriculum unit determines the curriculum offered for the various courses in the teacher training colleges. The Assessment unit handles the setting and marking of examinations and awarding grades and the Student-selection unit conducts aptitude tests and interviews to select candidates.

The TED also plans and coordinates on-going staff development programmes both at the ministry and college levels both locally and overseas to enhance the quality of its training. It

¹ *The committee was led by the former Education Director General of Malaysia and was set up in 1995. This committee, known as the Abdul Rahman Arshad Report studied issues and problems in the teaching profession. It provided recommendations to improve the teaching profession in Malaysia. As the information was classified as confidential, the information gathered here was from the media, discussions with some personnel and by Dr. Mohd Sofi Ali's being present in one of the meetings with the committee in 1996.*

monitors its teachers' initiatives to ensure effective implementation. Through the coordination of all the divisions of MOE and relevant educational institutions the TED ensures a coherent system of training and education. The objectives of TED are as follows:

- Train teachers of high calibre to fulfil the requirements of all pre-school, primary, secondary, vocational and technical education within the national educational system
- To constantly update and upgrade the knowledge, competency and efficiency of teachers and lecturers in academic and professional areas and
- To develop Institutes of Teacher Education (ITE) as centres of excellence

Pre-service courses

In spite of these facts the Malaysian government continues in its effort to improve the quality of the teaching profession to attract better-qualified people to enter the teaching profession. Efforts are made by improving the teacher service scheme in terms of remuneration and promotional opportunities; however the initial preparation of teachers still remains critically important in the teacher development process. Pre-service programmes in Malaysia are designed for the training of pre-service teachers for both primary and secondary schools. Its programmes run across all the teacher education institutions in ITT and public universities across the country, while the duration and entry qualification for admission depends on the requirements of the respective courses offered.

The Malaysian Government in July 2005 upgraded all its 27 Teacher Training Colleges to Institutes of Teacher Education (ITEs). Consequently, the year 2007 brought the first intake of the 4-year degree-level course in which 3725 students enrolled for the Bachelor of Teaching (PISMP) programme. The programme is specially designed to supply primary school teachers. Its curriculum operated on five basic principles namely, to be outcome-based, coherent, spiral and developmental, holistic, as well as practical and contextual. The aim was to achieve specific learning outcomes as required by the Malaysian Qualifying Framework (MQF) in accordance with the 21st century skills. The PISMP programme not only focuses on the integration of knowledge, but also skills and noble values where students acquire hands-on learning through the transfer of theoretical knowledge to real life situations. Students have to take a compulsory course in "Technology in Teaching and Learning" and additional subject of computer-aided instruction which in return enables them to be proficient in the preparation and organization of ICT materials for teaching and to resource multimedia materials.

In-service courses

This programme is designed to provide in-service training for serving teacher trainers as well as primary and secondary school teachers so as to upgrade their professional skills and competencies academically and professionally in their respective fields. It also helps to keep the target audience abreast with the current developments and new practices in the education sector, as well as prepare them for the challenges of today's global era. The courses offered include:

- The Continuous Professional Development (CPD) for teachers at the institutions of teacher training
- An on-going short term in-service training and development programme (course duration ranges from one to five days)
- An on-going short term in-service training and development programme for teachers teaching critical subjects namely Science, Mathematics, ICT and English
- Special post graduate programmes for teacher trainers namely Masters and PhD level
- Malaysian Trainers Development Programme (14-week course for professional development; these courses are customised to upgrade primary and secondary teachers and there are 20 courses to choose from)
- Special degree course for non-graduate teachers (a one year course at ITE and two year course in university)
- Degree for a non-graduate teacher through the mode of distant learning (Open University Malaysia)
- A special Degree course for foreign language teachers (currently TED is offering a French Language Degree course)
- Specialist courses for teachers which take approximately one year, offered to primary teachers with three years of experience, emphasizing academic content in ICT
- A 4-week course for upgrading Professionalism for Teachers at Indigenous schools
- An in-service course for upgrading the Professionalism of Teachers at Remote schools

