

Teacher's Professional Development

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Abstract—Globalization, rapid technological developments, and transformation of social environments call for many facets of education to keep pace with changes and play a catalytic role to equip students with global competencies. Innovations in curriculum and pedagogy, changing trend and profile of learners, diversity in the classroom and new cultural phenomena make it imperative for teachers to function differently and take on new roles as designers of learning. How can teachers' content knowledge, pedagogical knowledge, or their understanding of learners be enhanced? What are the best practices to ensure teacher development as a continuum development, to have a knowledge-rich profession, and to strengthen teacher skillfulness? How do we encourage the values of professionalism, integrity, and excellence? How do best-performing systems encourage professional learning networks and learning circles, structure and facilitate mentoring and facilitate self-directed learning opportunities? In the light of education for sustainable development, it is imperative that teachers consistently and continuously keep up-to-date with new knowledge, skills, and teaching practices. This keynote will attempt to address these issues and how we can enhance the professional development of teachers to meet the 21st-century challenges.

Keywords—teacher professional development, professionalism, professional learning.

I. INTRODUCTION

As changes in the world take place at an increasingly rapid pace, it is imperative that teachers consistently and continuously keep up to date with new knowledge, skills, and teaching practices. The teacher must have a thirst for continual learning and improvement. Professional development for teachers has to include induction and mentoring, collaborative teacher networks, and project-based research to improve teaching practices and learning outcomes.

II. SINGAPORE'S TEACHER EDUCATION MODEL FOR THE 21ST CENTURY

In Singapore, teacher education begins at the National Institute of Education (NIE) and is guided by the Teacher Education Model for the 21st Century (TE²¹). TE²¹ is a framework that guides the design, delivery, and evaluation of NIE's programs in order to

prepare teaching professionals who can tackle the challenges and demands of the 21st century [1].

The TE²¹ framework puts forth a V³SK model that represents the underpinning philosophy of teacher education at NIE. It delineates the values (V), skills (S) and knowledge (K) required of a 21st century teaching professional and guides the design, delivery, and enhancement of NIE's programs. The V³SK model focuses on three value paradigms: (i) Learner-centeredness; (ii) Teacher Identity; and (iii) Service to the Profession and Community [1]. The skills and knowledge spelled out in this model are closely aligned with MOE's desired student outcomes [2]. The V³SK framework undergirds all programs at NIE and is "emphasized consistently, holistically, and methodologically throughout the programs" [3].

Alongside the V³SK model is the Graduand Teacher Competencies (GTCs) framework which outlines the professional standards, benchmarks, and goals expected of NIE graduands [1]. It is a holistic integration of the V³SK model and MOE's competencies framework for beginning teachers and delineates three performance dimensions – professional practice, leadership and management, and personal effectiveness [1]. The GTC framework is embedded in NIE's courses and serves as a scaffold to support the growth and development of student teachers and is also used to evaluate student teacher outcomes [1].

III. INDUCTION AND MENTORING FOR BEGINNING TEACHERS

As part of their graduation from NIE, teachers will encounter the Teachers' Pledge at the Teachers' Investiture Ceremony. The Pledge is for all new teachers to "strengthen their identity as to who teachers are and what they represent" [4]. One of the lines in the pledge states that "we will continue to learn and pass on the love of learning to our students." [5]. The pledge is part of the Ethos of the Teaching Profession and underscores a national vision of

teachers as valuable professionals. More specifically, teachers' professional development is considered to be a continuous journey and competencies that should be further developed during the span of a teacher's career [4].

Right from the start and upon entering schools, all beginning teachers are provided with induction support in the form of the Beginning Teachers' Induction Program (BTIP) provided by the Academy of Singapore Teachers (AST) in order to ensure consistent and high standards of professional expertise across all teachers [6]. The BTIP provides beginning teachers with the opportunity to take ownership of their own professional growth and development.

Besides the BTIP, schools have in place a systemic framework for school-based mentoring, known as the Structured Mentoring Program (SMP). The objective of SMP is to improve induction and mentoring practices and enable beginning teachers to gain knowledge within a community of practice with the support of a more experienced peer. More specifically, SMP aims to induct the beginning teachers into the school community, develop them professionally, and help them grow through the realization of their personal and professional aspirations [2].

IV. TEACHER PROFESSIONAL DEVELOPMENT

Singapore also has in place "a comprehensive framework to provide different pathways for teachers to upgrade themselves" [7]. For instance, all teachers are entitled to a certain number of hours of paid professional development annually and can also make use of their non-teaching hours to work with other teachers and engage in professional discussions with teachers from their school or cluster. There is a wide variety of training courses, conferences, and seminars that teachers are able to attend. They are also able to take professional development leaves and sabbaticals to upgrade their skills where necessary and are given stipends every year to spend on training that will develop them professionally [2].

