Yan Wang · Gábor Halász ·
Ainat Guberman · Ahmed Baghdady ·
Oded Mcdossi   *Editors*

Research, Policymaking, and Innovation

Teacher and Education Development in Belt and Road Countries

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Editors
Yan Wang
China Society of Educational Development
Strategy
Beijing, China

Ainat Guberman
The Mofet Institute
Tel Aviv, Israel

Oded Mcdossi
The Mofet Institute
Tel Aviv, Israel

Gábor Halász
Eötvös Loránd University
Budapest, Hungary

Ahmed Baghdady
Qatar Foundation for Education, Science
and Community Development
Doha, Qatar

Preface

Around the world, we view teachers as professionals preparing the young to meet the demands and challenges of living and working in the future. Most governments and educators recognize the urgent demand for teachers to develop their expertise needed in the twenty-first century. Teachers' professional development is considered to be a central part of education reform and development. However, previous studies have paid minimum attention to teacher and education development within the Belt and Road Countries.

President Xi Jinping said, when addressing the Belt and Road Forum for International Cooperation which took place on May 14, 2017, that "We should establish a multi-tiered mechanism for cultural and people-to-people exchanges, build more cooperation platforms, and open more cooperation channels. Educational cooperation should be boosted, more exchange students should be encouraged, and the performance of cooperatively run schools should be enhanced." The National Institute of Education Sciences (hereinafter referred to as NIES) held the Belt and Road Education Dialogue: Research, Policy-making, and Innovation on November 27-29, 2017 in Beijing. The conference was aimed to promote the Belt and Road Initiative, facilitate the initiative launched by the Ministry of Education to advance educational actions for the joint construction of the Belt and Road, and push forward educational exchange and cooperation among countries along the routes of the Belt and Road. The event convened more than 200 people, including over 70 international representatives from nearly 60 countries and regions along the routes and from several international organizations, as well as attendees from the Ministry of Education, local governments, universities and colleges, research institutes, and primary and secondary schools.

A round-table meeting on education research projects was held to identify the need for educational development of countries along the routes and to find areas where educational cooperation can be started. Guests from 46 countries gathered together and discussed the possible output of the Belt and Road education research projects and relevant research subjects. The consensus was reached after a thorough discussion: The organizer would, based on the Belt and Road Education Dialogue, solicit research reports from those who study education from different Belt and

Road countries. Those selected would be included in the Collection of Essays for the Belt and Road Education Dialogue and be published, where the anthology was originated.

This book presents an update on teacher and education development from the perspective of research, policymaking, and innovation within the Belt and Road Countries. To address this issue, this book originally examines the role of teacher in education development concerning research, policymaking, and innovation by illustrating the cases from 18 Belt and Road countries, namely Albania, Austria, Brunei, China, Cyprus, Hungary, India, Israel, Lithuania, Malaysia, Mongolia, Portugal, Slovakia, Qatar, Russia, Singapore, Sri Lanka, and Turkey. Members of the Editorial Committee and authors have made great efforts for proofreading and revision before publication. It is because of their dedication that readers can have the opportunity to enjoy such a high-quality work.

This book is unique for at least four reasons. First, it showcases issues and challenges of teacher development situated in 17 Belt and Road countries. Second, it illustrates research, policymaking, and innovation in teacher development as well as linkages among the three from a global perspective. Third, it identifies regularities and patterns of teacher development in the context of education development. Finally, it explores the characteristics of education policy and practice of the Belt and Road countries.

As an ancient Chinese saying goes, there are hills whose stones are good for working jade, therefore, we hope, through this collection, to lend experience of teacher development to the countries involved. While education is an important engine driving the building of the Belt and Road, it is underpinned by teacher development. We hope this publication can help increase readers' understanding of teacher development in countries along the routes, promote cooperation in the educational field among countries along the routes, and contribute to the educational, economic, and social development in China and in countries along the routes.

At last, we extend our sincere gratitude to authors from different countries for their original contribution, to the NIES for its leadership, and to Springer for its great support in publication. Thanks also go to Prof. Zhu Yongxin who has given valuable support for this publication.

Beijing, China   Yan Wang

Overview

Three main resources can help countries address their challenges and attain their educational goals: policies, teachers, and curricula. All resources rely on cultural assent, current knowledge, and societal support. The five parts of the book deal with the three resources. The first part is devoted to policies, the next three parts deal with teachers, and the concluding section deals with the curricula and the quality of higher education institutions. Together, they provide a broad overview of current educational systems in less-studied areas.

Part one "Teacher Policy Reforms: Responses to Social and Economic Changes" consists of four chapters. The first two chapters deal with coherent state policies that aim to provide high-quality education whereas the last two chapters deal with the dynamics of policy reforms.

The chapter "Incremental Education Reform for Groundbreaking Changes: Teacher Development in China" by He Mei and Wang Yan describes how China deals with challenges associated with diversity and unequal distribution of wealth between urban and rural areas. Chinese policies are aimed at ensuring high-quality teacher education by raising the academic qualifications required for teaching, setting standards for teacher education curricula, evaluating teacher education programmes, and providing incentives to outstanding ones. Individual teachers are required to participate in professional development activities. They have to renew their teaching license every five years and when they apply for promotion, they need to provide evidence for their eligibility. Particular efforts are invested in recruiting high-quality teachers to rural areas and providing teachers in those areas with professional development programmes that are specifically adapted to their needs.

The chapter "Raising the Profile of Teacher Professionalism: Approaches and Strategies in Brunei Darussalam" by Zurina Harun and her colleagues presents a cohesive framework through which teachers' professionalism is enhanced. The framework posits clearly defined teaching standards for different stages in the teaching career and aligns them with professional learning on the one hand and teacher evaluation on the other hand. The framework further coordinates between providers of professional learning, school leaders, and teachers, as well as between theory, research, and practice.

The next two chapters adopt a socio-historical perspective to describe how existing educational policies were formed. The chapter "Balancing Meritocracy and Effectiveness: The Reform of Teacher Recruitment System in Cyprus" by Iasonas Lamprianou and Thekla Afantiti Lamprianou narrates how different stakeholders shaped the current Cypriot teacher recruitment policies. Public opinion, teacher unions, potential "gainers" and "losers" as well as external agencies all took part in the process. The authors conclude that the current recruitment policies are much more a compromise than "best practice", and that in the future, further changes would be required to improve those policies and handle their unintended consequences.

The part concludes with the chapter "Striving for Policy Coherence and Implementational Consistency Teacher Education in Slovakia" by Beáta Kosová and Iveta Kovalčíková. The chapter describes how the initial teacher education system in Slovakia changed from the 1950s until today. Traditions, educational ideologies, political alliances, and financial considerations have influenced the teacher education curricula and particularly the pedagogical approaches and teaching methods student teachers acquire, the amount of practical experience they have, and the time devoted to research and reflection. The frequent changes and the multitude of stakeholders involved in these processes resulted in the fragmentation of the teacher education system.

Part two "Teacher Learning and Development: A Career Long Perspective" reviews teacher education and professional development programmes. The part opens with the chapter "From Teacher Education to Lifelong Teacher Learning and Teacher Innovation: The Case of Hungary" by Gábor Halász. It describes a shift from traditional individual teacher education to practice-based, life-long forms of shared learning. Teachers' formal and informal learning within schools and the emergence of networks of schools and communities enhance innovation and vice versa.

The chapter "Teacher Learning and Development in Singapore: A Career-Long Perspective" by Oon-Seng Tan and Ee-Ling Low describes how the high status of a nation-builder in addition to good remuneration packages and additional benefits accorded to teachers in Singapore mandates the adoption of a stringent recruitment and selection process. The chapter also elaborates on the well-rounded initial teacher education and professional development programmes, policies, and frameworks that address teaching standards and nurture moral and social commitments and further expounds on three distinct career trajectories for teachers to develop professionally throughout their careers. All these enablers empower them to contribute to building the future of the nation.

The chapter "Preparing Teachers for Diversity and Inclusion: An Analysis of Teacher Education Policies and Practices in Austria" is authored by Vasileios Symeonidis and Heike Wendt. The chapter describes recent reforms in teacher education that aim to prepare teachers to deal with diversity and inclusion, motivated by the large proportion of students with migration background, mainly in urban schools. Against this background, the authors present data that indicate that initial teacher education programmes devote only a small part of their curricula to the theoretical

knowledge and practical skills that teachers need in order to deal with diversity and inclusion.

The chapter "Institutional Reform for Transformative Competencies: Teacher Training Transformations in Lithuania" by Ausra Rutkiene deals with practicing teachers' professional development. The chapter describes a new policy that appoints three teacher-training centers as responsible for all initial teacher education programmes. The programmes may operate according to the parallel, consecutive, or an alternative route model. However, they all have to follow the same standards set by the "Good School Concept" and the "Requirements for teacher qualification and specific competences" documents. The standards refer to teaching, moral and social education, and to teachers' work in and for their communities. In addition, the policy introduces one year of internship for beginning teachers and continued professional development for practicing teachers.

Part three "Teachers' Status and Capacities: Issues, Trends, and Challenges" revolves around national organizations and processes designed to ensure that teachers have high professional capacities. All three chapters in this part show that the success of quality assuring processes is highly dependent upon teachers' motivation and social status.

The chapter "Needs-Based and Research-Based Strategic Approach to Teacher Development: Policies and Practices in Qatar's Public Education System" by Ahmed Baghdady describes a reform aimed at transforming traditional teaching methods into student-centered education system. International as well as national experts and the Qatari government led the reform. Currently, the reform involves initial as well as in-service teacher education programmes. Both types of programmes have clear objectives and sound research-based practices. In-service programmes involve needs-analysis and indicators for effectiveness. Long-term processes of improvement replace summative evaluations. Nonetheless, the reform faced strong resistance due to prevalent support of the traditional ways and the work overload involved in change. These led to a "swing effect": The reform started with a small pilot that spread and resulted in the emergence of two parallel systems. These were later re-united. An additional factor that hinders the reform emanates from teachers' lower status. Since the teaching profession fails to attract Qatari citizens, expatriate teachers are hired. The high turnover rate that is characteristic of expatriate teachers hinders long-term developmental processes and building trust between training providers and schools.

The chapter "Creating Pathways and Developing Incentives: Transforming Teaching into the Profession of Choice in Malaysia" by Aini Neesa' Salim describes the country's initial teacher education and professional development system. Established after consultation with specialists from high achieving countries, the system has three career development trajectories that are well coordinated with teaching standards and evaluation.

Finally, the chapter "Improving Quality in Education: Issues and Challenges for Teacher Education in India" by Jandhyala Tilak and Madhumita Bandyopadhyay describes India's attempts to improve the quality of education through pre- and in-service teacher education programmes. However, a rapid increase in the number of students and schools has resulted in teacher shortage, diminished resources, and

privatization of teacher preparation. These in turn have led to lowering students as well as teachers' recruitment standards, devising of teacher preparation programmes that prioritize profit over educational quality, and further demoting the social status and the professional level of teachers. Now some path-breaking reforms are on the anvil that address some of these issues.

Part four "Innovation and Digitalization in Teacher Development: Approaches & Strategies" is devoted to new developments that may change teacher education and work in the respective countries in the near future. Some of the initiatives described in this part may have global transformative impact.

The chapter "Towards a "Well Rounded" Cohesive Teacher Education Program: The Silent Reform of Teacher Education Practices in Israel" by Ainat Guberman and Oded Mcdossi presents a number of advanced solutions to improve the quality and relevance of teacher education and professional development. These are (1) the use of non-cognitive selection criteria for teaching student candidates, (2) the "academy-classroom program" promoting school-university partnerships, (3) the "Multiplayer Induction Teams program" supporting the job entry and integration of beginning teachers, and (4) the intensive use of professional learning communities to support the professional development of teachers. These special programmes or initiatives are parts of a coherent strategy for teacher development based on an advanced, evidence-informed knowledge in this area and are implemented at grassroots level. In addition, the chapter gives a good picture of MOFET, a key strategic player and a world-known agency that does research and produces new knowledge on teacher education and teacher professional development in Israel.

The chapter "A Promising Model of Postgraduate Teacher Education: Teacher Professional Development in Russia" by Diana Koroleva, Oleg Fedorov, and Elena Chernobay provides an overview of teaching careers in Russia. The ethos and role components of the teaching profession evolved from the Soviet period to the Post-Soviet period. Career ranks, professional evaluation as well as incentive-based compensation structure were established. In recent years, the attempts to enhance ICT-rich and student-centered teaching methods were hindered by the aging teaching force and negative sentiments toward professional upskilling. The authors suggest that teachers participate in practice-oriented career-long professional development activities. Some of these activities would address their intrinsic interests, whereas others would provide upskilling in areas that require additional support.

Finally, the chapter "Improving Teachers' Skills for Pedagogic Use of Educational Technologies: Turkish Perspective" by Cemalettin Maden describes the Ministry of National Education's initiative to enhance practicing teachers' use of ICT. Through face-to-face as well as distant training, teachers and administrators learn about technology-supported field-based teaching, interactive classroom management, network technologies, and network security. Teachers and students have access to tablet computers and the Internet, as well as free digital contents in the national digital content repository. EU projects complement governmental initiatives to help teachers and student teachers foster ICT-rich pedagogy.

Part five "Curriculum, Teacher, and Employment in Global Context" is the concluding part of this book. It positions teacher education in wider contextual

perspectives: the curriculum that teachers are educated to teach, and the higher education institutions, that should be able to provide teachers with the education they need. The part begins with the chapter "Reforming the Secondary School Curriculum: A Sri Lankan Experience at the Dawn of the New Millennium" by Indira Lilamani Ginige. The chapter describes the reform in the secondary school curriculum. The pre-reform situation was characterized by a knowledge-based examination system that creates a race for better results, competition between schools, and rising gender disparities. The reform introduces a competency-based, activity-oriented, and student-centered curriculum that brings together knowledge, attitudes, and skills, as well as new and authentic system of evaluation. Currently, about a decade after the new curriculum was formed, its implementation is far from complete. The author concludes that suitable pre- and in-service teacher development and supportive policies are needed for the implementation of the new curriculum and the attainment of its goals.

The next chapter "Albania: Education and Employment Reforms Linking Professional Education and Labor Market" by Joniada Barjaba and Kosta Barjaba also deals with curricular reform and the concomitant necessity to improve teacher education. The chapter describes two reforms, one that concerns universities and another that concerns vocational education. Both reforms aimed to adapt secondary and tertiary education to the needs of the labor market in order to reduce youth's unemployment and boost the economy. In particular, students are encouraged to choose technological, scientific, and agricultural curricula over social sciences and the arts. Recruiting highly qualified teachers and professional development of the existing faculty are significant components of both reforms.

Finally, the last chapter of this part deals with improving the academic capacities of those who educate the teachers, i.e. the higher education faculty. The chapter "Challenges of Professional Development and Potential Solutions: Policy Reforms of Higher Education Institutions in Mongolia" by Bayartsetseg Batjav and Orkhon Gantogtokh presents the results of a professional development needs survey distributed among higher education faculty. The survey found that between half and two-thirds of the respondents wished to improve their research and foreign language capacities as well as their disciplinary knowledge. About a third wished to improve their teaching skills, and about 15% wished to enhance their pedagogical use of ICT. The main barriers that hindered professional development were lack of time and funds and unsatisfactory level in English. Furthermore, it seems that the faculty are unaware that their teaching lags behind their students' needs, whereas institutions are not using students' surveys to improve their teaching, and are unaware of the importance of staff mobility for academic excellence. The authors conclude that policymakers and higher education institutions should prioritize the professional development of higher education faculty.

Yan Wang
Ainat Guberman

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Teacher Policy Reforms: Responses to Social and Economic Changes

Incremental Education Reform for Groundbreaking Changes: Teacher Development in China

He Mei and Wang Yan

1 Introduction

Respecting teachers is a part of Chinese culture and tradition. Teachers in China enjoy high social status and are widely respected. Teaching is one of the popular jobs for many college graduates. In 2018 TALIS, there are 87% of teachers in Shanghai (China) chose teaching as their first-choice career, comparing to 67% in OECD countries and economies participating in the survey (OECD, 2019). In an international comparative research (Varkey Foundation, 2018), teachers in China recorded the highest status among all the countries reviewed.

At the state level, governmental policies also guarantee teachers' rights and remuneration. According to the Teacher Law (NPC, 1993), the salary level of teachers should not be lower than that of local civil servants. In 2019, Teachers' salary is ranked 7th among the 19 largest professions in the country (MOE, 2019e). Teachers' salary and welfare accounted for more than 50% of the fiscal expenditures on education (MOE, 2019b). By ensuring that teachers receive relatively higher wages and better welfare benefits, the importance of the teaching profession is highlighted. In addition, teachers are entitled to certain special benefits, such as paid winter and summer vacations, living and housing allowances, and visiting privileges to parks and museums. For teachers in rural areas, there are additional subsidies.

Besides, through various recognition and reward activities, teachers' professional identity is strengthened and a social atmosphere of respecting teachers and teaching is promoted. Every year, the government recognizes outstanding teachers with national awards. China's leaders participate in Teachers' Day celebrations, by visiting primary and secondary schools, and colleges, and talking with teachers and student teachers.