Continuous Professional Development (CDP) and in-service training (In-Set) are also important aspects for maintaining teacher professionalism in Malaysia. The government has allocated a sizeable portion of the educational budget every year for implementing the In-Set. For example, the proposed amount in 2008 for In-Set programmes is RM 200 million (Mokshein, S.E., Ahmad, H. & Vongalis-Macrow, A., 2009). Two types of In-Set courses pursued are the qualification upgrading course, and the knowledge skills upgrading course, which take less than one year. In addition, schools are encouraged to conduct in-house training programmes to develop and enhance teacher practices and knowledge that covers a wide-range of areas based on the school's needs.

7. Strategies and challenges to improve the status of teachers through Professional Development

Emphasis on quality education requires the teaching force be competent in curriculum delivery. Transference of learning requires knowledge, skills and attitudes from technical know-how to the creative art of teaching. In order to enhance training the TED has employed these strategies:

- *Extending the career pathway for teachers* - in a way of encouraging CPD a one-year

Special Diploma in Teaching Programme is given for non-graduate teachers in order to upgrade their academic qualification in their respective area of specialization; upon completion there is a raise in salary.

- ***Improving the qualification of the teacher educators*** – the aim of TED is that the teacher educators themselves undergo further training to improve. Short in-service courses, master degree courses and doctorate courses are offered through the Ministry’s Staff Development Scheme. Many on-going programmes and projects also help develop a cohort of key trainers, who then in turn conduct staff-development programmes in their respective colleges and zones (ibid).
- ***Upgrading the teacher educators’ entry qualification:*** the existing staffs that have basic degrees and qualify in the age category are encouraged to apply for scholarships for a master’s degree or PhD either locally or abroad. The TED also works collaboratively with local and foreign universities towards upgrading the teacher trainers (ibid).
- ***Research and development:*** as part of the college culture, educational research has been instituted. Conversely, there has been a mixed response because of the heavy workloads of the educators’ and lack of research knowledge. The TED encourages the teacher educators and colleges to take an active part in the field of pedagogy, management and evaluation (ibid).
- ***Curriculum support programmes:*** this program is essential for effective implementation of the curriculum. Mastery of varied strategies in curriculum delivery and access to teaching-learning resources for teacher educators is made available. A few programmes implemented include those for critical subjects like Science, Maths, English and ICT; both teaching-learning strategies and curriculum delivery are mainly based on a reflective and process-based approach. With the introduction to teach science and mathematics in English in 2003, a curriculum support project was set up to produce teaching-learning materials for the teacher-training syllabi. A group of key teacher educators wrote material focussed on constructivism to improve the teaching and learning of science and mathematics (ibid).
- ***Management courses for administrators and school heads:*** this endeavour is taken up by the Ministry of Education, to conduct management courses to upgrade administrators and school heads in order to enhance their management and leadership skills. The excellent schools and heads are provided with incentives to stimulate their excellence and creativity (ibid).
- ***Inspection of educational institutions:*** this is the responsibility of the Federal Inspectorate of Schools, which covers all the government schools, colleges and universities. The role of the inspectorate is to ensure quality curriculum is planned and implemented (ibid).
- ***Publicizing the achievement of teachers:*** the national newspapers in the country have a separate weekly column which focuses on schools or educational institutions’ achievements or initiatives. This in turn promotes their excellence in education and helps

as a catalyst to upgrade their professional esteem and self-worth (ibid).