To support professional development planning, the Teacher Growth Model (TGM) was developed as a learning framework with five desired Teacher Outcomes: The Ethical Educator; The Competent Professional; The Collaborative Learner; The Transformational Leader; and The Community Builder [8]. The skills and competencies required for development are listed under each teacher outcome. The TGM allows teachers to take ownership of their own professional development and plan their own learning to meet their own needs. Professional development activities are also grouped according to each teacher outcome so that teachers are able to sign

up for courses in areas they would most like to be developed in. The TGM encourages teachers to pursue professional development through multiple modes of learning. These include face-to-face and Infocomm technology-based courses, conferences, mentoring, research-based practice, networked learning, reflective practice, and experiential learning. Every teacher has the opportunity to grow through various learning modes and platforms.

The **Academy of Singapore Teachers (AST)** was launched in 2009 to spearhead the professional development of Singapore teachers. It was envisioned to be the home of the teaching profession and help catalyze teacher capacity-building [9]. At AST, platforms for teacher-leaders to lead in professional learning were created via subject chapters, interest-based networked learning communities, role-based networked learning communities, and professional learning communities. In these, teams of teachers from different schools work and learn collaboratively to examine and reflect on their practice. By engaging in purposeful and sustained developmental activities together, they are able to learn from one another. Informed by public knowledge from theory, research, and best practice, teachers are able to gather information from theories, research and best practices, as well as tap on their own knowledge and experience to construct new knowledge together [10]. The aim is for the teaching community as a whole to collectively upgrade the professional expertise of fellow teachers through teamwork and reflective practice. Other programs at AST also include teacher-led workshops, conferences, and a well-being program, as well as a website and publications series for sharing knowledge. In teacher-led workshops, teachers present their work to their colleagues, exchange opinions and receive constructive criticisms.

Since the launch of the *Thinking Schools, Learning Nation* (TSLN) initiative in 1997, schools have made efforts to create a culture of inquiry where teachers participate in projects to hone their critical-thinking and analysis skills. Teachers are expected to be involved in research and innovation projects in order for them to better their teaching and learning and to become reflective practitioners. The NIE and MOE both have been training teachers to undertake action research projects in the classroom so that they can examine teaching and learning problems, and find solutions that can be disseminated to others. Schools usually provide structured time set aside for teachers to discuss as a group and to implement their projects. Research findings are also shared at the departmental and school level, and at local and international conferences [2].

Besides establishing the AST, MOE also set up Centers of Excellence for Professional Development so that teachers are able to share their expertise and develop their professional capabilities more easily [11]. These Centers serve avenues for teachers to learn in authentic environments and implement pedagogies in actual classroom settings.

In addition to AST, the Physical Education and Sports Teacher Academy (PESTA), and the Singapore Teachers' Academy for the aRts (STAR) were both set up in 2011 to offer professional development opportunities for teachers specializing in these areas and keep themselves up-to-date with practices and pedagogy in physical education, art and music [12]. The English Language Institute of Singapore (ELIS) was also set up in the same year to look at the professional development of English Language teachers [13], while other centers catering to the professional development of Malay, Chinese, and Tamil Language teachers were also established.

NIE and MOE also work together to meet teachers' professional development needs. NIE offers post-graduate programs for teachers who wish to further their studies, as well as a variety of workshops to enhance teacher learning. MOE provides funding for scholarship and study leaves to allow teachers to further their undergraduate and postgraduate studies. An example is the Master of Arts (Educational Management) program (MAEM) which equips teachers with the necessary skills and knowledge for school management. Topics covered include key issues in education policy and strategic management as well as theory and practice of teachers' professional learning and organizational learning and development (NIE, n.d.b.). Another program is the Master of Arts in Leadership and Educational Change (MALEC), jointly taught by NIE and Teachers College, Columbia University. This program provides participants with opportunities to build cross-national learning communities and covers content in areas of globalization, educational change, pedagogical reform, as well as curriculum and school improvement (NIE, n.d.c.).

One key role in this system approach is that of the School Staff Developer (SSD). Every school has an SSD, an experienced teacher appointed to the role, whose job is to ensure that the teachers in the school have professional development and training plans that are customized to their own needs and in line with the school's goals. Hence, the SSD plays an important role in helping every teacher progress in their professional development and creating a culture of collaborative learning in the schools [2].

V. TEACH FRAMEWORK

MOE introduced the TEACH framework in 2011 to support the professional upgrading of all teachers, deepen their expertise and expand their career advancement pathways (Singapore Budget, 2011). The TEACH framework aims to:

- Strengthen Teacher professionalism
- Deepen Engagement with teachers
- Fulfill teachers' Aspirations
- Enhance teachers' Career opportunities
- Achieve Harmony in work and life [14]

A. Strengthen Teacher Professionalism

Teacher professionalism is strengthened through Subject Chapters and Learning Communities. Through such collaboration, the aim is for teachers to collectively upgrade the professional expertise of fellow teachers. MOE hopes to also use this to shape a distinctive professional culture and identity through the articulation of the Ethos of the teaching profession in these collaborative groups in order to ensure that a set of shared values and beliefs will provide intrinsic motivation for teachers to serve and lead with professionalism and pride [14].

B. Deepen Engagement with Teachers

MOE has set up multiple touch points to strengthen engagement with all teachers, such as the human resource (HR) online resource portal, administrative managers in schools and a one-stop call center to provide HR advice [14].