H. Mei (✉)
National Institute of Education Sciences, Beijing, China
e-mail: amynyc@163.com

W. Yan
China Society of Educational Development Strategy, Beijing, China

Table 1 The core competencies of teachers defined by professional standards

Core competencies	Professional standards for preschool teachers	Professional standards for primary school teachers	Professional standards for secondary (middle and high) school teachers
Daily management and child care	●		
Support and guidance of game activities;	●		
Planning and implementation of educational activities	●	●	●
Classroom management		●	●
Incentives and evaluations	●	●	●
Communication and collaboration	●	●	●
Reflection and development	●	●	●
Educational and instructional design		●	●
Instructional implementation		●	●

2.2 The Teacher Professional Standards System

A set of professional standards issued by the Ministry of Education (MOE) indicates the professional concepts and ethics, and professional knowledge and competencies required of teachers at each level (Table 1). Both teacher certification and teachers' pre-service preparation and in-service training are centered around these standards, as are administrative functions like teacher qualification and teacher evaluation. These standards guide the design of teacher education programs and performance-based evaluation tools. Teachers are required to demonstrate the appropriate level of knowledge and ability described in the standards, and provide evidence of high performance during regular evaluations in schools (MOE, 2012a).

2.3 Professional Qualification Ranking System

A clear career development path can encourage teachers' professional development and also provide important tools for teachers' evaluation. China's primary and secondary school professional titles are divided into five levels. The corresponding

titles for the five tiers are "third-level teacher", "second-level teacher", "first-level teacher", "senior teacher" and "advanced senior teacher". General evaluation criteria for each level are setjointly by the Ministry of Human Resources and Social Security and the Ministry of Education (MOE, 2015) (see Table 2). Indicators for evaluation are specified by local authorities.

Promotion and employment are carried out in accordance with a basic procedure of personal application, evaluation and reference, expert reviews and school employment. Teachers are required to compete for their corresponding positions, and must submit an application to the schools in accordance with the prescribed procedures and evaluation criteria. The teachers who apply must complete a comprehensive assessment in a variety of ways, in conjunction with their annual evaluations. According to assessment results, and after a panel discussion, the school recommends particular candidates for a final review. A committee of peer experts, in accordance with the evaluation criteria and methods, then evaluate the professional and technical levels of the candidates. Once the final review is complete, it will be validated by the Department of Human Resources and Social Security (MOE, 2015).

3 Pre-service Teacher Education

Teachers must have been trained in teacher preparation programs and have also completed a period of practical training in schools before starting to teach. Pre-service teacher education programs are quite diversified with providers from Normal (*Shifan*) schools and colleges, comprehensive universities and other institutions (Zhu, 2006).

3.1 Providers of Teacher Preparation Programs

Pre-service teachers are mainly educated in Normal colleges or universities, as well as teacher preparation programs housed in non-Normal colleges or universities, or teacher preparation secondary schools. Normal colleges or universities are higher education institutions that mainly focus on teacher education that prepare teachers for all levels of school. Two to four years programs are provided in these institutions, offering associate degree[1] or bachelor degree. In addition to Normal education institutions, some other institutions can also conduct training programs, such as comprehensive universities, vocational colleges, independent institutions, etc. There are also preschool teacher preparation secondary schools that offering the equivalent of a high school diploma.

Between 1950 to the early 1990s, specialized Normal schools, colleges, and universities were the only legitimate institutions to prepare teachers, which was

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[1] College degree awarded in two or three years' college program.

Table 2 Professional title levels and the evaluation criteria

Level	Criteria
Third-level teacher	1. Has mastered the basic principles and methods of educating students, and able to correctly educate and guide students 2. Has basic knowledge of education, psychology and teaching methods; have mastered the basic professional knowledge and teaching materials of the teaching department, and capable of completing the teaching work of the teaching department 3. Has an associate degree or a diploma in a secondary normal school 4. Has spent a one-year probationary period in primary or middle school 5. Has passed the examination (what exam, please specify)
Second-level teacher	1. Skilled in mastering the principles and methods of educating students; capable of working as a class teacher or counselor 2. Has mastered the basic theoretical knowledge of pedagogy, psychology and pedagogy, with the necessary professional knowledge for the subject; capable of independently mastering the syllabus and teaching materials; deliver the course effectively 3. Has mastered the research methods of education and teaching, and have carried out educational and pedagogical research, and innovative practices 4. Has a master's degree; or have a bachelor's degree/four years university credential; or has an associate degree and more than 2 years experiences as third-level teacher; or is a graduate from secondary normal school, and has more than 3 years experiences 5. Has completed one year internship, and passed the final examination
First-level teacher	Meet the requirements for secondary-level teachers, and 1. Has mentored third-level teachers to improve their professional skills and abilities 2. Has a doctorate; or a master's degree and more than two years' experience as a second-level teacher; or has a bachelor's or associate degree and more than four years' experience; or has a diploma from a secondary teacher preparation school and has more than five years of experience
Senior teacher	Meet the requirements for first-level teachers, and 1. Be a qualified leader in education and teaching, and has played an important role in guiding and cultivating secondary or third level teachers, and has achieved remarkable results in doing so 2. Has earned a doctorate, and has more than two years' experience as a first-level teacher; or has a master's or a bachelor's degree or an associate degree and has more than five years of experience 3. Teacher in urban primary and secondary schools has more than one year of teaching experience in weak schools or rural schools
Advanced senior teacher	Meet the requirements for senior-level teachers, and 1. Made outstanding contributions in guiding and cultivating teachers at the first, second and third levels; have a high reputation in the field of teaching; have become a recognized education and teaching expert 2. Generally, they should have a bachelor's degree or above, and have taught in a senior-level teacher position for five years or more

considered a closed and exclusive system. With a reform of diversification and openness of teacher education system since 1990, the non-Normal colleges and universities had become an important provider in Chinese teacher education (Rao, 2020). In 2020, there were 207 Normal institutions and 489 non-Normal institutions that are conducting teacher training programs. The total number of student teachers in Normal institutions is roughly equal to that in non-Normal institutions (MOE, 2020).

Since 1980s, preservice teacher education has been upgraded to higher education level. While the programs at graduate level have been enlarged, the number of secondary Normal schools has been decreased. In 2018, there were 144 universities that held a professional master degree of education, with a training capacity of 69,400, and 395 colleges and universities that held teacher-training undergraduate majors, with a training population of 1.6 million, and 420 colleges and universities that offered associate degree in education, with a training capacity of 0.8 million (MOE, 2019c).

To fulfill the tasks of teacher education, local governments, higher education institutions, and primary and secondary schools cooperate extensively, and formed the namely "Three in One" collaborative teacher education mechanism. The local government analyzes the demand for teaching work force in the area, which would provide reference to the enrollment plan of teacher education institutions. Teacher education institutes hire school teachers to train their students, while higher education institutes' staff train in-service teachers in schools. This kind of collaborative education enhances the effectiveness of teacher preparation programs, as well as the development and competencies of student teachers.

3.2 The Curriculum System of Teacher Preparation Programs

Teacher education courses can be roughly divided into three categories: general courses, subject-specific courses and educational courses. In general courses, student teachers obtain the fundamental knowledge, such as philosophy, language, mathematics, which is necessary to any students, regardless of study area. In the subject-specific course, students learn the professional knowledge and skills needed to teach a specific discipline; while in the educational curriculum, they acquire expertise related to education and teaching. The credits setting and class-time ratio of these three types of courses are determined by the universities in accordance with the Higher Education Law of the People's Republic of China and the relevant provisions of the Ministry of Education. They take into account the professional setting and curriculum arrangements of higher education institutions with respect to specific training methods and training needs. According to the specific requirements of different professions, some institutions also offer educational subject courses. For example, the language education major offers courses such as "Teach Literacy and Writing" and "Teach Speaking and Communication".

In 2011, the Ministry of Education promulgated the "Teacher Education Curriculum Standards (Trial)", which set the objectives and requirements for educational courses (MOE, 2011). The objectives were divided into three aspects: educational beliefs and ideas, educational knowledge and abilities, and educational practices and experiences, with specific learning goals for each aspect (Table 3). The requirements outlined the course modules that the curriculum must cover (as well as the areas of study for each module) and stipulated the corresponding credits to be completed. Student teachers are required to conduct an 18 week field practice for all levels of teacher preparation courses. They also need to complete an internship before taking a teaching post. During the internship, they should receive appropriate training and guidance from experienced teachers.

3.3 Strategies for Improving Pre-service Teacher Education

As pre-service teacher education is the base for a high-quality teaching workforce, China has been implementing a series of policies to improving its quality, such as attracting top graduates to teacher education program, providing more support to Normal colleges and universities, upgrading all teacher preparation to a higher academic level, and constructing a quality assurance system for pre-service programs.

3.3.1 Attracting Secondary School Graduates to Teacher Education Program

The quality of candidates to teacher preparation programs will be improved by attracting outstanding students to apply to these programs. To encourage more outstanding students to apply for teaching majors, local authorities have been asked to raise the standard of appropriation per student teacher, and promulgate policies such as government-funded preservice education program or tuition fees refund after employment. The enrollment scale of government-funded programs will be further enlarged in the future (MOE, 2019e). To allow talented students take teacher preparation program as their first-choice earlier than regular applicants, colleges and universities can make early decisions on admission to their programs, in comparison with the regular recruitments of universities. When students from other programs want to transfer to teacher preparation programs, interviews should be conducted in addition to other application requirements.

3.3.2 Providing More Support to Normal Colleges and Universities

The responsibilities of Normal colleges and universities which feature in teacher education have been emphasized. During the implementation of the 13th five-year (2015–2020) plan for the development of the country, a total of 2.8 billion Yuan was

Table 3 Curriculum objectives of each teaching levels

Teaching levels	Curriculum objectives	Study area
Preschool	Fully understand the characteristics and values of early childhood; understand the importance of "protection and education"; learn to carry out child care and education according to the science of child development; understand the cognitive characteristics and learning styles of young children; learn to put education in the lives and games of young children; create a suitable educational environment; protect and develop the interests of young children to encourage them to explore and create; and allow them to be happy and healthy in their preschool life	1. Child development and learning 2. Early childhood education 3. Early childhood activities and guidance 4. Preschool, family and society 5. Professional ethics and professional development 6. Field practice
Primary school	Understand the characteristics and individualities of primary school students' growth; learn to create a supportive and challenging learning environment; satisfy children's desire for expression and curiosity; understand the importance of primary school life experiences and on-site resources; learn to design and organize appropriate activities and help the children become independent and cooperative inquiry learners, and to form good study habits; understand the value and uniqueness of communication in the development of primary school students; learn to organize various collective and partner activities; and let them grow up happily in a meaningful school life	1. Child development and learning 2. Primary education foundation 3. Primary school subject education and activity guidance 4. Mental health and moral education 5. Professional ethics and professional development 6. Field practice

Table 3 (continued)

Teaching levels	Curriculum objectives	Study area
Secondary (middle and high) school	Understand the characteristics of adolescence and its impact on the lives of middle school students; learn how to guide them through puberty; understand the cognitive characteristics and learning styles of middle school students; learn how to create a learning environment; encourage independent thinking, and guide them to explore subject knowledge in a variety of ways; understand the personality and cultural characteristics of middle school students; learn to respect their self-awareness; help them to plan their own lives and develop social practice skills through diverse activities	1. Child development and learning 2. Foundation of secondary education 3. Middle school subject education and activity guidance 4. Mental health and moral education 5. Professional ethics and professional development 6. Field practice

allocated to some of the Normal colleges and universities. Besides more resources being allocated to support the development of Normal universities, a better evaluation system of higher education institutions was also proposed to motivate both Normal universities and comprehensive universities to strengthen their teacher education programs.

3.3.3 Upgrading All Teacher Preparation to a Higher Academic Level

All primary and middle school teachers would receive undergraduate level training, while upper secondary school teachers should have post graduate level training. The number of teachers with postgraduate degree will be increased, and there will be more teachers trained to teach music, art, physical education, bilingual education, and special education (CPCCC & SC, 2018).

The enrollment scale of master's and doctoral degree programs in education sciences will be enlarged, and four years pre-service training of preschool teachers and professional master's degree program for special education teachers will also be increased.

3.3.4 Constructing a Quality Assurance System for Pre-service Programs

In order to set unified requirements for the programs from different providers, in 2017, the Implementation Guide for the Certification of the Teacher Preparation Program in Colleges and Universities (Interim) was issued. It set up a standardized recognition system for teacher preparation programs in different institutions. The document issued quality standards for pre-service programs which established requirements such as curriculum and instruction plans, educational cooperation and practices, and teaching staff. There are three different levels of recognition: basic, qualified, and advanced. The recognition will be conducted by the upper-level authority that supervises the institute, based on information collected from monitoring data platform established in accordance with the standards (MOE, 2017). Besides the national level data base of teacher education and standardized recognition system for teacher preparation programs, the document called for building self-evaluation systems for teacher education programs in higher education institutions.

Besides, universities are encouraged to establish a new discipline of teacher education and offer courses that are designed for students who are not in education majors. Curriculum standards for teacher education will be amended. The professional system of subject education and postgraduate training in teacher education are also expected to be improved.

4 In-service Teacher Development

Teachers need to be lifelong learners. In-service teachers are required to receive at least 360 h of trainings in every five years. District teacher training colleges, universities and schools all undertake some kind of responsibilities of in-service training. In order to strengthen its system, the improvement of training qualities has been emphasized in recent policies.

4.1 Providers of In-service Training

District teacher training colleges were used to be the main provider of teacher training. They provide training of different levels to teachers at different career stages, from induction training to training for senior teachers. Teachers will be assigned with coaches and get training to improve their daily practice. The training is focused on real challenges faced by teachers, and conducted in various formats, such as lectures, teaching-related research, school visits, as well as eLearning. These colleges are also a source of resources with tools, videos of courses, e-books, and virtual communities for peer support (Zhang et al., 2016).

Nowadays, universities which mainly provide degree programs in the past increasingly undertake teachers' regular training. This is consistent with the trend of the integrating pre-service and in-service teacher training. Colleges and universities pay more attention to the regular practice of school teachers, and provide guidance and support to them on a regular basis.

The school itself is an important provider of training. School-based teaching research has always been regarded as one of the most effective way of training. To improve students' learning and teachers' instruction, teachers who teach the same or similar subjects will gather regularly to prepare lesson plans together or solve problems in teaching and share their experiences and thoughts with each other. Some other groups such as teachers from the same grade may also conduct educational research together on topics such as homework design or interdisciplinary courses.

4.2 Trainings for All Teachers

The Teacher Law stipulates that training is one of the six basic rights of teachers. Since 2011, all primary and secondary school teachers must receive at least 360 hours of in-service training every five years. This is also a basic requirement for the regular registration of teacher qualifications. After officially accepting a job, a new teacher will receive induction training and guidance from experienced teachers. Working teachers should maintain a certain level of knowledge and ability required in registration. To facilitate this, they can apply for advanced studies, such as graduate programs. They can also participate in other forms of in-service training, such as concentrated training, school-based instructional research and observation.

Teacher training programs are organized and funded at five levels: the national level, the province level, the county level, the district level, and school level. At the national level, for example, the Ministries of Education and Finance has been running the "National Training Program for Preschools, Primary and Secondary Schools Teachers" since 2008 (Guopei Project), with the aim of improving the overall quality of teaching through large-scale targeted training. The objectives of this project include preparing teachers to participate in the curriculum reform of the basic education, balancing the development of compulsory education among regions in different levels of economical status, and expanding preschool education. Through this training project, it is hoped that teachers, especially those from rural areas, can get comprehensive understanding of the new curriculum and improve the professional skills required in the new curriculum reform.

Trainings are also organized for specific skills. For example, teachers are required to take 50 credit hours in learning ICT skills for every five years. Training programs are required to set up online community and conduct hybrid training that combine the online courses and the on-site practice. Real-time monitoring are required to assure the effect of training (MOE, 2013a, b, c).

Training is also organized for various needs at different career stage. For example, besides induction training, there are training programs for experienced teachers. At

the beginning of the programs, individual needs are diagnosed via survey, interview and classroom observation. Based on the information collected, an individual training plan is made in areas such as instructional design, classroom evaluation, and mentoring skills, etc. Practice-oriented forms of training, such as workshop, apprentice study, and visits to high achieving schools are widely used.

4.3 Strategies for Enhancing In-service Teacher Training

Recent policies brought several specific strategies to improve the quality of training, such as improving the qualities of teacher trainers, setting standards for teacher training programs, and utilizing new technologies.

4.3.1 Improving the Qualities of Teacher Trainers

Teacher trainers would be given more support for oversea and domestic short-term studies. The training of PhD candidates in curriculum and instruction would be particularly strengthened. According to the "Guides for teacher trainers" issued in 2020, trainers should be selected from leading teachers and outstanding instructional researchers and receive 30 credit hours of collective training (MOE, 2020b).