- ***The Smart Teacher Training Course:*** initially this training was started in 1988 for about 83 pilot project schools and later expanded to 2400 schools which were equipped with computer labs and are expected to increase to *10,000 schools by 2010* (The Ninth Malaysian Plan 2006-2010). The governments' expectation is to train 200,000 teachers through this programme by the end of 2010. The focus is on enriching teachers in pedagogical instruction particularly using technology as an enabler to teaching. The courses have been revamped to keep in pace with the frequent changes and development in ICT. Reports have shown teachers readiness in using ICT, integrating it in teaching and learning and pedagogical improvements have been made (Asariah, 2009).
- ***14 Weeks of Professional Development:*** this programme covers a wide range of knowledge and skills on computer hardware, software, networking, multimedia, internet and integration of ICT in teaching and learning. It also ensures that the teachers can handle computer labs and ICT-equipped classrooms. In 2007, 78 teachers and in 2008, 108 teachers were successfully trained under this programme. Considerable improvement was observed in the teachers' knowledge and skills in ICT during the two week practical training-phase. Though the numbers were small this programme equipped the teachers to implement ICT in schools or become coordinators at the division, state or national level (ibid).
- ***A one-year Specialist training Certificate:*** this programme is a full-time in-service programme that emphasizes academic content in ICT, offered to primary teachers with a minimum of three years teaching experience. Teachers with 14 weeks of professional development experience are given preference (ibid).

The courses and programmes offered do not come cheap and the government has to make provisions for them so it takes steps to overcome this issue through various measures.

8. Measures taken by Government to overcome the issues in professional development

The Malaysian government continues its effort to improve the teaching profession by improving the teacher service scheme in terms of remuneration and promotional opportunities (see Figure 1).

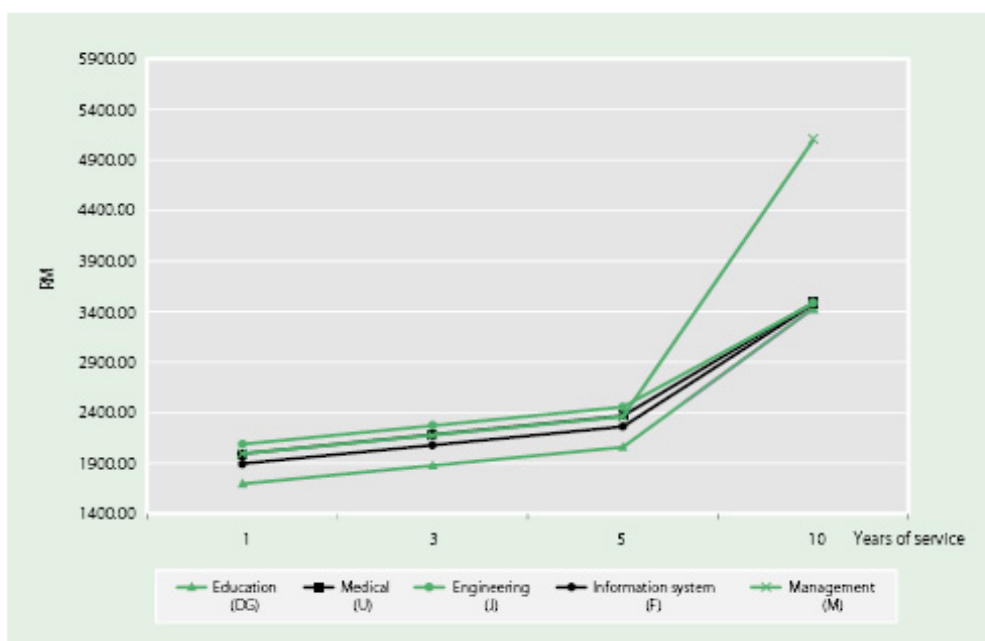


Figure 1: Salary Progression for teachers and Several Other Public Services

Source: Data from the Public Services Department of Malaysia (cited from Mosheim, S.E., Ahmad, H. & Vongalis-Macrow, A., 2009)

An allowance is given to teachers teaching critical subjects like English, Science, Mathematics and Technical subjects. Costs were approximately RM 638 million, a significant amount of the RM 30 billion set aside for education in 2008². In 2007 a special hardship allowance was given for teachers teaching in remote areas, ranging from RM 500-RM 1500 in accordance to the remoteness.

Measures have been taken to provide teachers with Teacher Activity Centres and Resource Centres in various districts. The centres provide teachers with facilities and opportunities to share resources, ideas and experiences in producing their own teaching materials. Each centre in their respective state and district acts as a coordinating agency in planning, organizing and in-service educational programmes.