C. Fulfill Teachers; Aspirations

MOE provides many opportunities and assistance for teachers to further their studies in order for them to upgrade their knowledge and skills for the classroom or deepen their specialist knowledge. For instance, teachers can get a one-off monetary award upon completing their part-time Master's degree in an approved course of study. In addition, MOE has introduced a full-time Postgraduate Award to encourage teachers to pursue further studies in an area of relevance to their career. Non-graduate teachers can also apply for an Undergraduate Study Award to pursue a full-time undergraduate degree in a relevant educational discipline [14].

D. Enhance Teachers' Career Opportunities

To enhance career opportunities for teachers, more middle-level leadership positions have been created in schools. These leadership positions are not confined to teaching subjects but also holistic student development areas such as citizenship and character education, pastoral care and co-curricular activities (CCAs).

Additionally, more leadership and specialist positions will be created in MOE HQ to expand organizational capabilities and deepen expertise in teachers [14].

E. Achieve Harmony in Work and Life

Greater flexibility in work arrangements has been implemented to offer teachers a better balance between family and career needs. For instance, the part-time teaching scheme will be extended to teachers pursuing part-time studies, while teachers who need to go on no-pay leave due to family or other commitments will have the option to take up flexible school-based employment [14].

VI. TEACHER PROFESSIONAL DEVELOPMENT IN OTHER COUNTRIES

A. Shanghai, China

Since 2002, the Shanghai Municipal government requires new teachers to attend 240 hours of training in their first five years of teaching, while those who attended more than 540 hours of training were able to apply for senior professional titles [15]. These targets provided teachers with institutionalized training opportunities as part of their professional development. The objectives of professional training for teachers are as follows:

- Raise teachers' professional standards with training programs customized to their learning needs;
- Cultivate talents
- Improve the professional levels of teachers in rural areas
- Strengthen the quality of the teaching force [15]

B. Ontario, Canada

Ontario's Ministry of Education created an online resource called "Survive and Thrive", which provides a platform for teachers to share information and experience, as well as to establish mentorship relationships with one another (OTF, n.d.). The Ministry also introduced the K-12 School Effectiveness Framework, which places aligned planning, actions, and capacity building at the center of the work at all levels of the education system [16]. The framework assists schools in determining capacity building needs, improvement planning and allocation of resources.

VII. PROMOTING PROFESSIONAL DEVELOPMENT IN SCHOOLS

Here are some insights from professional development systems in Singapore and elsewhere for schools that wish to ensure teacher development as a continuum and encourage continuous learning for teachers.

A. A collaborative learning culture

Having a collaborative learning culture builds a community of teachers who are willing to come together to continuously engage in learning and improvement of knowledge and skills. A collaborative learning culture is non-threatening and supportive, promotes collective participation and helps with the integration of newly acquired knowledge with daily work [17]. This goes hand-in-hand with creating a culture of inquiry. Teachers can learn in cultures that promote collaborative meaning-making and discovery. Learning communities such as those in Singapore schools have been set up for this purpose.

In a collaborative learning culture, teachers engage in "learning by doing" through: (1) focusing on the learning of each student; (2) building a culture where teachers are held mutually accountable; (3) participating in collective inquiry into effective practice; (4) implementing effective ideas; (5) mutual commitment to continuous improvement; and (6) evaluating efforts based on evidence [17].

B. Professional learning goals

A professional learning goal is a clear description of the next level of learning that a teacher or a group of teachers will aim for over a specific period of time. It should be part of a larger learning objective with a more complex professional learning goal [17]. Professional standards that teachers need to attain in their professional development should form a core element of training and development policies. The Teacher Growth Model that is used in Singapore is an example of a learning framework with standards and desired outcomes.

C. Integrated professional development

A good professional development system for teachers ensures that its objectives are articulated across different levels of a teacher's career and sufficiently coordinated to ensure consistency with other educational policies such as curriculum, school examinations and assessment, and teachers' performance evaluation. More specifically, there should be system-wide alignment with other aspects of teacher policy such as recruitment, retention, remuneration, and promotion where the expected

knowledge, skills, and dispositions are made clear.

D. Support from school leaders

In encouraging teachers to take ownership of their own professional development, school leaders and middle management can be exemplars of continuous learning by modeling the knowledge, skills, and dispositions that teachers are expected to exhibit at different stages of their own growth and development. School teachers also need to provide support in terms of giving teachers time-off from their teaching schedules to attend training or pursue further certifications, as well as resources to meet the needs of the teachers. An example would be playing the role of a mentor in professional learning communities to facilitate the exchange of information and expertise among teachers in their schools.

VIII. CONCLUSION

It is important to have a “big-picture” perspective and implement policies for long-term impact. Singapore’s professional development efforts work because there are a few key institutions that guide the creation and execution of policies – MOE, NIE, schools, and professional bodies such as the Academy of Singapore Teachers. The approach taken by these institutions focuses on being holistic and collaborative, with a common vision being the driving force.

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