4.3.2 Setting Standards for Teacher Training Programs

In order to standardize and guide the 360 h/five-year cycle training, the Ministry of Education promulgated a series of curriculum standards for teacher training programs since 2017: curriculum standards for teacher training on the instruction of language, math and chemistry instruction in compulsory education, and curriculum standards for teacher training on morality development, class management and professional development. These standards are set up in accordance with different professional stages. However, "practice-oriented" form of training is emphasized in every stage of training. It is required that authentic training in classrooms must be included in the design of the programs. Teachers should be trained via on-site mentoring, case studies, or observation on mentors' daily work. Action research and self-reflection should be used by teachers to improve their practice.

4.3.3 Utilizing New Technologies

According to the Action plan, cloud computing, big data, virtual reality and artificial intelligence will be used to promote the informatization of teacher education; 200 national awarded online courses for teacher education would be selected and open for sharing; a new round of teachers' technology ICT capacities enhancement project

would be launched; standards for preservice teachers' ICT application capacities would be developed; and 'credit bank' would be built in the information management system of teacher training.

5 Approaches and Strategies for Teacher Development in Rural Areas

Teachers in rural areas have been the focus of the policies for teacher development in recent years. Although the situation of rural teachers has been improved after years of efforts, there is still an urgent demand to improve the retention rate of rural teachers and the quality of teaching workforce. A survey in 2018 showed that over 80% of teachers had a thought of transferring positions or changing to other professions in the past. Due to the shortage of teachers, the proportion of rural teachers who teach across grades and teach multiple subjects is very high. Nearly 50% of teachers teach across grades, and nearly 14% of teachers teach in three or more grades. More than half of the teachers teach multiple subjects concurrently, 21% of the teachers teach more than three subjects (NIES, 2018). To resolve these challenges, a set of policies has been developed and issued.

5.1 Special Post Scheme

China has been implementing "Special Posts Scheme for Teachers in Rural Compulsory Education Schools" since 2006. This project has been aimed at overcoming teacher shortage in rural areas by attracting more talented teachers to teach in less developed areas and under-resourced schools.

5.1.1 Raising Special Funding for Salary Subsidies

The central government set up special funds for salary subsidies for teachers who participate in this project. To be accepted to the program, teachers must pass the recruitment interviews and written examinations, participate in pre-job training, and pass in-job evaluation. In order to encourage teachers to apply to the program, admission priority will be given to project teachers when candidates with equal qualifications apply to the same graduate program. The number of recruits for the special program has increased from 16,000 in 2006 to 100,000 per year in 2019, and the scale is still expanding. From 2006 to 2012, the central government allocated 15.3 billion Yuan in salary subsidies for the project's 523,000 teachers (MOE, 2013b). In 2012, the annual per capita wage subsidy standard was 27,000 Yuan in the west and 24,000 Yuan in central regions. Between 2012 to 2019, the Special Post Scheme

has hired 510,000 teachers. Till 2019, the annual per capita subsidy was raised by 41% in the west and 47% in central areas (MOE, 2019d). This policy has played an important role in improving the supply and quality of teachers in rural areas and expanding job opportunities for college graduates.

5.1.2   Contracting with Higher Education Institutions and Student Teachers to Serve Rural Schools

The students, government and higher education institutions sign a tripartite contract indicating the responsibilities of each party. According to the contract, the students will serve local schools after graduation. These programs are tailored to meet the needs of local rural schools and are provided by local colleges and universities. Students will gain the knowledge of education in rural areas and local culture and acquire the most demanded instructional skills (MOE, 2021c).

5.1.3   Recruiting Experienced Teachers Who Are Retired from Urban Schools

Since 2018, a Senior Lecturer Project was launched. It recruits retired principals, educational researchers, and senior-level titled teachers to give lectures in rural schools and colleges. These experienced teachers and faculties will teach in classrooms and mentor young professionals for at least one year (MOE, 2018e).

5.2   Guopei Project

Since 2015, teachers training in rural and under-developed area has been the main emphasis of Guopei project. As of 2017–2019, the central government invested 2 billion Yuan every year in Guopei Project, with a focus on training teachers from midwestern areas and preschool teachers (MOE, 2019d). By 2019, the central government had invested about 17.2 billion Yuan in special funds for this project. There are 1288 organizations participated in the training task (UNESCOTEC, 2020).

Besides, other strategies include recruiting and training more teachers with the knowledge and skills of teaching multiple-subjects in rural primary schools; training more bilingual teachers for minority areas; providing teachers with more choices of the content and form of training, via county-level training center programs and observation study in urban schools.

The MOE has been monitoring the progress and effects of the implementation of the policies through third-party evaluation. At the same time, typical cases and successful practices are analyzed and publicly reported to encourage more innovation.

5.3 Plans for the Development of Rural Teachers

In 2020, a Circular on Reinforcing Rural Teacher Development in the New Era was issued jointly by six state agencies. In this Circular, innovating rural teacher professional development system was highlighted. In the document a five-tiered in-service training system was introduced in response to various needs of teachers. This integrated system includes training agents at the provincial level, the county level, and the town level, as well as schools and Famous Teacher/Principal/Classroom Supervisor studio. Normal colleges and universities are encouraged to play a more important role in those programs, such as tracking and monitoring the professional development of rural teachers over a long period of time, building learning community with schools, and providing professional master degree program. It also calls for taking advantage of new technologies such as 5G and AI to improve the smart platform of professional development, and public service platform for educational resources, which are important for supporting the tailored training programs and urban–rural partnership teaching programs.

6 The Way Forward

The teacher policies in China can be better understood with the knowledge of the ongoing educational reform, such as educational plan for 2035 and education driven-poverty alleviation which are closely related to development of the country, such as urbanization, poverty relief, and modernization.

6.1 Challenges in the New Era

Poverty eradication was among the primary goals of Sustainable Development, and education are considered as an important pathway to eradicating poverty (MOE, 2021a, b, c). As teachers are the main educational resources, teacher education is regarded as an important approach to promote educational equity (Rao, 2020). A set of policies are issued to support the development of education and teachers in poor rural areas. In the national plan for education development (2016–2020), a total of 70 billion Yuan was allocated to the teacher development program in rural area. In the national plan for education development (2021–2025), promoting the equity in education is still a main task.

While the overall supply of teaching workforce is surplus, there is still a structural shortage of teachers in the nation. High schools are short of teachers in the context of rapid development of high school education. Many schools still face shortage of teachers in some subjects, such as Music, Physical Education and Arts. Teacher resources are still unevenly distributed in China, especially between urban and rural

areas, and the eastern coastal areas and the central and western regions. In rural, mid-west, and minority areas, many schools are still in needs of qualified teachers. (CPCCC & SC, 2018; Rao, 2020).

In an era of informatization, school teachers are facing much more diversified needs of learning comparing to the past. There is a need of innovative teachers with strong professional competencies. Teachers are expected to have advanced knowledge and skills in the learning sciences as well as the subjects they teach, and use those knowledge and skills in developing curriculum and teaching (Zhu, 2017). Teachers are expected to be innovative by discovering and summarizing new features of education, solving new problems in teaching, innovating new ideas and practices in education (Li & Pei, 2020).

6.2   Teacher Development Toward 2035

As it was stated in *China's education modernization 2035*, the goals of meeting the learning needs of every student and supporting lifelong learning are highlighted in educational development in the coming years (CPCCC & SC, 2018). In this regard, educational development is undergoing a shift from quantitative expansion to ensuring a higher quality of education. These goals also call for "building a team of highly qualified professional and innovative teachers" (Zhu, 2019).

In 2018, the "Opinions on the Comprehensive Deepening of the Reform of the Development of the Teaching Workforce in the New Era" (Opinions) was issued (CPCCC & SC, 2018). It is considered as a national plan for teacher development. It's hoped, by 2035, the professional appeal of teaching is significantly enhanced and teaching will have become an enviable profession. It proposed general requirements and action plans for the future construction of the teaching workforce. Aiming at the improvement of the scale, structure and quality of the teaching workforce, it also proposed the strategies of refining the teacher education system. Besides, it also planned to provide more opportunities in career pipeline, improving the management system, and raising the remuneration. Under the guidance of the "Opinions" document, "Action Plan for Revitalizing Teacher Education (2018–2022)" (Action plan) was issued jointly by the Ministry of Education and other five ministries in February 2018, it formulated the national plan of teacher development in the first five years (MOE, 2018c). These plans would lead a series of policies and projects aiming to the improvement of pre-service and in-service education.

As the third-party, China National Institute of Education Sciences (NIES) was asked to carry out an assessment of the implementation of the "Opinions". In the first assessment, the NIES team analyzed self-monitoring reports from 31 provincial-level governments, quantitative data of 9 sampling provinces and their 51 districts and counties, and more than 10,000 surveys from teachers. The results show that the percentage of students with scores in the top 30% of all those taking the national college entrance exam, who went on to choose teaching related majors, grew from

18.3% in 2018 to 33.4% in 2019. In 2019, the average per-student funding for pre-service education students has increased by 7.4% compared to 2018. Also in this year, the number of applicants for teacher qualification certificate rose by 38.5% (MOE, 2021a, b, c).

6.3 Conclusions

China has been working toward a goal of building a diversified and open teacher education system. Normal universities are the main agents conducting pre-service education, while other qualified institutions can also provide teacher preparation programs.

Standards systems have been built to assure the quality of teacher development. While a diversified and open system of teacher education is to be built, it requires unified standards for the design and evaluation of the programs conducted by different providers, to ensure the quality of the programs. Standards are not only used to guide the content of training, but also affect the design of the programs. For instance, universities would improve their teacher education programs in order to gain recognition for a higher quality rank.

Teachers' development in remote and rural areas is a priority in recent policies regarding the teaching profession, to narrow the gaps between urban and rural areas, and the eastern coastal areas and the central and western regions in the quality of teaching workforce. Guopei project, special post scheme and government-funded pre-service education program are mainly provided to support the development of rural teachers.

Last but not least, the information technology will be widely used to support teacher development. Informatization would promote the effect and efficiency of teacher training, and provide teachers with diversified choices of the contents and forms of training. Especially for teachers in remote and rural area, information technology bring more opportunities of online training and more learning resources.

In the next 5–15 years, the professional development of teachers will still be a priority area for China's education reform. Teacher development policy is one of the most important part of educational reform policy. Its success counts on close collaboration among all stakeholders.

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Raising the Profile of Teacher Professionalism: Approaches and Strategies in Brunei Darussalam

Zurina Harun, Maureen Siew Fang Chong, Siti Hana Abdul Muiz, Shamsiah Zuraini Kanchanawati Tajuddin, Hazri Kifle, and Siti Suhailla Azmi

1 Introduction

Formal education in Brunei Darussalam began in 1912. Through decades of reforms and development, multiple policies have been put in place to ensure the success of Brunei educational reforms. These include the Bilingual Education Policy implemented in 1985 to ensure that learners attain a high level of proficiency in both Malay and English languages; the 12-year Education Policy implemented in 1993 to ensure every child is provided with 12 years of education; and the Inclusive Education Policy implemented in 1997 to provide students with special educational needs to attend mainstream schools. The Education Order which was inaugurated in 2003, aiming at effective, efficient and equitable system of education on the basis of the national philosophy of Malay Islamic Monarchy (*Melayu Islam Beraja*, MIB), and addressing needs of technological era. In 2007, the Compulsory Education Order was enacted to mandate every child residing in Brunei "above the age of six years who has not yet attained the age of 15 years," must receive compulsory education for at least nine years (MoE, 2013, p. 5–6).

In January 2009, the Ministry of Education introduced the National Education System for the 21st Century (*Sistem Pendidikan Negara Abad Ke-21*, abbreviated as SPN21) which, has brought three major changes into the education system, namely, the education structure; the curriculum and assessment; and technical education (MoE, 2013). With the introduction of the SPN21, multiple pathways are available for students to cater for their needs and highly capable students are allowed to complete their secondary education in a shorter period of time, that is, four years instead of five years. Students may choose programmes that suit their capabilities, interests, inclinations, growth and development (Ministry of Education, 2013). Aligned with the National Education Policy 1993 of providing every student with at least 12 years

Z. Harun · M. S. F. Chong · S. H. Abdul Muiz · S. Z. K. Tajuddin · H. Kifle (✉) · S. S. Azmi
Ministry of Education, Bandar Seri Begawan, Brunei Darussalam
e-mail: hazri.kifle@moe.gov.bn

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of education, the SPN21 is committed to produce literate, high-performing and well-rounded individuals that can meet the social and economic needs of the twenty-first century.

The primary goal of SPN21 curriculum is based on the principle that each individual student is the centre of all teaching and learning, with the goal of producing life-long learners who are confident, creative, connected and equipped with dynamism, knowledge and skills (MoE, 2013). The continuous curricular from pre-school to pre-university facilitate students' transition across various education stages in the development of their personality, attitudes, values and consolidation of skills.

These changes are made possible through the significant investments in education whereby the Ministry of Education (MoE) would usually be allocated a yearly budget of more than BND700 million. Government schools made up about 70% of the schools in Brunei as compared to the private schools that include only two (2) international schools (MoE, 2018b, p. 19). With the budget allocated, multiple projects and initiatives were implemented, such as a comprehensive human resource development strategy; development of competencies and assessment framework for school leaders and teachers; reviewing of recruitment and selection processes of teachers; a manpower assessment and deployment strategy; competency-based training for school leaders and teachers at all levels; strengthening the delivery of education through enhancement of curriculum as well as provision of adequate infrastructure and technological services for education sector. In particular, massive investments have been allocated into professional development of school leaders and teachers, such as preparing pre-service school teachers at local universities (e.g. Sultan Hassanal Bolkiah Institute of Education (SHBIE), Universiti Brunei Darussalam); and providing in-service teacher training to develop new knowledge, skills and relevant competencies in the current trends of education. Thus, the ministry has been reviewing its programmes and policies underpinning the career development of school leaders and teachers resulting in development of new standards and frameworks for continuous professional development.

2 Being a Teacher in Brunei Darussalam

2.1 Social Perception of Teachers

Teaching is a respected and valued profession in Brunei Darussalam. As honourable people in the society, teachers gain the much respect of the country's citizenry.

His Majesty, the Sultan of Brunei Darussalam himself, has acknowledged the crucial role teachers play in nation-building, asserting that the government should continue to invest in the professional development of teachers in the country. Every year on 23rd September, Brunei Darussalam celebrates Teachers' Day, where His Majesty hands out various awards of excellence. In 2013, His Majesty announced

the establishment of the Brunei Darussalam Teacher Academy (BDTA) to improve the quality of teaching in the country (Prime Minister's Office, 2012–2018).

In 2015, the Careers Counselling Unit in the Department of Schools conducted a student personality survey—using the Holland Codes—to gauge how students view their career options. The survey identifies students' strong interest in education and relevant fields in general.

2.2   Teachers as Civil Servants

In Brunei Darussalam, all teachers of government school or institution are part of the civil service, hence the teaching workforce—inclusive of the higher institutions— are bound by the rules and regulations of the civil service, under the jurisdiction of the Public Service Department, Prime Minister's Office (PSD, 2011). Consequently, teachers (and lecturers) have the same opportunities and welfare provisions as other civil servants in terms of professional upgrading and promotion, as well as medical and social services. Furthermore, teachers are also bound by the same rules and regulations with regards to codes of conduct, both for penalties and incentives, as those for civil servants.

The Ministry of Education continuously monitors and works towards ensuring a safe and conducive work environment for all teachers. It is acknowledged that specific challenges for teachers, such as occupational stress, are being effectively and efficiently addressed, as the Ministry sees teachers to be crucial in achieving all its goals. A Welfare Unit was also recently set up in early 2021 under the Director General Office of the Ministry of Education to oversee the well-being of the teachers and school leaders.

Teachers in the service of the ministry receive salaries that are comparable to other professionals in the country and beyond. The Teacher's Service Scheme (*Skim Perkhidmatan Perguruan*, SPG) defines teachers' service and salary structure within the civil service. Within the scheme, the salary scale is comparable to those of other similarly educated professionals in Brunei Darussalam, a starting salary for a Master-level teacher is approximately USD$26,000 per year with annual increments.

2.3   Teachers' Job Satisfaction and Workload

Between the years 2012 and 2013, the ministry through the Department of Planning, Development and Research conducted a survey of employee satisfaction in respect of status, working conditions, teamwork, support, self-efficacy, and career progression of employees of the Ministry of Education, including the primary and secondary government school teachers (MoE, 2013). Later in 2018, a survey on mathematics teachers' motivation towards teaching (Sahat et al., 2018) was conducted, using

Table 1 Comparison of Results from Studies on the Ministry of Education Employee Satisfaction and Mathematics Teachers' Motivation Towards Teaching in Brunei Darussalam

Areas	Survey on the Ministry of Education Employee Satisfaction (% of highly satisfied teachers)	Survey on the Mathematics Teachers' Motivating Towards Teaching (% of highly satisfied teachers)
Status	60	60
Career progression	60	80
Self-efficacy	60	60
Support	70	60
Working conditions	70	Not available
Teamwork	40	70

similar indicators of the aforementioned survey. Table 1 shows comparison of the results from both studies.