The teacher educators and teachers whose performance is excellent are rewarded through a graded system of remuneration, inclusive of bonuses. There is also a master teacher scheme (promotional scheme; ET scheme) which was introduced in 1993 and gives both professional and service recognition to teachers. Heads of departments identify excellent teachers for observation

² A Part of the RM 30 million budget will be used in the implementation of the Educational Development Master Plan (PIPP) which includes a Cluster of excellent school programmers', enhancing and developing the quality of the teaching profession, and reducing the gap between rural and urban schools. An additional RM450 was allocated by the MOE in 2008 to fund the educational programmers' under the First Economic Stimulus Package. The educational budget has further increased in the 2009 budget to RM 47.7 million and an additional RM 1.95 for education and training under the Second Stimulus Package (see Government of Malaysia, 2008b, Government of Malaysia, 2009).

and assessment by Federal inspectorate of schools, who in turn attest the teaching performance of the teachers. The objectives for ET (excellent teacher) promotion scheme are as follows:

- i) acknowledge teachers who are good in their field or subjects
- ii) to improve the quality of teaching,
- iii) be a role model to other teachers,
- iv) to enhance school excellence by utilising the experience and expertise of the ET,
- v) expand the horizon of promotion in educational services,
- vi) promote teachers without their leaving teaching behind or changing to administrative duties (Hamzah, M. S. G., Hapidah, M. & Ghorbhani, M. R., 2008).

In 2002, the then Prime Minister-cum-Finance Minister had set aside RM 5 billion for the implementation of Science and Maths in English, for a period of seven years. MOE organized a professional development course for MSTs (Maths, Science teachers), known as English for teaching Mathematics and Science (ETeMS) to develop the linguistic skills. The teachers were required to attend the training courses to use the teaching courseware supplied by the Ministry. More than 50,000 MSTs underwent this course through curriculum induction training and were provided with curriculum materials; such as textbooks, teachers' guides and auxiliary materials. Teachers were also given laptops and LCDs to encourage the use of multimedia in their teaching, as well as an incentive of 5% to their basic pay every month.

To enhance CPD training there is a necessity to have personal with effective leadership ability; the MOE had embarked in collaboration with other ministries and agencies on a number of capacity-building initiatives that serve to develop ICT leaders and empower educational leaders at all levels to adopt and adapt ICT in teacher preparation. At present they have Metropolitan Ethernet Network or Metro-E Technology for accessibility and connectivity. Teachers in in-service and pre-service programmes are able to gain access through the Malaysian Grid for Learning (MyGfL), for materials for teaching and learning purposes. The Undergraduate Skills Program and MSC Internship Program for new ICT graduates provided advanced skills training, retraining, as well as re-skilling for more than 2,000 participants. The Ninth Malaysian plan has allocated RM. 12 billion for the development of ICT and infrastructure, training, etc (see Table.2).

Table 2 *Development expenditure and allocation for ICT related programmes 2001-2010*
(RM million)

| <i>Programmes</i> | <i>8MP Expenditure</i> | <i>9MP Allocation</i> |
|--|----------------------------|---------------------------|
| Computerisation of Government Agencies | 2,125.0 | 5,734.2 |
| Bridging the Digital Divide | 2,433.1 | 3,710.2 |
| School | 2,145.1 | 3,279.2 |
| Communications Infrastructure Service Provision Programme | 254.0 | 150.0 ¹ |
| Telecentres | 18.1 | 101.0 |
| ICT Training / Services | 15.9 | 180.0 |
| ICT Funding | 1,125.6 | 1,493.0 |
| MSC Multimedia Applications | 1,153.1 | 1,100.5 |
| e-Government | 537.7 | 572.7 |
| Smart School | 363.9 | 169.8 |
| Telehealth | 91.8 | 60.0 |
| Government Multipurpose Card | 159.7 | 298.0 |
| MSC Development | 320.8 | 377.0 |
| ICT Research and Development | 727.5 | 474.0 |
| Total | 7,885.1 | 12,888.9 |

