



HOW IS QUALITY TEACHING PROMOTED AROUND THE WORLD?

REVIEW AND MAPPING

SINGAPORE

National Institute of Education, Nanyang Technological University

<http://www.nie.edu.sg/>

In Singapore, teacher training and on-the-job professional development, take place in one central institution funded and guided by the Ministry of Education. The National Institute of Education operates within Nanyang Technological University. In 2000, the Institute moved from a traditional academic organizational structure (Departments of Science Education, Physical Education, etc.) to a structure based on the teachers' career stages: Pre-vocational training, professional retraining, and professional development for educational staff, teacher leaders and school principals.

The Institute divides the teacher leaders into three subcategories: Senior teachers, lead teachers and master teachers. This distribution is based on the [Teacher Growth Model](#) approach for career development. Based on this approach, there are 5 phases in the teacher's professional development:

1. An independent learner who takes responsibility for his knowledge and skills, and develops his professional abilities as a teacher;
2. Learns together with his teaching colleagues in the professional community;
3. Leads the teachers' learning community in the school and the region;
4. Establishes frameworks and develops tools and methods for teachers' learning;
5. Serves as a policy consultant and as a role model in the professional community and in the public sphere.

For example, the program for 'senior teachers' is intended for teachers with seniority of up to five years in teaching. The program takes 10 weeks and it includes evaluation methods, pedagogical support, leading a staff and integrating information and communications technology methods. Following the program they go back to teach in the school and for half a year, where they perform a group research project together with the other teachers in the school, and present it to their colleagues at the Institute.

AUSTRALIA (QUEENSLAND)

Queensland is a state in northeastern Australia with over 4 million citizens. Following a drop in educational achievements and increasing gaps, the Ministry of Education developed and implemented a [strategic plan](#) with the goal of increasing academic achievements and reducing gaps by the year 2020. One of the program's pillars is the teachers' professional development program,

called: “Excellent teachers = High achievements”. The program was budgeted at 535 million Australian dollars as a supplementary budget for four-year schools.

This included the following:

- Establishment of 6 Teacher Education Centers for Excellence, which combine a group of schools accompanied by academic institutions. The Centers allow for teaching apprentices to practice teaching in schools with close support from excellent teachers (one of the Centers specializes in teaching mathematics and science);
- A pedagogical support program for new teachers, which is allocated to the schools and operated at the school principal's discretion. Each new teacher receives 72 hours of support, and the supporting teacher is released from teaching hours (and receives short training in a course or online).
- Creation of a new position - “master teacher”, with the purpose of leading teachers in the school or in a group of schools. The teacher does not teach in a classroom while serving in this position. He receives professional support from central expertise centers. 135 million Australian dollars were allocated to pay wages and to support 300 master teachers. Negotiations are presently taking place with the teachers union in order to expand the program.

GREAT BRITAIN

Maths Hubs

<http://www.mathshubs.org.uk/>

Mathematics and science teaching in Britain is separate from the professional development and career path of other teachers in the system.

Since 1998, the position of 'advanced skills teacher' was added to the system, with the purpose of promoting teacher learning in schools and in the region. In order to be selected for the position the teacher must comply with 28 components of the excellent teacher standard. The wage is on the same level as school principals and there are no defined work hours for teachers at this level.

When it comes to mathematics teaching, there is traditionally a position of a school 'maths lead'. However, after a harsh public report in 2004, the National Centre for Excellence in the Teaching of Mathematics was established in order to promote this field on the national and regional levels. The Centre serves as a consortium between academic bodies and educational organizations and its annual budget from the Ministry of Education is about £ 20 million. In its early years it functioned as a professional mediator between training and professional development institutions and the districts and schools, defined standards for training and professional development, encouraged cooperation and distributed information.

Since 2008, the Centre changed its mode of operation, shifting its primary focus to establishing and operating Maths Hubs. Based on a Chinese model, 35 regional hubs were established covering the entire education system in Great Britain. Each hub is responsible for schools and academic expertise centers and other institutions from the region. The hubs are responsible for training teachers, developing master teachers for leading positions, professional training and operating professional teachers' forums.

There is increasing criticism that these hubs are "disconnected" from the school work, since the activities bypass the school principal and prioritize the central agenda of the Ministry of Education and academic bodies, and they are conducted outside of school with each hub responsible for too many teachers (in Great Britain there are 22,000 schools). At this time, there is a new tender (with a scope of £ 5 million per year) for the management and support of the Hubs.