In 2015, the Department of Planning, Development and Research conducted a cross-section study on Brunei teacher's workload on teaching-related tasks. A total of 1600 teachers participated in the study, involving 618 primary teachers, 840 secondary teachers and 142 sixth-form teachers (MoE, 2015). The results showed that in teaching related tasks, across all the school levels (Primary, Secondary & Sixth Form Colleges), teachers spent significantly more time on teaching preparation (averaging between 10.4 and 11.1 hours per week) followed by scheduled teaching tasks (averaging between 8.4 and 10.5 hours per week); The study also concluded that secondary school teachers spent more time on academic intervention (averaging 0.6 hours per week) compared to primary and sixth form school teachers (MoE, 2015). Figure 1 shows the summary of descriptors of teachers' workload from various perspectives. In comparison, Brunei teachers had less workload than OECD teachers, yet they spent much more time on administrative tasks than OECD teachers on average (MoE, 2015).

3 Entering into the Teaching Profession

3.1 Teacher Qualifications

Since 2009, a Master of Teaching (MTeach) degree is a requirement for all prospective teacher candidates in Brunei. An MTeach is a professional qualification of initial teacher education, which prepares graduates for a career in the teaching profession. Applicants to the MTeach programme are required to meet three admission criteria; (i) have a good undergraduate honours degree or its equivalent from a recognised university in a subject taught or to be taught in Brunei Darussalam's educational institutions, such as preschools, primary schools, secondary schools and

Across the Primary, Secondary and 6th Form schools:

• The numbers of teachers with workload exceeding the teachers' teachers' average workload is around 40%

• Less than 30% of the teachers exceed the OECD Reported Average Workload

Percentage of teachers from non-officers and officers categories respectively, who exceeded the maximum standard working time

[5days x (5 hrsmorning + 1.5 hours stay back after school hours in a week) = 32.5hrs/week]

• Primary: 37.8% & 50%;

• Secondary: 42% & 47%;

• 6th Form: 82% & 48%.

Number of Tasks per Week per Teacher

• Primary School Teachers have more Task per Week compared to Secondary and 6th Form Teachers

Number of Year Level Taught per Week per Teacher

Highest percentage of teachers teaching with the number of teaching levels

• Primary 31.6% (4 different levels)

• Secondary 41.8% (2 different levels), but 13.3% (at least 4 different levels)

• 6th Forms 100% (1 level)

Number of Different Subjects Taught per Teacher

• Teachers teaching one subject only

  • 51.5% Primary
  • 60% Secondary
  • 100% 6th Forms

• Teachers teaching at least 4 subjects

  • Primary (4.9%)
  • Secondary (0.7%)

Teachers doing school work outside working hours

The percentage of time spent on the following activities per week, spent outside working hours by Primary School Teachers:

• Teaching related tasks:26.9% (2.9hrs)

• Non-Teaching Related Tasks: 41.9% (3.6 hrs)

• CCA/ECA: 6% (1.4hrs)

Fig. 1 The summary of descriptors of teachers' workload from various perspectives. *Source* MoE, (2015)

technical/vocational schools; (ii) possess at least a C grade in GCE 'O' Level English Language or an IELTS score of 6 points or above; and (iii) pass an oral selection interview (Jaidin, Shahrill, & Jawawi, 2014). The MTeach programme is an 18-month full-time programme. Key features of the programme include practical experience at school throughout the programme; mentored by experienced professional partners in schools; and research exercises in major learning areas (SHBIE, n.d.).

Meanwhile, requirements for teaching positions of private and international schools vary from school to school. Nevertheless, all educational institutions registered with the Ministry of Education are expected to adhere to its basic recruitment guidelines. The minimum qualification for teachers in these schools depends on the levels they teach. Kindergarten teachers are required to possess at least four GCSE 'O' Level credits as well as an Early Childhood Care & Education certificate. Likewise, at least four GCSE 'O' Level credits are also required for primary school teachers. To teach at secondary level, teachers must have completed the GCSE 'A' Levels in the subject they teach. Lastly, foreign nationals are required to have a teaching certificate or diploma.

3.2 Recruitment and Employment of Teachers

As all teachers in government schools and educational institutions are civil servants, the recruitment and retention of their services is the jurisdiction of the Public Service Department and concurs with policies regulating civil servants. At the time of writing, there are no recruitment or employment policies which are exclusive to teachers in the Ministry of Education. Therefore, every available post in the ministry is advertised by the Public Service Department as the term of reference is prepared by the relevant department where the position will be filled. The current process of recruitment by the Public Service Department involves shortlisted candidates sitting a psychometric assessment as the first stage of selection followed by competency-based interview for the final recruitment.

In 2017, the Ministry of Education embarked on a new project, the Literacy and Numeracy Coaching Programme (LNCP)—which involves a teacher recruitment programme that has seen initial success. As a result, the ministry may, upon careful evaluation, consider expanding the programme in the near future. Thus, the Department of Educators Management under the Ministry of Education is working on reviewing the selection and recruitment policies and career pathways for teachers and school teachers. Upon completion, the revised selection and recruitment process of teachers aims to recruit graduates who are competent, resilient, adaptable and most importantly, passionate in teaching and learning.

3.3 Attracting and Retaining Teachers

When untrained graduates are recruited, they will be supported through Teacher-Training Programme (Graduate Programme) offered by local university under the Faculty of Sultan Hassanal Bolkiah Institute of Education (SHBIE), Universiti Brunei Darussalam. Whilst trained graduates in the teaching force will be supported through extensive professional development courses for teachers throughout the year with support for professional learning communities. This is in line with current initiative by the Department of Educators Management that develops the career pathways for teachers and school leaders, to improve the current processes of career development and progression, and reinforce professional development through relevant and impactful trainings and strategic planning.

There are also other Ministry of Education initiatives which promote the quality of teaching and learning to keep the teachers abreast with the current trends of education, for example; implementing capacity-building programmes; developing human resource competency framework; conducting competency-based trainings; and formulating the MoE Digital Transformation Plan. Moreover, the Standard Assessment Tracker (SAT) is employed to track the progress of students' performance, complemented by the Literacy and Numeracy Coaching Programme (LNCP) which aims to raise the literacy and numeracy standards across the nation. Other

measures of recognising and supporting Brunei teachers include nomination for international awards (Princess Maha Chakri Award, PMCA), national awards and commendation. Additionally, in recognition of teachers' contribution to education, top-performing teachers are awarded National Teacher Excellence Award and Special Mention Teacher Award on Teacher's Day every year.

4 Preparing a Quality Teaching Force

4.1 Teacher Preparation Institutions

One of the main goals of the Ministry of Education is to prepare Bruneian youths for the careers ahead of them, and this includes the teaching profession. The Sultan Hassanal Bolkiah Institute of Education (SHBIE), acting as the main provider of initial teacher preparation programmes, works closely with the Ministry. It focuses on pedagogical development, strengthening subject knowledge, and fostering core values.

The Sultan Hassanal Bolkiah Institute of Education (SHBIE), located at the Universiti Brunei Darussalam (UBD), features high quality instruction and curriculum designed to raise teaching standards. The institute was upgraded to a Graduate School of Education in 2009 and it now offers, among others, the MTeach degree programme as well as an initial teacher training programme. The institute's main purpose is to prepare primary, secondary and technical school teachers for the teaching profession and career pathways related to specialised educational roles such as guidance and counselling, remedial teaching and curriculum design.

4.2 Initial Teacher Preparation

SHBIE collaborates closely with the Ministry of Education in the design of its initial teacher training programme, aiming to develop high quality teachers who can: (i) apply the principles of effective and meaningful classroom teaching to practice, and (ii) create classrooms that are challenging, inclusive, learner-centric, conducive to learning and intellectually appropriate.

The MTeach programme has six specialist streams:

- Early Childhood Education and Care
- Primary Education
- Secondary Education
- Vocational and Technical Education
- Higher Education
- Inclusive Special Education

The MTeach degree curriculum provides prospective teacher candidates with the necessary professional qualification for entry into the teaching profession. Key features of the programme include:

- The integration of the disciplinary knowledge of entry candidates with a Master's level understanding of educational theory, research and practice (e.g., lesson study as well as problem-based and inquiry learning).
- Practical experiences at school mentored by experienced teachers in partner schools and clinical specialists from university.
- A series of Professional Practice Seminars conducted for teacher candidates and teachers in partner schools during the school placement programme with a special emphasis on reflective practice.
- Research exercises conducted as part of a school placement programme to further improve teacher candidates' critical and reflective thinking and learning in their major areas of learning.

In general, the strength of MTeach lies in the pedagogical development by strengthening the teacher candidates' understanding of subjects; it also promotes core values—such as commitment to teaching—with an emphasis on the importance of research and the use of evidence to improve teaching and learning in a teacher candidate's specialized area. Specifically, the Professional Practice Seminars (PPS) module provides a platform for the teacher candidates to obtain practical experiences in a classroom environment, focusing on class management and, effective teaching and learning of the subject matter. It aims to enable the teacher candidates to reach professional criteria of teaching and professional activities with the following objectives:

- Experience the classroom environment so that teacher candidates can organise and teach student groups and whole classes to facilitate their learning processes.
- Synthesise theoretical and practical understanding of teaching so that teacher candidates can learn how to use constructive criticism and discussion to evaluate and reflect on values and practices in relation to professional practice.
- Learn to communicate effectively with other professionals so that teacher candidates can provide feedback to students to assist their learning.

4.3   Teacher Induction and Orientation

The attrition rate of new teachers in Brunei is very low thanks to a support system for beginner teachers. In this regard, the Ministry of Education has introduced the mandatory Mentoring Programme for the first two years of teaching service. A beginning teacher is usually fully mentored by an experienced teacher selected by a set of mentor criterion, which includes achieving a very good level of performance at appraisal for three consecutive years.

The ministry has also developed an induction programme that; aims to provide guidance for beginning teachers in order to adapt in a work environment; to be able

to perform as a competent teacher through the professional development support system; Teacher Performance Appraisal (TPA); Teaching for Mastery (TfM) in English Language and Mathematics; as well as by providing benefits and incentives for teachers. This helps them to meet the expectations for a civil servant in the profession, and for a beginning teacher to have experience and knowledge of the school working environment before deployment to schools.

5 Teacher Professional Development

5.1 Professional Support for Beginning Teachers

In Brunei Darussalam, government schools has noted that new teachers tend to require professional support in these areas:

- the organisation of sequence in teaching the curriculum effectively;
- the appropriate pedagogies in introducing new topics; and
- the classroom and behavioural management.

In this regard, continuous professional development is offered to beginning teachers and existing teachers at various levels (Fig. 2):

a. At the School Level:

- School-based Professional Development refers to teachers who have attended professional development courses share their newly acquired knowledge and skills to their peers;
- Clusters-based Professional Development refers to support given to schools within each cluster. All government education institutions in Brunei are grouped as Clusters based on geographical location, and divided by districts;
- Subject-Based Committee caters to the professional development needs of secondary schools. All subject heads meet on a regular basis to teach and share on new ideas and refined practices for a more developed teaching

Fig. 2 The continuous professional teacher support at various levels by relevant providers. *Source* Harun, (2018)
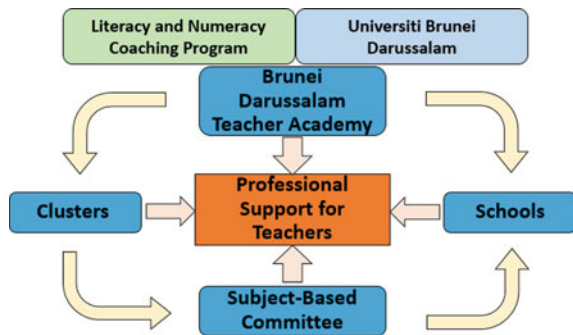
method, or to discuss issues and challenges that they might be facing in the process of teaching their own subjects.

b. At the Ministry Level:

- The Brunei Darussalam Teacher Academy (BDTA) was established to provide extensive professional development courses for teachers to be trained throughout the year with support for professional learning communities;
- Literacy and Numeracy Coaching Programme (LNCP) was developed to raise literacy and numeracy standards across all government schools in Brunei Darussalam. This programme produced 145 expert coaches in pedagogical and content knowledge of Literacy and Numeracy in 2019 per se. The programme will continue to develop more coaches to ensure every government school in Brunei will have at least one Literacy or Numeracy coach embedding collaborative learning culture by 2024;
- Lastly, Masters in Teaching degrees are provided in Universiti Brunei Darussalam to professionally train and equip future teachers of Brunei.

5.2 Continuous Professional Development

Effective professional development (PD), defined as "structured professional learning", helps teachers learn and refine the pedagogies required to develop student competencies such as mastery of challenging content, complex problem solving, critical thinking, as well as effective communication and collaboration (Darling-Hammond, Hyler, & Gardner, 2017). Such professional development of teachers is a central focus of the ministry, as it looks to equip the country's teachers with the right attitude and the relevant professional competencies for their continuous growth and success. This was the rationale behind the establishment of Brunei Darussalam Teacher Academy (BDTA) in November 2013, enabling the ministry to provide quality education by quality teaching workforce. The main purpose of the continuous professional development programmes is to enhance teachers' competencies and strengthen their pedagogical approaches.

Since its establishment, BDTA has supported over 4000 teachers through the programmes, where training sessions are conducted on Thursday and Saturday afternoons as stipulated in the Teacher Professional Development (TPD) Framework (Fig. 1). The TPD Framework is to assist school leaders and cluster heads in managing these training sessions accordingly. BDTA currently offers 100 standalone professional development courses and 19 modular courses. All professional development courses are competency-based and mapped onto Brunei Teachers' Standards-Teacher Performance Appraisal (BTS-TPA), particularly the 17 Teaching Competencies in Brunei Teachers' Standards (BTS). These courses aim to build up teachers' professional capabilities through the understanding and application of new knowledge and skills in classroom practices. All of BDTA professional development courses are free and open to all teachers who are interested to learn new knowledge

and acquire relevant skills in any subject, not just restricted to the subject(s) and level(s) they teach at school.

BDTA also serves as a platform for the professional network of educators which is crucial for the development of quality teaching, where a number of the programmes offered are conducted in collaboration with SHBIE, UBD. School leaders are required to send their teachers to BDTA's professional development sessions, where this can be documented in their end-of-year appraisal.

5.3 Teacher Professional Development Framework

The Teacher Professional Development (TPD) Framework (Fig. 3) aims to strengthen teaching and learning quality through continuous professional development. The Framework outlines what constitutes effective teacher professional learning with practical advice to School Leaders, Middle Management teams, teachers and relevant stakeholders. The school-based professional development is assigned for every Monday afternoon, the cluster-based professional development takes place every Wednesday afternoon, and the BDTA and expert-based professional development is conducted every Thursday and/or Saturday afternoons (Fig. 4). Professional development conducted on Wednesdays are offered at the cluster level to share best practices among teachers from secondary schools, which also strengthens professional learning communities among subject teachers. Normally these sessions are facilitated by Heads of Cluster, and/or School Leaders, and/or middle management teams such as Heads of Department. The cycle of professional development will then be followed by the teacher professional learning activities on Wednesdays, Thursdays and/or Saturdays to be cascaded on Mondays to other teachers in schools. This is to deepen their professional knowledge and skills for mastery of their own subjects, in order to effectively deliver the curriculum content by effective pedagogical approaches (BDTA, 2016).