Source: Economic Planning Unit, Malaysia (2010)

After the inception of Malaysian School Project almost 6000 principals, teachers and head teachers have been given training in the use of ICT. Courses in basic computer knowledge, effective management with ICT and strategic ICT leadership are being conducted for school leaders (Institute Aminuddin Baki, 2009). Smart Partnerships of MOE with other agencies and organisations are another measure undertaken by the government. The peer coaching program carried out by Microsoft under the auspices of UNESCO effectively trains teacher leaders to become peer coaches for their colleagues in ICT utilization and integration. This strengthens classroom practices, enhances students' learning, and develops instructional strategies in the teaching and learning process.

The government has made an effort towards the development of a Knowledge-based economy by 227 points from 2413 in 2000 to 2640 in the year 2007, the most significant being computer infrastructure which registered 220.5%; research, development and technology rose to 24.1%; and education and training to 6.5% (see Figure 2).

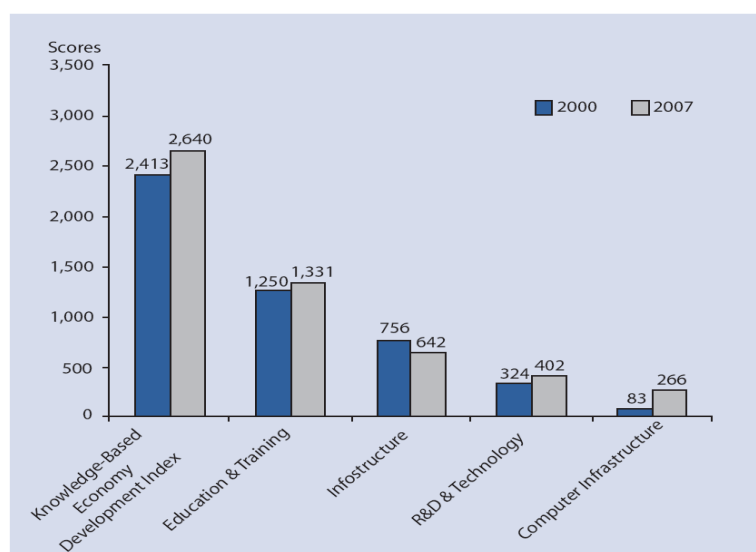


Figure 2 Knowledge-Based Economy Development index (2000-2007)
 Source: Economic Planning Unit, Malaysia (2008)

The importance given to teacher education by the government is reflected in its increased budget allocation of 92.3 per cent from RM 300 million from the Eighth Malaysian Plan to RM 577 million in the Ninth Malaysian Plan (Leng, 2007). Efforts are taken by the government to produce a knowledge seeking culture among the Malaysians in view of the rapid changing technology. Towards increasing knowledge intensity in the economy, the government is promoting lifelong learning. This will be achieved through the use of ICT in distance learning and web-based learning to meet individual needs.

9. Challenges Ahead

The 21st century has brought about a greater demand for the nation to produce quality teachers; the road ahead is not going to be easy in producing the next generation of teachers. The government has taken great measures in achieving its graduate target in primary and secondary education, narrowing the digital divide, integrating ICT in the teaching and learning process, strategizing teacher development programmes, fulfilling the aspirations of education defined by National Key Results Areas (NKRA), developing innovative leadership and definitely improving to a great extent proficiency and mastery in the English language.

Towards achieving the target of qualified graduate teachers

The government has furthered its commitment of achieving a 25% target of teachers in primary school and 100% of secondary school teachers with degree qualification. Since the beginning of 2004, MOE embarked in a programme to upgrade the quality of its primary

education, intending to develop its teachers professionally. Teachers were encouraged to upgrade their teaching qualifications through distant education and in-service training in local or foreign universities, which was under the MOEs continuous professional development programme. Despite having achieved an increase to 13.7% for primary school and 87.1% for secondary school by 2008 (see Table 3), the government faces the challenge to ensure that all its graduate teachers are quality teachers and are able to face their curriculum delivery challenges efficiently. Further it faces the challenge to administer frequent monitoring through supervision by the government agencies.