NEW ZEALAND

In 2013, New Zealand appointed a committee to examine the future of teacher professional development in the country. The committee recommended establishing a National Centre for Professional Development for teachers in the Ministry of Education, along with academic institutions, the teachers unions and others. A governing council will be established for the Centre in order to represent the partners at the Centre and it will be headed by a respected personality from the education field. The Centre will develop professional development standards, will examine and instill innovative tools and will grant accreditation to professional development suppliers.

Following the [committee's](#) report, a decision was made to change the way teachers' professional development is conducted, while transferring the center of gravity to professional teacher forums and the schools. The change that is now beginning will include the following components:

- Up until this point, varied content could be proposed for teachers. Now most of the resources and effort will be directed towards areas of national priority: mathematics, sciences, reading and computer literacy.
- The bodies that can order professional development programs are: schools and professional teachers learning forums.
- The moderators of the learning are selected by the ordering party out of a database of learning moderators who will receive authorization and accreditation from the Ministry of Education.

CANADA – PROVINCE OF ONTARIO

The Province of Ontario, Canada has about 5,000 schools and is considered one of the most successful education systems in the world. Nevertheless, over the last few years there has been a general drop in achievements. The education leaders in Ontario noticed that the progress in terms of achievements did not reach the field of mathematics, especially on the excellence levels. As such, in 2016 the province's Ministry of Education decided to invest 60 million Canadian dollars in a program to strengthen mathematics teaching. The program includes personal support for the high school principals so they can implement processes to improve mathematics teaching in their schools, as well as the appointment of three leading mathematics teachers in each elementary school. The expertise centers offer training, seminars and forums for principals and teachers, as well as mathematics enrichment courses.

At the same time, regardless of the national mathematics program, the Ministry of Education is taking steps to improve the teachers' professional development. Following a report of a public committee about a decade ago, they began to implement a series of steps. For example, recently they began a Teacher Learning and Leadership Program. The program reaches out to teachers and asks them to offer a one-year program in school. A central committee selects the winning teachers and they receive

funding for a year, as well as support. At the end of the year, they present the outcomes of the project at a large conference attended by leading decision makers and researchers.

USA

National Board for Professional Teaching Standards

<http://www.nbpts.org/>

The Institute was established in 1987 as an initiative of Prof. Lee Shulman and Jim Hunt, Governor of North Carolina. The groundbreaking step was intended to create a cadre of leading teachers who would lead the building of professionalism in the teaching field, while relying on the teachers' practical experience. The organization grants certification based on quality teaching standards developed for teachers that undergo an extensive process of documentation and analysis of their teaching and its evaluation by a committee of experts comprised primarily of teachers. The process is voluntary and the certification gives them professional honor and respect, with some states and cities in the US giving priority to teachers with the advanced certificate when accepting them for work and granting salary raises.

Teacher Practice Networks

<https://tpn.wested.org/>

A re-granting program of the Bill and Melinda Gates Foundation in cooperation with the WestEd education organization. Its purpose is to support educational organizations that help teachers establish teachers' learning forums intended to promote learning-focused teaching to advance student achievements. Currently, about 30 organizations across the US support it, especially in the areas of math and English teaching. The network defines common standards and encourages a professional dialogue and cooperation between organizations that receive funding from it.

Math for America

<http://www.mathforamerica.org/>

A program of the Simons Foundation that began with a focus on training new teachers and has shifted its center of gravity over the years to professional development of master teachers. This is a 4-year fellowship program, including a generous scholarship, in which the teachers meet regularly for learning, seminars, courses and conferences. The graduates of the program join a permanent alumni network. The program began in New York and has expanded over the years to Los Angeles, Boston, Washington and more.

Teach to Lead

<http://teachtolead.org/>

An initiative of the American Department of Education, in collaboration with the NBPTS and others, with an objective of establishing a movement of leading teachers across the US. The movement that

began operation over the last year holds a series of regional conferences that are intended for leading teachers in their region. The conferences include in-depth professional discussions, attended by leading education personalities, but unlike other conferences, the agenda is built and led by teachers. The purpose of the activity is to create momentum, to build the teachers' professional confidence and self-confidence, and give them a more significant place in the professional decision-making processes.