In order to ensure the delivery of quality professional development, the courses are designed to address specific and generic needs in the following three areas:

- Affective
- Professional knowledge and skills
- Professional engagement

The professional development activities are designed to cultivate teacher's professional knowledge, skills, competencies and affective characteristics as a teacher. During the professional development sessions, teachers are encouraged to share their best teaching practices to promote active engagement and quality interactions concerning the subject content and pedagogies, to accommodate coherent connections with teaching and learning experiences. Professional learning for teachers is fundamental to transform schools' performance and increase students' attainment (BDTA, 2016). Therefore, it is crucial for relevant stakeholders to play active roles in ensuring the effective implementation of the framework at schools and
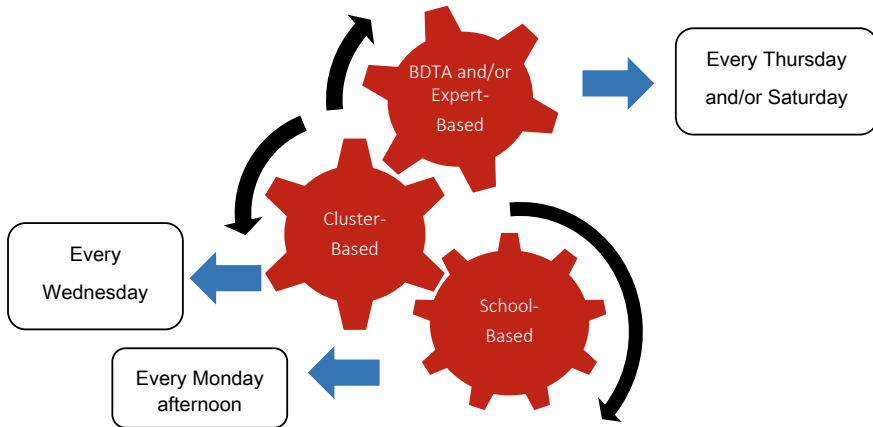
Fig. 3 The teacher professional development (TPD) framework. *Source* Harun, (2018)
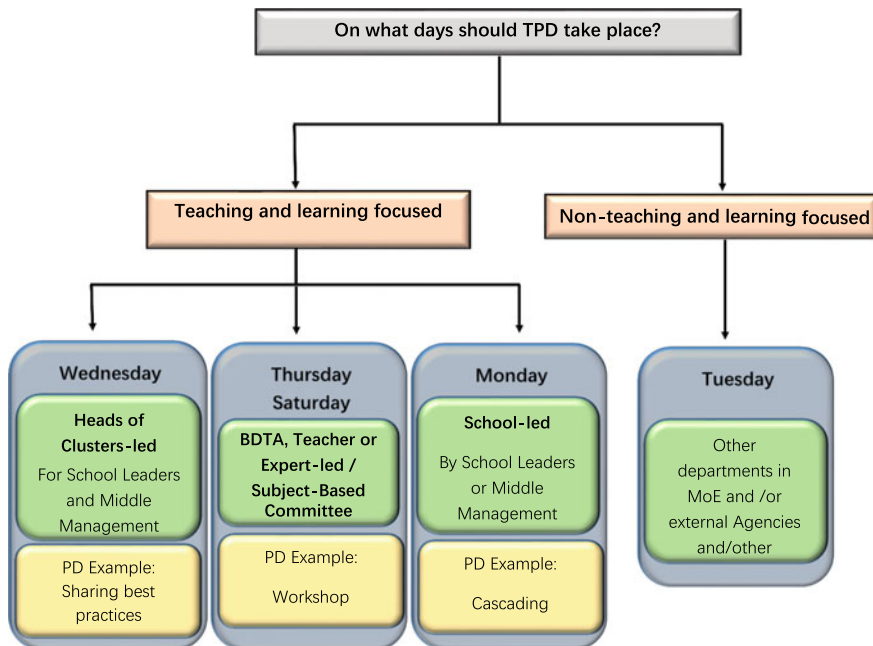
Fig. 4 Allocated days for teacher professional development. *Source* BDTA, (2016)

cluster levels through shared understanding, accountability, support and monitoring as well as ensuring the intended learning outcomes are achieved.

6 Teacher Appraisal

6.1 Teachers' Core Competencies

The Ministry of Education has introduced the Brunei Teachers' Standards (BTS), to support the policy directions in the Education Strategy, Brunei Vision 2035, which officially launched in August 2014. The aim of the teaching standards is to ensure better learning outcomes for students which will benefit Brunei for many years to come in terms of its economic, scientific and technological development and advancement.

The 17 core competencies for teachers in Brunei Darussalam, based on the Brunei Teachers' Standards (BTS) Framework, are described by two main domains. Each domain consist of several standards, as shown below:

- Professional Knowledge and Skills

    a. Engage students in intellectually challenging learning;
    b. Base learning on well-designed content and methods;
    c. Tailor work to students' individual needs;
    d. Use assessments and reporting effectively.

- Professional Engagement

    e. Adopt and refine professional practices
    f. Demonstrate high standards of personal and professional conduct

There are a number of competencies that are specific to each particular standard, ensuring that teaching standards are maintained. These competencies include:

- teachers' ability to determine students' capabilities and promote learning through questioning and reflective attitude;
- teachers' mastery of subject knowledge, lesson planning, classroom management and using learning resources effectively;
- teachers' ability to develop students' conceptual understanding and skills in accordance to individual needs; ability to plan assessment to promote learning;
- teachers' ability to develop and adopt professional practice;
- teachers' ability to possess high ethical and moral standards, meanwhile being well informed of current policies, regulations and requirements aligning to the BTS framework.

From these standards, teachers understand what is expected of them; they can then reflect on their teaching practices and work on improving their overall teaching performance.

6.2 Teacher Performance Appraisal System

Based on the BTS framework, a Teacher Performance Appraisal (BTS-TPA) framework (Fig. 5) was designed to evaluate the competency of teachers and the quality of students' achievements and learning. The Teacher Performance Appraisal (TPA) has been largely developed from the BTS framework and research on other international teacher performance appraisal documents. This standardised system ensures an accurate, reliable and valid evaluation process for all teachers. Meanwhile, teachers who have yet to acquire the necessary competencies are given support through school, cluster and ministry levels.

The TPA assesses teachers in three focus areas: students' achievements, students' learning and teacher's teaching. In the assessment of students' achievements, the focus areas include subject knowledge, subject understanding, subject application, analysis and evaluation as well as creativity in learning. While the focus areas in students' learning, involves in the teachers' competency to fostering students' skills in communication, organisation, engagement, application of subject skills, independence, ICT, collaboration, use of resources, and ability to complete work.

Every government school teacher—from primary to secondary—is appraised using the BTS-TPA, in which the rationale is to collect teaching and learning performance data for every teacher. For primary schools, the appraisal cycle is one year, whereas for secondary schools, one cycle could be between 12 to 18 months depending on the size of the school. In the first appraisal cycle, all teachers are
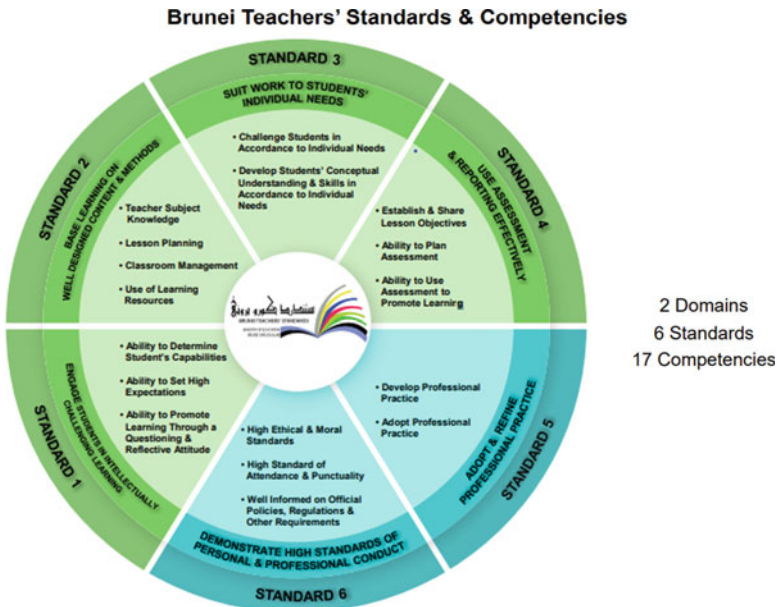
Fig. 5 The Brunei Teachers' Standards and competencies. *Source* MoE, (2019)

observed at least five times, regardless of their experience or length of service. The number of lesson observations for subsequent cycles depends on the level of performance achieved in the first appraisal cycle.

The purpose of TPA is to assist School Management Team (SMT), School Inspectors and other Ministry of Education officials to evaluate teachers' performance systematically by using clear procedures and descriptions for each focus area to be evaluated. The TPA system, not only aims to measure and to manage teaching performance, it is also a fair approach to reforming the current system of career progression and professional development, which will have a further, direct influence on achieving better outcomes for students.

The BTS-TPA is essentially a tool used to recognize best teaching practices and identify areas to support teachers' professional growth and development. Consistent with international best teaching practices, the BTS and the TPA were designed to effectively and professionally support and develop quality teachers (MoE, 2015). They attempt to triangulate measures for teachers' lessons, students' learning and academic performance. Since they came into force in 2016, the Ministry has had more accurate data to quantify the quality of teaching in Brunei.

6.3 Professional Qualification Ranking System

In terms of career pathway and development, a teachers' service scheme *(Skim Perkhidmatan Perguruan*, abbreviated as SPG) provides teachers under the Ministry of Education with a professional qualification rank system complementing opportunities and provisions given to all civil servants. This data-driven scheme, underpinning the Teacher Performance Appraisal (TPA) with a set of the 17 competencies, is key to ensuring quality teaching; and the progression in this scheme is based on a set of criteria such as academic qualification, minimum number of years holding the post in each tier and a working paper or proposal in education.

SPG is divided into seven tiers progressing from Tier 1 or Tier 3 as entry level of the teaching profession depending on the academic qualification of the teachers during recruitment. It is essentially a concept of upright pyramid, where the majority of teachers are at the base initially, and will proceed to a higher level once they have fulfilled the set criteria and competencies. As the teachers progress to higher levels in the scheme, their responsibilities and related expectations will also increase to match the new levels of competence and expertise on top of the teaching responsibilities.

7　Recent Policy Development on Teacher Development

As a result of recent research and reviews, the ministry is currently developing and refining several policies and measures to achieve its goal to improve teacher quality.

These efforts have developed into nine areas of teacher professionalism that have been identified to form the basis for a transformation framework. This transformation is currently in its planning stages. The nine areas in the teacher development transformation are:

- Selection and Recruitment—adopting a quality and comprehensive Brunei Teacher Selection and Recruitment Process to meet actual needs and ensuring the process is rigorous and equitable.
- Teacher Training and Preparation—aligning the Universiti Brunei Darussalam's Master of Teaching programme with the demands of the Ministry of Education.
- Induction and Mentoring—improving the new teacher induction and mentoring programme to provide professional learning support in developing knowledge, skills and competencies to be a teacher. Mentoring is a key component in early years of providing professional support and guidance for new teachers, and mentors are selected through a set of criteria of personal excellence, experiences and performance.
- Continuous Professional Development—developing a Continuous Competency-based Professional Development model.
- Appraisal and Development—refining the Teacher Performance Appraisal to emphasise the development of teacher competency at each level of progression.
- Career Progression and Development—developing clear and comprehensive career pathways for school leaders and teachers.
- School Leadership & Autonomy—improving the Brunei Darussalam School Leaders Standards with a clear and comprehensive guide to selection and progression.
- Teaching for Mastery (TfM)—Content and Pedagogy as a possible mechanism to evaluate and monitor the implementation of common pedagogies and best teaching practices.
- School Infrastructure—developing of a twenty-first century compliant infrastructure for our schools.

8   Conclusion

In line with the current Ministry of Education vision "Quality Education, Dynamic Nation", the ministry has formulated three strategic objectives under the Ministry of Education Strategic Plan 2018–2022:

  i. Strategic Objective 1 (SO1)—transform the organisation's human resources towards a performance driven culture;
  ii. Strategic Objective 2 (SO2)—provide equal and equitable access to quality education;
iii. Strategic Objective 2 (SO3)—enhance shared accountability with stakeholders in the development of teaching and learning.

A set of strategic initiatives were developed to ensure the delivery of the Ministry of Education Strategic Plan 2018–2022. In its strategy to improve and maintain the quality of human resource (SO1) including school leaders and teachers, the Ministry of Education has placed a strong focus on competency-based professional development through evidence-based capacity building. Meanwhile, the second and third objectives are delivered through strengthening delivery of education at all levels and expanding opportunities to lifelong learning by improving support of and collaborations with relevant stakeholders to achieve the desired outcomes.

Teachers, in general, are well-supported for professional growth, and are well-respected, honoured and qualified professionals in Brunei Darussalam. Nonetheless, given the complexities of teaching, continuous efforts to raise the levels of professionalism in the field is required. Hence, more policies and measures on teacher career and professional development are currently under consideration or in the planning stages, aiming to improve the quality of teachers and their teaching through critical paths in human resource management that are essential for teacher professionalism.

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Balancing Meritocracy and Effectiveness: The Reform of Teacher Recruitment System in Cyprus

Iasonas Lamprianou and Thekla Afantiti Lamprianou

1   Introduction

The recruitment of competent teachers is a pre-requisite for an effective education system (Guarino, Santibañez, & Daley, 2006). Therefore, the recruitment of teachers is one of the major concerns of policy-makers in most countries around the world. In a recent book on education policy reforms in G20 countries (Wang, 2013), almost half of the country-specific chapters discussed (or made extensive references to) issues related to the recruitment of teachers. OECD (2019) stresses the difficulties of attracting highly-skilled and motivated candidates to become teachers. The main goal, of course, is not just to recruit them; governments would typically wish to attract "high-quality applicants who are well suited to teaching and are likely to remain in the profession" (Klassen et al., 2021). Klassen and Kim (2021) summarize the pertinent literature suggesting that, although training, experience and support are important for the development of effective teachers, the starting point (i.e., the initial selection) is still very important.

To achieve the goal of recruiting the best teachers, academics and policy-makers developed and evaluated many different approaches (See et al., 2020). As a matter of fact, teacher recruitment systems vary from country to country, depending on the size of the country, its economic model, the historical background of its education system etc. For example, some systems are highly centralized, while other systems allow schools to choose the new recruits (OECD, 2004).

I. Lamprianou (✉)
Department of Social and Political Sciences, University of Cyprus, Lefkosia, Cyprus
e-mail: iasonas@ucy.ac.cy

T. A. Lamprianou
Adjunct Faculty: Education Sciences, School of Education, University of Nicosia, Lefkosia, Cyprus
e-mail: afantiti.t@unic.ac.cy

This chapter aims to describe the reform of the recruitment system for public school teachers in Cyprus. Moreover, it endeavors to analyze the push and pull factors which eventually led to the reform of the system in 2015. The first evaluation of the impact of the reform on the education system of the island will also be presented. Finally, conclusions will be drawn, hoping to inform policy-making in Cyprus and beyond.

2 Evolution of Teacher Recruitment System in Cyprus

This section focuses on the wider socio-political and historical perspectives of the problem and describes the efforts and the main characteristics of the struggle for educational reform.

2.1 Socio-Political and Historical Context

Cyprus was a British colony for less than a century, between 1878 and 1960. During the colonial years, primary school teachers' recruitment was regulated by the pertinent colonial law. Especially after 1929, primary school teachers would only be tenured after passing specific written exams (Charalambous, 2001; Polidorou, 1995). In secondary education, local authorities had a significant degree of autonomy regarding teacher recruitment (Charalambous, 2015). Most of the secondary education teachers came from Greece, where there was a relative abundance of university graduates compared to Cyprus, yet without a centralized hiring system (Kasoulides, 2018).

After the independence of Cyprus in 1959, according to the Cyprus Constitution, there were two main Communities ruling the island; Greek-Cypriots and Turkish-Cypriots. In December 1963, there was a disagreement between the two communities regarding 13 points of the Cyprus Constitution and the representatives of the Turkish-Cypriot citizens 'withdrew' from the political life of the island. For the Republic of Cyprus to ensure the continuity of the state, several legal challenges were addressed, making extensive use of the Law of Necessity (Özersay, 2004). A new institution, the Educational Service Commission (hereinafter referred to as ESC) was established to hire and manage teachers for the public schools (Law N. 12/1964; see also Kasoulides, 2016).

A fundamental requirement for anyone to be hired as a secondary education teacher was to have a Bachelor's degree on a closely related discipline from a recognized university. There was no requirement that the prospective teachers should have any sort of training on teaching or pedagogy. Instead, all newly hired teachers would have to register for a government-sponsored pre-service pedagogical training, which lasted for a whole academic year (September to April) with classes three times per week. This also included two phases of practical experience in public schools. In

practice, everybody completed the pre-service program successfully, and received an offer for appointment. Since all Cypriots were free to study anywhere in the world, there was a very large number of people who had the necessary qualifications (just a Bachelor's degree) to become a teacher. For this reason, many thousands of candidates would register on long waiting lists, and would wait for decades, until they were offered a job.

In primary education, the recruitment system evolved very differently. For the period between the 1950s and mid-1990s, all teachers were trained in pedagogical academies, in Cyprus or Greece, obtaining a Diploma in Education. All pedagogical academies had a very similar programme of study, focusing on the theory and practice of teaching. The number of student teachers for primary education was regulated by the government, so there was no need for waiting lists (Evagorou et al., 2015). Candidates had to succeed in extremely competitive examinations, and only the very best could become primary school teachers. The close regulation of the number of teachers, however, was abandoned when Cyprus joined the European Union. As Evagorou et al. (2015) testify, "…*in 2004, after Cyprus became part of the European Union, the legislation changed and from that point on people could study to become primary school teachers in other countries, or in any of the private local universities*" (p. 111). As a result, the number of people eligible to work as teachers was not controlled any more, and waiting lists were formed, creating a situation similar to that of the secondary education.

Since the ESC's establishment, it was decided to strictly follow a first-come-first-served approach for the appointment of teachers. That was justified by the fact that a similar system was also used in Greece, a country of particular importance for the Greek-Cypriots at the time[1]: "*… the same happens in Greece … university graduation year is considered the main criterion for appointment, so that younger candidates will not be appointed before older candidates*" (Kasoulides, 2018[2]). The decision was also practically rational, as the newly established Republic of Cyprus did not have universities of its own. Most prospective teachers (especially for secondary education) typically graduated from Greek universities, so it made practical sense to retain some degree of alignment between Greece and Cyprus. In effect, all Cypriots who wished to work as teachers in public schools, registered with the ESC once they obtained their Bachelor's degree. Working for public schools safeguarded work stability, a satisfying salary and pleasing working conditions, along with a well esteemed profession; therefore, most graduates were very eager to register with the ESC as soon as possible. During the succeeding years, some universities even scheduled their official graduation ceremony before the ceremonies of other universities, to give their students an advantage of several days on the waiting lists!