Table 3. The Achievement of Educational Aims for School at the National Level and Tertiary Level

| Commitment | Output |
|--|---|
| Making National Schools the School of Preferred Choice | |
| <ul style="list-style-type: none"> ▪ Increasing the enrolment rate of Chinese and Indian pupils into national schools ▪ Achieving target of 25% of teachers in primary schools and 100% in secondary schools with degree qualification by 2010 ▪ Making national schools 'smart' through Making All Schools Smart Programme | <ul style="list-style-type: none"> ▪ The enrolment rate of Chinese and Indian pupils in national primary schools was 6% and 40% in 2007, respectively ▪ Graduate teachers increased from 6.1% in 2005 to 13.7% in 2007 for primary and 82.4% to 87.1% for the secondary ▪ Established Internet access centres in 40% of all primary schools or 3,025 primary schools |
| Creating Tertiary Institutions of International Standing | |
| <ul style="list-style-type: none"> ▪ Achieving 60% of academic staff with Ph.Ds in public universities by 2010 ▪ Increasing post-graduate enrolment to be 25% of degree enrolment by 2010 | <ul style="list-style-type: none"> ▪ Academic staff with Ph.Ds increased from 26.6% in 2005 to 31.6% in 2007 (<i>Universiti Putra Malaysia</i> achieved 64% while <i>Universiti Malaya</i> and <i>Universiti Sains Malaysia</i> achieved 51% and 50%, respectively in 2007) ▪ Enrolment of post-graduates was 12% in 2007 (post-graduate enrolment in public institutions increased from 36,516 in 2005 to 40,573 in 2007 and in private institutions declined from 5,447 to 5,338) |

Source: Economic Planning Unit, Malaysia (2008)

The MOE has made tremendous efforts towards narrowing the digital divide between rural and urban schools, while the Teacher Education Division prepares her teachers as to when and how to use technology for teaching and learning. With the increase in connectivity through increased internet use in the Ninth Malaysian Plan, a question arises as to if sufficient access is provided to all the schools. Provision of ICT infrastructures to geographically remote areas (Sabah and Sarawak) as these would incur higher costs is a great challenge for the MOE to fulfil. Even with all these constrains the MOE is determined to overcome these digital divides to achieve its EFA (Education for All) goals. In line with the Mid-term review (Economic Planning Unit, Malaysia, 2008), in objective five the government said that increased confidence in electronic-based services has made it crucial to promote the use of ICT to deliver and access services.

Effective integration of ICT

The teachers need longer hours of training to be able to acquire a high level of competency of ICT in teaching. Though ICT is part of the curriculum in teacher training colleges the teachers have not achieved sufficient confidence when it comes to integrating it in teaching (Mahani, 2006 & Thang, et al. 2010). Further efforts have to be taken to ensure that the teacher education students have the necessary level of confidence and also the competence to integrate ICT in their classrooms. It is a real challenge for the MOE to continuously review the teacher education curriculum and delivery strategies as an on-going process to ensure that the full potential of ICT can be tapped to improve the teaching and learning process.

Allocation of time for teacher professional development

Another major obstacle is that allocation of time for professional development is scarce and limited. Teachers are often burdened with endless duties and chores besides the main task of teaching. Experts, policy makers and teachers have consistently classified lack-of-time as the greatest challenge in implementing effective professional development (Haqq, 1996). Teachers highlighted the lack of time as a barrier to their using the tools actively, which obviously effected their teacher professional development (Thang, et al. 2010).

Address the Gap

The wide gap in the achievement between the students, especially in mathematics, science and the English language still exists in spite of all the incentives and remunerations being offered to teachers with this respect. The lack of availability of specialised teachers in rural areas should be addressed quickly to overcome this problem.