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[1] Greek-Cypriots are the ethnic Greek population of Cyprus; they speak Greek and are members of the Church of Cyprus, an autocephalous Greek Orthodox Church. Greece is also one of the three guarantor powers (under the 1960 Cyprus Constitution) who safeguard the independence of the Republic of Cyprus.

[2] ([Πρακτικά ΕΕΥ], 8/3/1966, στο: Κρατικό Αρχείο Κύπρου, Φάκ.: ΕΕΥ36: Κανονισμός Διορισμών, Μεταθέσεων και Προαγωγών Καθηγητών και Εκπαιδευτών [Regulations of the appointment, transfer and promotion of teachers].

In addition to the graduation year, which was the main criterion for employment, there were additional criteria to rank the candidates within any given year. These criteria reflected social and political priorities of the society at the time, e.g. veterans of the independence struggle against the British were favoured. A number of minor changes and adjustments were occasionally made, but until 2015, the main criterion for employment remained the graduation year, which merely reflected the biological age of the candidates.

2.2   The Need for Reform

The first official statement that the recruitment system had to be modernised was recorded after the Turkish invasion of the island in 1974.[3] The recruitment system was updated to allow for the changing social and economic realities on the ground. The graduation year remained the most important criterion for employment, however, some special personal circumstances of candidates (e.g. being a war veteran) allowed the ESC to adjust the actual ranking of a candidate on the waiting list.

The need for reform was obvious in the coming years, when ordinary citizens and policy-makers realised that the quality of teaching should improve considerably. The minutes of the Ministerial Council in 1981 discussed the need to establish written exams in order to filter out prospective teachers who had a University degree but were of mediocre, overall, academic ability[4] (Kasoulides, 2018). Since 1981, the push for change continued relentlessly, but faced fierce resistance from those already 'in the system'. As it was expected, the political power of teacher unions was one of the barriers of the reform (Bascia, 2000). It was only in 2015 that the modernization of the system became possible, under the unbearable strain of the financial and political crisis of 2013.

2.3   The Struggles for a New Recruitment System

Since 1981, the main idea floating around, in almost all initiatives and draft plans to modernize the recruitment system, involved some form of written examinations. A similar competitive examination system had been in use for many years in the Civil Service, where the number of candidates was significantly larger than the number of available posts.

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[3] In July 1974, Turkish forces invaded Cyprus and captured approximately 36% of the island. The ceasefire line is known as "the United Nations Buffer Zone" and is commonly referred to, in Cyprus, as the Green Line.

[4] Σημείωμα Υπουργείου Παιδείας για το Υπουργικό Συμβούλιο, [Memo of the Ministry of Education, Culture, Sport and Youth to the Cabinet], 2/11/1981, στο: Αρχείο Γραμματείας Υπουργικού Συμβουλίου.

During the first years, the first-come-first-served teacher recruitment system seemed to work well. However, while the waiting lists grew longer and longer, those at the bottom of the lists (typically younger people) pushed for change, because they realised that their chances for employment were very slim. At the same time, those near the top of the waiting lists lobbied against reforms, because the abolishment of the existing system would jeopardise their own chances for employment. Each of the two 'sides' looked for allies among all potentially interested actors, such as the teacher unions, the local political parties, the Academia, the Press etc.

In 1983, the first well-organised initiative for reform was eventually gaining steam. A technical committee was appointed to propose a system of teacher recruitment based on merit rather than on biological age. As it was expected, the committee proposed the abolishment of the waiting lists and the establishment of a recruitment system which involved, among other things, a written examination. However, the committee itself prophesied that the teacher unions, as well as the prospective teachers waiting patiently on the waiting lists for so many years, would object fiercely.

While the government was negotiating its next steps, a decision by the Supreme Court in 1986 declared that the first-come-first-served system was unconstitutional because it did not allow the ESC to choose the best candidates based on merit. This time, it was recognised that the teacher unions and other interested parties should be involved in the consultation. Eventually, in 1987, a new law (Law N. 180/1987) was established; however, under the unbearable pressure of various actors, the new system was still largely based on graduation year.

Since this failed attempt, all subsequent governments and all Ministers of Education attempted many times to reform the recruitment system. Describing the numerous efforts in detail is not necessary; it suffices to say that the common pattern across all failed efforts was the following (see Fig. 1):

Against reform   **In favor of reform**

External actors (IMF, World Bank etc)
Governments
Academics
Younger University graduates

Older University graduates (on waiting lists)

Teacher Unions

Political parties (mainly opposition)

Other actors and lobbies

Main arguments against: Main arguments in favor:

'Waiting lists' transparent and not susceptible to corruption   Written exams a meritocratic criterion
Unfair to people already on the 'waiting lists'   Younger people should be given a chance
Exams-oriented system biased against older but experienced   Younger recruits with more knowledge and energy

Fig. 1 An overview of the battlefield for reform

1. Older candidates near the top of the waiting lists objected any form of change;
2. Teacher unions aligned with the older candidates out of collegial unity (many of the older candidates were often working in schools under various roles, e.g. as substitute teachers);
3. Political parties used the educational reform as a 'proxy war' to gain electoral benefits;
4. Various social and political actors and lobbies used the negotiations for the reform as an opportunity to ask for government concessions on other fronts;
5. Parent associations (representing students) hesitated to get decisively involved in the struggle for reform.
6. A legal battlefield evolved, where all sides tried to gain a competitive advantage over the others.

It is interesting, however, to say that the advocates of the reform unexpectedly gained support by mighty external actors. After the financial meltdown of 2013, Cyprus came to an agreement with the Troika (the European Commission, the European Central Bank and the International Monetary Fund) for structural reforms in the public sector, in order to receive a financial bailout. This included extensive reforms in education (IMF, 2013, p. 42). A prominent report by the World Bank (2014b) shows evidence that they actively backed the implementation of written examinations as a replacement of the old recruitment system (p. 11). In the same report, the World Bank makes an explicit link between the proposed reforms and the bailout agreement between Cyprus and the Troika (p. 3). Another report by the World Bank (2014a), goes into more depth and provides arguments and detailed recommendations regarding the advantages of the reform of the recruitment system.

The advocates of the reform suggested that an examination system would allow younger people, with more energy and more up to date knowledge, to be appointed. There was an ethical dimension, because those candidates near the top of the lists were often in their late forties or fifties and were blocking the chances of younger people to get a sought-after job in public schools. Although there were thousands of unemployed young graduates, the average age of recruits was around 40 years[5] (and there were consistent reports that teachers were recruited even at the age of 60).

The main argument against the reform was that those near the top of the waiting lists would be unfairly disadvantaged because they would need to compete with the others, rather than be appointed because of seniority. Those opposing the reform, often claimed that the waiting lists were a totally transparent, predictable and corruption-free system, and it would be unwise to experiment with anything else (for more information on the public perception of corruption in Cyprus, and pertinent definitions, see Assiotis & Krambia-Kapardis, 2014). The opponents of reform maintained that examinations would be biased against those who were experienced, because younger people would be more prepared for written exams compared to

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[5] [Πίνακες Διοριστέων Καθηγητών—Εισηγήσεις για την αναθεώρηση τρόπου διορισμού καθηγητών Μέσης Εκπαίδευσης], [Lists of teachers waiting appointment—Suggestions for review of the way teachers of secondary education are appointed], 17/2/1990, στο: Κρατικό Αρχείο Κύπρου, Αρ. Φακ. ΥΠ523/73/3^A.

older people. They also claimed that, in the case of examinations, a new industry of private lessons would add a financial burden on candidates, because most of them would seek assistance to prepare for the exams. Finally, they claimed that the country would miss the opportunity to benefit from the accumulated experience of those at the top of the waiting lists who—often—had been serving as substitute teachers in public schools for years.

To alleviate some of the opposition, most of the proposed plans for reform included provisions for a dual system of appointments, where the waiting lists would be gradually phased out, while at the same time the number of recruits through examinations would increase. It is interesting that, each new proposed reform plan, was built on the experience of the previously failed attempts, in the hope that the wall of opposition would finally collapse under the continuous pressure of more refined battering rams.

Eventually the new system was endorsed in 2015. It consists of the following components: the most important criterion for appointment would be the performance of candidates on a written examination. Other criteria would be extra academic qualifications (e.g. a Master's degree or a Ph.D.), teaching experience, the graduation year, the Bachelor's degree grade (e.g. a Distinction would give the candidate some extra 'hiring points') and service in the National Guard. The old system would be phased out gradually, and there would be a transition period where both the old and the new system would co-exist.

After further deliberations with the political parties in the Parliament, the transition period was set as ten years. The first examination would happen in 2017 and the old system of waiting lists would be completely phased out by 2027. According to the new system, all candidates would be examined on three areas (subject matter knowledge, pedagogical skills, and language). Their performance on the examinations would constitute 50% of their 'hiring points'. The rest 50% would consist of: 20% for experience, 10% for graduation year, 9% for additional academic qualifications and 8% for the grade of their bachelor degree. On the 9th of July 2015, the House of Parliament voted in favour of the new law (N. 127(I)/2015). After a third of a century, and in accordance to the first plans drafted decades ago, examinations—rather than biological age—would determine who would be hired as a teacher in public schools.

3   Push and Pull Factors to the Teacher Recruitment Reform

This section analyzes contributing factors to the education reform. It starts by describing sources of data, followed by identifying the factors which made the educational reform possible.

3.1 Data and Methods

To increase the robustness of findings, both qualitative and quantitative data were collected and analyzed.

3.1.1 Quantitative Data

The analysis of the attitudes of key stakeholders is based on three survey datasets and one official dataset obtained with permission from a governmental organization (so a total of four datasets). Two survey datasets were collected in 2017, just before the first implementation of the new recruitment system. To conduct the surveys, permissions from the Ministry of Education, Sport and Youth were obtained. All datasets used in the study are completely anonymous.

The first survey dataset consists of the responses of 802 secondary education students. All students were on their graduation year (17–18 years old) and were preparing for the university entrance examinations which typically take place in May–June each year. The questionnaire investigated student's trust on formal public examinations and whether the students believed that a written examination was the best way to select students for universities.

The second survey dataset consists of the responses of 229 students who studied at the university of Cyprus in the first semester of the academic year 2017–2018. This dataset was also collected before the first implementation of the new recruitment system. The questionnaire asked the students whether they trusted formal public examinations and whether they believed that examinations in Cyprus were necessary to safeguard meritocracy.

Both the first and the second datasets were specifically designed to investigate the attitudes of young Cypriots towards public examinations being the guarantor of meritocracy on the island. For that purpose, they explicitly question the students whether they think that examinations are the best system to select people, and whether they are 'necessary to safeguard meritocracy' (for the relationship between assessment and governance, also see Isaacs & Lamprianou, 2018).

The third survey dataset was obtained from the web page of the European Social Survey (ESS), a cross-country survey which takes place every two years in many countries across Europe. In the dataset we only kept data from Cyprus and a few other countries, for purposes of comparison. The dataset includes a large number of variables regarding social and political issues.

The fourth dataset consists of anonymous information regarding the candidates of the first two examination cycles (November 2017 and 2019) of the new recruitment system. The dataset holds not only information regarding the performance of the candidates on the written examinations, but also vital demographic information such as the highest academic degree (e.g. Masters or Ph.D.), age, and teaching experience etc. This dataset is necessary to investigate whether some key variables (e.g. age, teaching experience and highest academic degree) affect the chances of candidates

Table 1 List of interviewees

Category of interviewees	Number of interviewees
Experienced teachers	2
Deputy heads	1
Head teachers	1
School inspectors	4
High ranking education staff	1
Top Government officials directly related to education (e.g. ex-minister of education)	2
Teacher union senior leadership	3
Total	14

to pass the examination. This is particularly important as groups of stakeholders had consistently objected or favored the reform (e.g. older candidates had been consistently opposing the reform).

3.1.2 Qualitative Data

In total, 14 interviews were conducted with very senior politicians, top civil servants, senior education officials, school inspectors, teacher union leaders etc. (see Table 1). The Covid-19 pandemic restrictions affected both the medium and the duration of the interviews. Most of the interviews typically lasted between fifteen minutes to half an hour, in order to avoid prolonged physical proximity between the interviewees and the interviewer. Some of the interviews were conducted via the phone to avoid physical meetings.

3.2 Results and Contributing Factors

This section synthesizes the results of both qualitative and quantitative analysis, revealing the main push and pull factors that eventually made the educational reform possible.

3.2.1 Concessions Make Educational Reform Possible

In November 2014, the newly appointed Minister of Education, Culture, Sport and Youth, Prof. Kostas Kadis, declared his will to move on with the reform, as all of his predecessors had done (and failed), one after the other. However, this time, things were very different. The island emerged badly wounded from the terrible financial meltdown of 2013, when banks had collapsed, ordinary people had lost fortunes,

Fig. 2 Mean response to
question ('Trust to
politicians'), per survey
round and per country. (*Note*
data based on five rounds of
the European Social Survey)
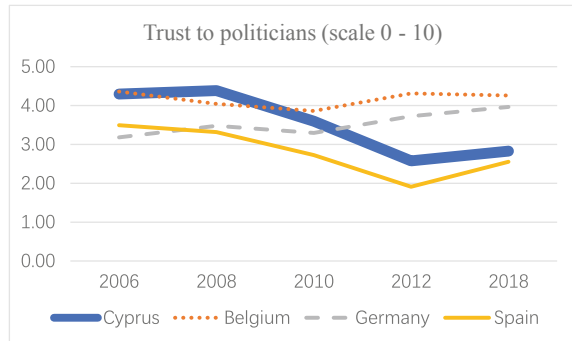
unemployment had sky rocketed and trust to political institutions had plunged in new depths. Such was the tragic situation on the island, that discussions on the Cyprus problem were side-lined, arguably for the first time in Cyprus' electoral history (Katsourides, 2014).

As the youth unemployment rate in Cyprus increased significantly among the under-25 s to an alarming 35.9% in 2013 (Soumeli, 2014), families started realising that parents and children were often overcrowding the same waiting lists for appointment as public-school teachers. Parents would typically be at the top of the lists and children would be at the bottom of the lists. In those grim days, getting a job in the public sector would be a dream job for every young person, providing a secure and stable income. In effect, people who had graduated 20 or 25 years before, were blocking the youth of the island from getting a job in public schools (the average employment age of teachers was around 42; statistic provided by ESC). This new perspective started to erode resistance to the reform, as younger people would demand to have an opportunity for employment, based on merit rather than age.

The rapid decline of political trust in Cyprus, is evident in Fig. 2. Using data from the European Social Survey, we plotted the mean response of Cypriots (and people from other countries) to a 'typical' question about trust to politicians. On a scale from 0 to 10, where 0 means 'no trust at all' and 10 means 'complete trust', one can see that public trust plummeted in countries which suffered from the financial meltdown of 2008–2013 (e.g. Cyprus and Spain). The new administration of Nicos Anastasiades in Cyprus had promised to the electorate that he would push for reforms to increase public trust and promised to fight against corruption and political clientelism. In his inauguration speech at the Eleftheria stadium (24 February, 2013) he promised that his priorities were "*the restoration of public trust to politicians with radical … reforms … the complete restoration of meritocracy … the punishment of corruption … and [the restoration of] transparency*".[6]

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[6] https://zh-cn.facebook.com/NicosAnastasiades/posts/620279297988825/.

After the bailout agreement of 2013, the government was under the unbearable pressure of international creditors for structural reforms. The new Minister of Education, Culture, Sport and Youth had no other option than to push for reforms, satisfying both the international creditors and the public demand for change. He understood, however, that he would need to overcome the obstacle of the opposing forces and decided that, first of all, he needed to win over the teacher unions. A common pattern from all the interviews conducted demonstrates that, to a large degree, most of the interested parties had engaged in intense consultations with the Minister. Those involved, typically asked for concessions and largely got them (e.g. they had asked the government to increase the number of appointments, to secure the employment of those who had already been working as substitute teachers in schools, to phase out the old system gradually in order to alleviate the impact on those waiting for many years on the waiting lists etc.).

Ministry officials suggested that the Minister and the governing party were prepared to make significant concessions, and to win over the opposing political parties. One of the civil servants who, at the time, had a first-hand experience of the situation told us: "… *serious concessions had to be done to progress with the reform, deliberations with the opposition… but do not underestimate the significant impact of the political conjuncture… even personal agendas of certain politicians proved to be significant…*".

It seems that, at the time, there was a consensus among the political elite of the island that it was the right time for things to move on. A top politician, closely involved in the reform told us "… *everybody recognized that it was necessary to change the archaic [recruitment] system, but … those who would be affected negatively, always managed to block the reforms… It was decided that we had to give … [to the teacher unions and to those at the top of the waiting lists] many new vacancies, so that those who were already in the system, for example substitute teachers, would not react forcefully against the reform. It would be impossible to get … [most of them] … out of the system anyway … [for legal reasons] … so we decided to give them tenure to win them over. The teacher unions accepted it, although [mentions the name of a teacher union] had some reservations, but they did not want to fight for it …*". As one top teacher union official told us during a phone interview, "…*we shook hands … [with the Minister] … and I left his office feeling that this was a satisfactory compromise… everything was agreed … all details were agreed*".

In March 2015, everything was ready for the reform. The main opposing forces were won over through significant concessions, or were not prepared to fight over the reform. In the official proposal of the Ministry of Education, Sport and Youth,[7] both in the summary and in the main body of the text, the reader would find the promise for a meritocratic appointment procedure, not susceptible to political interventions (i.e., corruption).

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[7] http://www.moec.gov.cy/archeia/2014_nees_protaseis_paideia/2015_03_23_protasi_neo_schedio_diorismon_ekpaidefsi.pdf.

3.2.2   Public Examinations Satisfy the Demand for Meritocracy

One of the main arguments in favor of the examinations, was that they are corruption-proof. In a country with an extremely low political trust, it was important for the government to establish a system that would not be based on interviews or other subjective criteria. The use of hard criteria (e.g. performance on examinations, age, academic degrees) made people feel comfortable that corruption and political interventions would not hijack the new recruitment system.

Indeed, the public sentiment at the time was in favor of written examinations for recruitment purposes. The questionnaire administered to University students in the year of 2017, included the following statements:

1. Pancyprian examinations are objective;
2. Written examinations are the best way to select students for the state universities;
3. The university entrance examinations protect us from corruption;
4. Even if examinations are not the best means to recruit the best employees, they are necessary to safeguard meritocracy;
5. Even if examinations have some problems, they are necessary to safeguard meritocracy;
6. I know people who got a job in the public sector because they had political connections;
7. If there were no examinations, some people might try to use their contacts to facilitate their children's access to University.

The students were asked to indicate how much they agreed with each of the statements (Absolutely Disagree, Disagree, Neither Agree nor Disagree, Agree, Absolutely Agree) (see Fig. 3). Only 24% of the university students believed that public examinations were objective (in Greek, the word 'αντικειμενικό = objective' also has the meaning of "fit for purpose" when it refers to exams). Also, 41% believed that examinations were the best admission criterion to universities. Even more students (48%) believed that examinations protected them from corruption. Almost two thirds of the students (65%) agreed that exams were not the best way to recruit people, but it was a meritocratic solution. A similar percentage of students agreed that exams were necessary to achieve meritocracy. Also, approximately the same percentage of students (68%) agreed that they knew people who got public jobs because of political connections (i.e., corruption). And a stunning 85% of the students agreed that if there were no university entrance exams, some people would try to use political interventions to get children accepted in the university.

We got very similar results from the questionnaire which was administered to secondary education students (see Fig. 4). The questionnaire included six questions:

1. (University entrance) Pancyprian examinations are fair;
2. Written examinations are the best way to select students for the state universities;
3. For all appointments in the public sector, there must be written examinations, to avoid political interventions;
4. The (university entrance) Pancyprian examinations protect us from corruption;
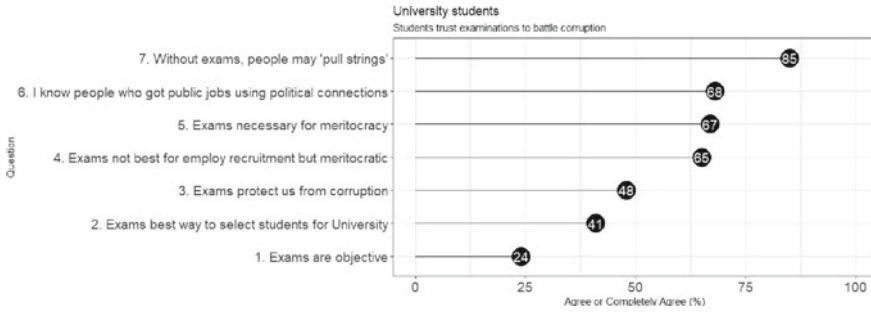
Fig. 3 Percentage of students agreeing or completely agreeing with statements regarding examinations
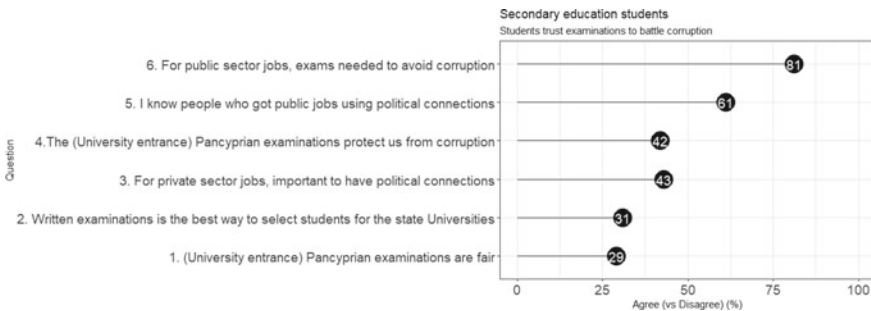
Fig. 4 Percentage of students agreeing with statements regarding examinations

5. To get a job in the private sector, it is important to have political connections;
6. I know people who got a job in the public sector, or had special treatment, because of their political connections.

Almost half of the students agreed that even for private sector jobs, it is important to have political connections. More than 60% of the students said that they knew people who got a job in the public sector, or had special treatment, because of their political connections. Finally, 81% of the students agreed that for all appointments in the public sector, there must be written examinations, to avoid political interventions. So, again, secondary education students do not agree that examinations are the best way to choose people, but it is a necessary evil because it safeguards meritocracy.

From the survey data, it is evident that young people in Cyprus had had enough with corruption. They believed that public examinations were necessary in order to achieve meritocracy. It is obvious that the government had read the public sentiment correctly, at the time, and that public examinations would have a high chance to be accepted as a tolerable criterion for recruitment in public schools.

3.2.3 New Recruits Full of Enthusiasm and Energy

As it was explained before, the old system would be gradually phased out over a period of ten years. In the first years, the number of teachers appointed would be split, approximately equally, between the old and the new system. Since the first examination in 2017, two groups of new recruits join the schools in September: those hired by the new and those hired by the old system. A number of school inspectors and school leaders were interviewed, asking them to compare the two groups of new recruits.

A common pattern emerging from the responses of all interviewees was that the teachers appointed with the new system are overall more enthusiastic and energetic than the teachers appointed with the old system. A Modern Greek language school inspector (secondary education), among other things said: "*I am excited with these newly appointed teachers. There is a huge improvement … they have more energy, they are enthusiastic, they really try harder … I have inspected … tens of those teachers and I am certain that there is a very big difference…*". The same school inspector, also, said that they are not all young; some of those hired with the new system also have some experience because they worked in the private sector, offering afternoon booster classes.

A foreign language school inspector agreed that many of the recruits appointed with the new system have significant teaching experience in private schools. The inspector said that the new recruits are more efficient and more effective than those hired with the old system. Typically, they are very motivated, and they are used to be under close scrutiny by the school leadership. The interviewee also suggested that the new recruits are generally of younger age compared to those hired before and "*… they surely have a better command of [mentioned the name of the language] … The new appointment system is an improvement over the previous system and will have a positive impact on [our schools]*".

Our interviewees suggested that energy and enthusiasm, among new recruits, were closely related to their age; they generally tend to be younger, compared to those recruited with the old system. Two of our interviewees (primary education) maintained that enthusiasm and younger age were very important because pupils, in primary schools, are often more responsive to younger teachers. On the other hand, it was clear from the interviews that the new system of appointment had a more positive impact on the secondary, rather than the primary education. The primary school informants suggested that the benefits of the new system of appointment may be more visible in secondary education because, historically, the recruits in primary education were generally much younger, compared to those of secondary education.

Most of the interviewees also suggested that the enthusiasm and the energy of the new recruits stemmed not just by their youth, but also by the unexpected opportunity for employment. Under the old first-come-first-served system of teacher recruitment, most of those young teachers would simply have zero likelihood of employment. The fact that they were unexpectedly given the opportunity for employment, also gave them a totally new perspective and re-shaped their life. As a result, they appreciate their job and they are more prepared to invest time and energy.

However, a number of school inspectors also suggested that, the fact that the new recruits are generally younger, may also mean that they are less experienced. Indeed, there is evidence in the official dataset we obtained, that the recruits with the new system are much younger compared to those appointed with the old system. For example, the average age of the prospective teachers who took the examinations in 2017 was just 31.6 years (for the examinations of 2019 it was 32.4 years). Around 1800 candidates in 2017 passed the examination (out of circa 5400 candidates) and were eligible for employment. Their average age was around 32.2 years. The corresponding average age of the first 1800 candidates on the waiting lists was around 40 years. Therefore, the new system managed to reduce the age of successful candidates by around 8 years. However, for some specific waiting lists, the reduction in the average age of new recruits was impressively much larger. For example, for the waiting list of the teachers who teach economics and accounting in secondary education, the average age of the 26 candidates who passed the examination in 2017 was around 35 years, but the corresponding average age of those near the top of the waiting list was 59 years!

3.2.4 Subject-Matter Knowledge Leads to Confidence

Another common pattern emerging from the interviews was that the new recruits seem to have a deeper subject-matter knowledge, which was often reflected in their classroom behavior. More subject-matter knowledge typically made the teachers feel more confident in the class. One of the interviewees, an experienced school inspector of Mathematics in secondary education, was very eager to describe the case of a young female teacher, who was not just enthusiastic and energetic, but also very confident. The school inspector explained vividly how beneficial confidence was, especially for less experienced teachers, and concluded that the exams were very successful in filtering out those perspective teachers of mathematics who were less academically competent. Characteristically, the school inspector said: "*I have inspected around ten of those [recruits who were appointed with the new system], and I am pretty much sure that they are of higher quality, compared to the others [those who were appointed with the old system]. This is a clear improvement over the previous system.*"

On the other hand, primary school informants were positive about the knowledge of the new recruits, but were a little bit skeptical about their lack of teaching experience. A primary education school inspector characteristically said "… *a little bit too soon to talk confidently about this, but the first impression is that they are—generally speaking—of better quality compared to many of those appointed by the old system*". Another senior primary school informant said: "…*They surely have a very good knowledge of the curriculum, because they were forced to study, to refresh their knowledge and to prepare for the exams …. Yes, they have a good [subject matter] knowledge, but they do lack experience, which is important*".

A mixed effects logistic regression (Lamprianou, 2020) was used to model the likelihood of candidates to pass or fail the recruitment examination (see Table 2).

Many of the candidates took the exams both in 2017 and 2019. Each candidate was examined on at least three papers for each examination; thus, candidates are modelled as random effects. Candidates are also nested within countries, depending on the country where they obtained their Bachelor degree. The main independent variable was candidate performance at the university, as indicated by their Bachelor degree (performance grades equivalent to: 'Excellent'/'Very Good'/'Good'/'Pass'). Their inclination to obtain additional qualifications was also modelled, as a proxy of motivation. It is assumed that those who decided to invest the time and resources to obtain additional qualifications (e.g. a Master's degree or a Ph.D.) are more active and more enthusiastic regarding education. The modelling also controlled for the age of the candidates, the year of examination and other background variables.

The results triangulate the information received from the interviewees that recruits hired with the new system seem to be more knowledgeable compared to those who were hired with the old system. Candidates with a Ph.D. were almost 70% more likely to pass rather than fail the examination compared to those who had no additional academic qualifications. Candidates with a Master's degree (or an additional Bachelor's degree) were around 50% more likely to pass rather than fail, compared to those with no additional qualifications. Interestingly, candidates who had the top

Table 2 Mixed effects logistic regression, modeling pass/fail status of candidates

Predictors	(Pass = 1/Fail = 0)				
	Odds ratios	Std. error	CI	Statistic	p
Fixed effects (Intercept)	0.05	0.02	0.02–0.11	−7.35	**<0.001**
Exam Year (2019)	1.29	0.10	1.10–1.51	3.18	**0.001**
Age (in years)	1.04	0.01	1.03–1.05	7.68	**<0.001**
Other qualifications [Reference category = no qualifications]:					
Post-graduate Diploma	1	0.33	0.52–1.91	0.00	0.997
Masters' or additional Batchelor	1.54	0.09	1.37–1.73	7.33	**<0.001**
Ph.D.	1.68	0.26	1.24–2.29	3.32	**0.001**
Bachelors' degree [Reference category = Pass]:					
Very good	2.21	0.18	1.89–2.58	9.96	**<0.001**
Excellent/Merit/Distinction	4.71	0.47	3.88– 5.72	15.64	**<0.001**
Random Effects					
σ^2	3.29				
$\tau_{00\ exam\ papers}$	1.49				
$\tau_{00\ country}$	1.11				
ICC	0.44				
$N_{country}$	24				
$N_{exam\ papers}$	49				
Observations	9537				
Marginal R^2/Conditional R^2	0.053/0.472				

grade on their Bachelor degree where almost five times more likely to pass rather than fail, compared to those who had a mere 'Pass'. Candidates who had a 'Very Good' grade on their Bachelor degree were more than twice as likely to pass rather than fail, compared to those who had a mere 'Pass'. Overall, it has been confirmed that the examination performance of the candidates is highly correlated with their Bachelor's grade and with their tendency to obtain additional academic qualifications. This is a very strong indication that new recruits are indeed more active and more oriented towards education compared to those who failed the examination. Also, this is an indication that the education system is very appealing for employment for graduates with advanced degrees who can't find a job elsewhere.

3.2.5   The Teething Travails of the Reform

The interviewees often made references to the teething problems of the new system. The implementation of the new recruitment system has faced some difficulties and some unexpected challenges. All teacher union officials, for example, mentioned that the phase-out period of ten years is practically useful, because those at the top of the waiting lists have the opportunity to be employed. However, there were some unforeseen legal and technical problems.

An important legal problem is that there are many substitute teachers who have been working in public schools for a total of more than 30 months. According to the interpretation of the teacher unions, under the European Law,[8] the contract of those teachers is automatically converted into one of indefinite duration and those employees must remain in full employment. As a result, these teachers now hold 'permanent' positions and as a consequence, there is a de facto nullification of the new recruitment system (there are much fewer vacancies for new teachers than originally envisaged). Government officials and civil servants have agreed, during the interviews, that this is a real problem, and needs to be addressed.

Another very significant problem, according to the teacher unions, is the provision about examination re-takes. All prospective teachers are free to retake the examination, which normally takes place every two years. If a candidate retakes the examination, they can keep their highest score, so candidates can keep improving their score every two years. However, in order to make the examination scores comparable across time, the Ministry of Education, Sport and Youth has used a very complicated statistical approach, which the public finds difficult to understand. Although there is a long tradition of statistical processing of examination scores in Cyprus (see Lamprianou, 2009, 2012), sometimes, there is a lot of skepticism, conspiracy theories and speculations about unfair treatment. So, after the examinations of 2017 (and to a lesser degree after the examinations of 2019), there were complains—typically

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[8] "Successive fixed-term contracts for a cumulative period of 30 months will have the effect of converting the contract into one of indefinite duration." https://ec.europa.eu/social/BlobServlet?docId=22462&langId=en.

on social networks—that the statistical processing of the scores was 'incomprehensible', suspicious and potentially unfair to some candidates. Although the Ministry of Education, Sport and Youth has hired a very prestigious and knowledgeable group of consultants and academics from different countries to boost confidence in the technical and statistical aspects of the examinations, more work may be needed to enhance trust and acceptance by the public.

Finally, there is a lot of anecdotal evidence that a new industry of private lessons has flourished in the last years. This consists of organizations preparing candidates for the recruitment examinations. Many providers of preparatory classes advertise their services on the internet, with prices typically ranging from €200 to €550 per paper (the candidates are examined on three different papers). The appearance of the new industry of preparatory lessons was to be expected, as Cyprus has a long tradition of private lessons (Lamprianou & Afantiti Lamprianou, 2013). Although these private lessons are not illegal, it is often claimed that they pose an additional financial burden on families which are already overstretched due to unemployment and the prolonged economic crisis.

Although there were some other issues raised by the interviewees about the teething problems of the new recruitment system, assumedly these were of relatively minor importance versus overall satisfaction that the new system 'works' and overall confidence that any initial problems will eventually be ironed down. The teacher unions were firm, however, that there needs to be a continuous deliberation with the Ministry of Education, Sport and Youth in order to solve the existing problems and prevent new ones from emerging.

4   Discussion and Conclusions

Since 1981, all seven Presidents of the Republic of Cyprus and thirteen Ministers of Education in Cyprus struggled to reform the teacher recruitment system, which had been heavily based on the biological age of the prospective teachers. Eventually, the reform became possible only because a new government (a) was pressured by its international creditors for structural reforms, (b) understood the public desire for change, (c) was ready to make painful concessions to win over the opposition, and (d) recognized that the extreme financial crises had turned the island into a political pressure cooker; eventually the system had to let the steam out, to avoid the explosion.