Improving the quality of pre-school teachers and teacher assistants

To improve teaching skills and training approximately 30,000 existing pre-school teachers and new staff over the next three years are needed in order to achieve the aspirations of the NKRA (National Key Results Areas) which is a great challenge ahead. Developing a suitable framework for pre-school excellence and to detail the new outcome based target lays ahead. Encouraging pre-school students to register under main stream schools and to get a full response is also an ensured task to look forward to.

Overcoming the Numeracy and Literacy problem

During the year 2008 there were more than 54,000 students in Year-1 (about 30% of the total student population) who did not meet the literacy level and an estimated 117,000 (24%) students in Year-4 who did not reach the targeted numeracy standards (National Key Results Areas, 2010). So the government holds responsibility in training teachers to be expert teachers in numeracy and literacy between the period of November 2009 and the close of February 2010. The new challenge faced by the government is to monitor if these teachers can implement this programme after such a short period of intensive training. To implement the Literacy and Numeracy (LINUS)

programme screening process, screening will be done three times a year in March, June and September. Screening is done to find the students who do not meet the relevant numeracy-literacy standards. After screening, students would be placed either under the LINUS program or into a Special Education program if they have learning disabilities.

Towards this effort teachers' are not only to be trained for the numeracy and literacy program but must also be confident to use the LINUS screening program. Another area to consider is that there should be a sufficient number of special education teachers as well to achieve the cause.

Proficiency and Mastery of the English Language

In an effort to prepare efficient teachers Malaysia intends to implement its teaching program both in Bahasa Malaysia and English. Hence proficiency and mastery of the English language is essential. This is also a major contributing factor to get access to relevant scientific material and journals not forgetting it also helps to keep in pace with progression towards upward mobility. It also contributes to the successful implementation of ICT-based teaching and learning. This includes efforts to improve English language proficiency among the teacher educators and teachers themselves. This remains as a major challenge for the MOE and MOHE in Malaysia.

10. Conclusion

Education has always been of the highest priority in Malaysia as it strives to attain the status of a developed nation. The Malaysian government invests a large proportion of its annual expenditure on education in terms of both its infrastructure and provision and the investment in human resource development. With globalization and high paced technological developments worldwide, Malaysia too heightens its endeavor to remain in the forefront with the current developments.

The Ministry of Education and its agencies caters towards the training and retraining of its teachers to accomplish its vision and mission. Teachers in Malaysia have become the driving force to raise the capacity of knowledge and innovation and nurture the 'first class mentality' among their students. Measures have been taken by the government to enhance quality education and training to be in par with international best practices.

While keeping in pace with the frequent changing trends the teacher professional development has undergone a tremendous change and advancement for the betterment of the society and nation at large. The teacher training curriculum has been strengthened to develop teachers as competent managers of teaching and learning. Teachers have become efficient to a greater extent in the use of ICT to create and implement innovative teaching techniques though, a handful of hardcore teachers have refused to be part of the change.

The government has facilitated this effort with computers, laptops, and LCDs enabling the teachers in their progression towards development. Teachers are offered incentives, remunerations, and certificates when they excel in their performance which instills in them the

desire to do even better in their services and uphold their status as excellent teachers. The heads of school and principals are recognized when their school outshines better than other schools enabling them to be certified as high performing schools. Teachers are encouraged to better their qualification in their various fields of specialization and the government is still not far from achieving its goal of making its 25% of its primary and 100% of its secondary school teachers' graduates.

Investment in the younger generation ensures a definite enhancement in human capital and a knowledge-based economy. The steps taken by the government to increase the quality of the pre-school education is an engraved bonus to our future success. If as a society the parents, teachers, educational institutions, government and educators all give a hand towards growth and progress, nothing can stop our accomplishment and achievement. If every teacher as an imparter of knowledge would work towards intrinsic gains (gaining knowledge, develop potentials for one's personal satisfaction and betterment of society) rather than for extrinsic goals (achieve promotions, name, fame, money, etc.) the society would be a better place. Teachers of Malaysia today are the best potters who can mould the future generation of leaders and they are the key in developing a knowledge-based society moving towards excellence, glory and distinction.

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