Although it is still early days, our data show that the new recruitment system is successful on several fronts. First of all, the new recruits are of higher academic ability. They seem to be more enthusiastic and energetic. Compared to those hired with the old system, however, they seem to lack experience. With the new system, the recruits who have teaching experience in the private sector, seem to bring with them a positive appetite for improved work ethics. According to multiple school inspectors, they generally seem to be more prepared to go the extra mile for their job, compared to those appointed with the old system.

The positive effects seem to be more visible in the secondary, compared with the primary education. This makes sense, because primary education did not have a long history of aged recruits and generally enjoyed the recruitment of teachers with very good pedagogical training. Primary education interviewees were slightly less enthusiastic with the new recruits compared to the secondary education interviewees. It seems that our primary school informants were skeptical about the lack of experience of the new recruits. On the other hand, our secondary education informants primarily focused on the subject matter knowledge and were less worried about experience. This makes sense; a mathematics or a physics teacher with inadequate subject matter knowledge, would not be very useful in a Lyceum, preparing 18-year-olds for the important university entrance examinations! Both primary and secondary education interviewees, however, suggested that a comprehensive in-service and pre-service training would certainly help the new recruits with limited experience.

One could potentially draw two distinct messages from this chapter. The first message is that reforms in education do eventually happen, but only under the right circumstances. Education evolves as the economic, political and social circumstances rapidly change nowadays. The opposing forces will not be able to withstand the test of time, in a democratic country, if they try to maintain bottlenecks and inefficiencies. At some point, when the internal pressure builds up, reforms will eventually happen, especially if there is external backing. The second message is subtle, almost invisible, but could potentially be more important than the first one. The new recruitment system is focused on written examinations and does not use assessment methods, such as classroom observation or interviews (for a comprehensive discussion, see Steinberg & Donaldson, 2016). The new system is not the answer to the question: "how do we hire the best teachers?". Instead, it is an answer to the question "how do we improve the existing system, and at the same time exclude political interventions when hiring teachers?". Some people may wonder whether we can really recruit the most efficient teachers through written examinations. Others might ask if the schools should be allowed to have a say on the new recruits (Schaefers & Terhart, 2006).

Unfortunately, Cypriots do not favor assessment methods which may leave space for political interventions and corruption. Corruption, clientelism and political patronage have been recognized as a significant problem in Cyprus for decades (Faustmann, 2010). In an island with such a low trust, it would be very difficult to convince the public to replace the waiting lists with other methods, susceptible to political interventions. For the international readership, it is interesting to explain that trust in Cyprus is so low, that public examinations are often organized under extreme security conditions. For example, the authors of the examination tests, are locked in a hotel for 48 hours before the examinations, they are instructed to hand in their mobile phones, they have no access to the outside world, and are guarded by security personnel. The tests are photocopied in the hotel, and the scripts only leave the premises in locked containers, accompanied by security, to go straight to the testing centers. In such a low trust society, balancing meritocracy and effectiveness is not easy.

The gist of our finding is that, when pursuing the modernization of a key academic institution—such as the teacher recruitment system,—the socio-political necessities

will often trump any academic arguments about the efficiency and the effectiveness of the various available options. Cyprus (and any other country in that respect), will often make choices that best suit their social, political and economic needs at that particular moment in history. Whether Cyprus has missed the opportunity to employ more efficient and effective forms of teacher recruitment, will certainly be debated in the public fora and may plant the seeds for future reforms.

The seeds for future reforms, however, are already visible in our qualitative data. Although our interviewees seemed content that the new system 'works', they were also happy to contribute ideas for improvement. Interestingly, no one suggested significant changes which would alter the examination-based character of the recruitment system. To improve a system, however, it is necessary to accumulate a certain amount of evidence regarding its efficiency, its effectiveness and its social and political consequences. While time passes, the burden lies on independent academic research to provide high-quality evidence, publicly available to all interested parties. Once more, it is the role of the academia to be the honest broker who will advance public discourse and facilitate policy making.

As far as the wider education system is concerned, many of our informants claimed that the new recruitment system must be backed by an appropriate, in-service, teacher evaluation program. In fact, the government was originally planning to set up a new teacher evaluation system, but there was much resistance by the teacher unions. Eventually, the government preferred to concentrate its efforts on the reform of the recruitment system. As a result, the reform of the teacher evaluation system was left for the future. This, however, is probably the next big change to happen in the education system of the island.

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Striving for Policy Coherence and Implementational Consistency Teacher Education in Slovakia

Beáta Kosová and Iveta Kovalčíková

1 Contextual Background

Slovakia—officially the Slovak Republic—is geographically situated in the region of central eastern Europe and, with a landmass of 49,035 km^2, it numbers among the small states of Europe. Slovakia currently has a population of 5,427,917[1], of which 80.7% are Slovak, 8.5% Hungarian and 2.0% Roma.[2] The population density is 110 inhabitants per km^2. The majority of the population lives in towns and cities. The largest cities are Bratislava, the capital of Slovakia, with around 480,000 inhabitants, and Košice with a population of approximately 355,000. Slovak is the state language according to the Constitution of the Slovak Republic. The larger ethnic groups, known as national minorities, have the legal right to use their native language in public and official communication.[3]

Slovakia had been part of Czechoslovakia since 1918, and it was a country in the Soviet satellite system between 1945 and 1989. From the end of the Second World War to 1945, social stratification was largely eliminated, and this has had a significant impact on today's societal system in Slovakia. Despite the growing social inequalities, Slovakia is still considered to have a lower level of social stratification than other developed countries. According to the Human Development Index (Human

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[1] As of 31.03.2016.

[2] https://www.vlada.gov.sk/slovensko/ (accessed on 15.3.2021).

[3] The concepts of *teacher training* and *teacher education* are used in this chapter to denote the institutionalised system of prospective teacher preparation.

B. Kosová
University of Matej Bel, Banská Bystrica, Slovakia

I. Kovalčíková (✉)
University of Prešov, Presov, Slovakia
e-mail: iveta.kovalcikova@unipo.sk

Development Report, 2015), published annually by the UN, Slovakia is a highly developed country, but it also exhibits specific characteristics that stem primarily from the political and economic system that prevailed until 1989. It was a socialist economy, which meant that in Czechoslovakia (which Slovakia was part of), there was almost no private ownership or capital.

The Slovak Republic was founded on 1 January 1993, following the dissolution of the Czech and Slovak Federal Republic (Czechoslovakia). Disagreements between the Slovak and Czech political elites within the federation ultimately resulted in dissolution of the federal state, which led to the foundation of the Slovakia Republic and the installation of a democratic political system, a pluralist society and a market economy. After several years of political turbulence, economic instability and relative international isolation, the Slovakia Republic successfully resolved its most serious problems of international orientation, economic development and social stabilisation. In 2000 it became an OECD country. Then in 2004 it joined NATO and the European Union. In 2008 Slovakia became the only country in the region to join the EMU, the EU's economic and monetary union, and adopted the Euro. Today, Slovakia is a stable parliamentary democracy with a pluralist political system.

1.1 Economic Context of Education and Teacher Training in Slovakia

Economic context is an important factor in assessing the content and outcomes of education and teacher education in the Slovak Republic. As noted in the Constitution of the Slovak Republic, 'Citizens shall have the right to free education at elementary and secondary schools and depending on the abilities of the individual and the potential of the society also at universities'. As of 1 March 2021 there are 38 higher education (HE) institutions registered in Slovakia, 16 of which are either international (run by a foreign entity) or private. Teacher training programmes are offered by nine state universities or HE institutions.[4] None of the private HE institutions offer teacher training programmes. Consistent with both the Constitution of the Slovak Republic and left-wing ideology, a free education system as has been established in Slovakia over the decades, and all the state HE institutions offer a free full-time education, the HE institutions that offer teacher education programmes are entirely dependent on state funding. As shown in Fig. 1, the government expenditure on tertiary education in the Slovak Republic is lower than other European Union countries, where student fees are mostly an additional source of income.

This restricts the development potential of HE institutions in Slovakia. The limited state funding also impacts on the quality of teacher training. The low pay lecturers receive makes it hard to attract good staff. Interest in teacher training is falling generally and is particularly evident at the lower secondary level. Moreover, teachers are no longer representatives of the intellectual elite and their social status is falling.

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[4] https://www.cvtisr.sk/buxus/docs//PKvs/ZberUdaj/zwv820.pdf (accessed on 17.3.2021).

Total general government expenditure on education, 2018 (% of GDP)

Pre-primary and primary education | Secondary education
Post-secondary non-tertiary education | Tertiary education
Education not definable by level | Subsidiary services to education
R&D Education | Education n.e.c.

* from 1 February 2020
** provisional
*** estimated
Source: Eurostat (gov_10a_exp)

eurostat

Fig. 1 Total government expenditure on education as a percentage of GDP (2018)

Therefore, the quality of students applying for teacher training courses is also in decline, and that eventually affects the overall quality of education in the Slovak Republic.

1.2 Education Culture in Slovakia

After the Second World War, when Slovakia was part of the Czechoslovak Socialist Republic, a centralised education system was instituted in Slovakia, in parallel with the founding of 'comprehensive schools, aiming to reduce the social inequality that had emerged as a result of the unequal access to education under the *bourgeois society*. The new comprehensive schools featured the homogenisation of the education setting. The centrally led reform attempted, in repeated waves, to transform the traditional essentialist curriculum to reflect life's needs. However, the goals of the reform has not taken account of individual learning needs. Since the strong centralisation of society was a key principle at that time, it applied to education as well. Few education reforms were initiated from below, and that gradually led to the passive acceptance of the rhetoric of the central initiatives and directives. This 'syndrome of learnt passivity' continued for almost 50 years and had a marked impact on the work of teachers. From 1990 onwards expert groups at Ministry of Education designed several documents for a long-term education policy strategy for the new democratic

order (Kovalčíková & Kresila, 2012), drawing upon the conceptual trends in developed European democracies. The aim of the proposed reform was to transition away from the traditional prescriptive system of encyclopaedic knowledge and memorisation towards a creative knowledge-based schooling that emphasised the freedom of the person and the capacity to develop a progressive creative existence suitable for life in the new millennium. The reform focused on the following aspects: (1) the education philosophy, (2) the educational content (curriculum), (3) the education and training of teachers and pedagogical practitioners, (4) the methods and teaching techniques and the management of these processes and (5) the centralised governance versus decentralised governance (Kovalčíková et al., 2012). Insofar as the education philosophy is concerned, the core concept behind the reforms was the *creative humanist* theory of education[5], which later proved to be problematic in a number of ways (Kovalčíková & Kresila, 2012).

In the first half of the 1990s there was a dynamic shift in teaching practice in Slovakia, unprecedented in the history of Slovak education. It was reflected in the efforts of individual teachers or schools to modernise the school system from bottom up. Enthusiastic teachers from preschools to universities began congregating around NGOs involved in international educational projects aimed at influencing teacher education strategies and creating educational alternatives in schools (e.g. Susan Kovalik Foundation 1992, School of 1994 Foundation, Orava Project—IOWA 1994, Association of Friends of Free Waldorf Schools 1994, Slovak Association of Maria Montessori). The associations provided education, training, study and methodological materials based on various educational concepts; the innovations thus spread spontaneously but relatively intensively. Research among teachers showed that a more pronounced change in their opinions and attitudes took place in the early second half of the 1990s (Kosová & Trnka, 2018). Public opinion supported innovation in schools because the children's parents could see the positive results. However, the macro-level policy still featured a strategy of minimal change, with varying intensity from 1990 to about 2006. Within this period no legislative and curriculum decisions had a profound effect on the quality of the education system. Moreover, at the turn of the century, the education ministry began to adopt a more centralized approach to pedagogical initiatives, such as unified curricula, and the legislation allowed very little freedom in the curriculum.

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[5] See Kovalčíková and Kresila (2012), in monographs "Selected contexts of the reform of the national education programme in England and Slovakia", … h*umanism* is not an emotionally neutral term and has therefore become associated with education dogma, which can be hard to argue against constructively. The term humanism has a very broad range of meanings. In an education context it emphasises the individual values of the pupil as the subject of education. As a world view *humanism* can mean the anti-religious atheistic tradition that stretches back to the Renaissance and led to the rational and empirical application of the principles of enquiry for interpreting the world. Finally, in ordinary conversation humanism can mean a sensitive human approach to the individual. *Creative* humanism highlights the creative aspect, which can refer to one of the higher cognitive operations in Bloom's taxonomy. However, in Slovak pedagogical discourse it also refers to personal development in terms of aesthetic school subjects.

The adoption of the new education law in 2008 was intended to introduce fundamental change into the centralised school system. The principle of unity and uniformity in education was to be replaced by the principle of plurality and differentiation. The 2008 law introduced a two-tier curriculum model, which consisted of the State Educational Programme at state level (state curriculum) and the School Educational Programmes (school curricula) at the school level. The latter was a more granular, supplemented version of the State Educational Programme. Nonetheless, the way in which the reform was presented and subsequently implemented caused several problems, as the responsibilities for the two tiers were not clarified between the state and school levels.

Another problem related to 'the direction of the reforms'. In 2008, the State Education Programme was adopted in June for implementation in September through the School Education Programmes (Kosová & Porubský, 2015). There was neither public discussion or consultation on the reforms nor any pilot or experimentation, to address the need for cultural and processual changes within the schools and classrooms. They dismissed out of hand the experts' recommendations that top-down reform strategies would not work unless accompanied by initiatives from below, or that successful reforms should be implemented in gradual steps, not leaps and bounds (Fullan, 2007). This led to 'innovation without change' (Priestley, 2011), such as insufficient knowledge and preparation, and the absence of support and consensus for change (Ng, 2009). Nor was there any attempt at creating an ethos for change, which many scholars consider fundamental to successful change, even at the stage of implementing the new model of curricular innovation (Brundrett et al., 2011). Instead of the professional support and help teachers required, a vacuum emerged between the State Education Programme and the School Education Programmes. The unprepared and demotivated teachers declared that they did not even want to create the teaching plans for their subjects. The 'creativity' they were after was to select pre-prepared lessons from textbooks, teaching handbooks or the internet, which they could then adapt for their pupils (Porubský et al., 2016; Kosová & Trnka, 2018).

2 Teacher Training Against the Backdrop of the Slovak Education Reforms

After the Second World War standalone education colleges were set up for the higher education of teachers of all school levels in universities. The training varied in length, lasting from two semesters for preschool teachers to 10 semesters for secondary school teachers. In 1950 the shortage of preschool and national schoolteachers led to the return of secondary education for preschool and primary school teachers. Later, between 1953 and 1977, teachers for comprehensive primary/lower secondary schools (5 + 3 years; 5 + 4 years) received training at higher education (HE) institutions, usually taking three-year courses, after which they did a year of supervised teaching practice in a school and then completed their thesis defence and sat the state

exam. This consecutive model was replaced by a parallel model in which the students undertook teaching practice in contracted training primary and secondary schools throughout their studies. From 1977 on four- or five-year joint degrees have been offered to both primary and lower and upper secondary school teachers at education faculties. All three education faculties at that time in Slovakia followed the same programme (Srogoň et al., 1986). There was also a parallel pathway for existing HE graduates to get a teaching qualification through a two-year additional teaching programme. After 1989—a number of stages[6]—can be identified in the evolution of teacher training in Slovakia at almost all the teacher training faculties.

2.1 A New Beginning in Teachers Training—1990 to 1996/97

Since 1990, the teacher training curriculum underwent a process of 'deconstruction' cleansing the prevailing Marxist Leninist ideology. Some pedagogical subjects were removed from the curriculum or substantially reduced, often without any expert analysis. Recognising that prior to 1989 pedagogy had contained many ideological elements, lecturers were initially put on the defensive so their ability to defend the importance of the pedagogical and didactical disciplines in the teacher training course plans was limited. Under the education law of (1990), universities gained autonomy. The law allowed HE institutions to decide their own curriculum. In this period there was no a systematic approach to teacher training curriculum design.

The content was based on courses developed/taught by faculty teachers and academics. For economic reasons the amount of teacher training practice was also limited. The process of eliminating much of the pedagogy and psychology also affected pedagogical content knowledge. In this period the focus was more on the learning content in the textbooks than on the cognitive and affective aspects of teaching. Pupils' learning processes were not taken into sufficient account.

After the dissolution of the Czech and Slovak Federal Republic (1 January 1993) and the founding of Slovakia Republic, a plethora of new universities and HE institutions were set up. These new universities were often created by existing university faculties that were hived off and emerged around certain fields of study such as new arts, humanities and science faculties. This impacted on the staffing and academic quality of the existing faculties. Hence all the faculties faced 'a new beginning', as it were.

This period also saw a growing number of questions about the nature of teacher training. However, the state research centres (the Institute of Education Research and the Institute of Experimental Education at the Slovak Academy of Sciences) had been closed down and there was no support for pedagogical research. Up until 1989 foreign

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[6] The individual stages are distinguished by milestones that have had a major impact on changes in teacher education. The stages are defined based on the subjective perception of conceptual change and milestones by the authors of this chapter. Both authors were actively involved in the conceptual changes in teacher education in Slovakia.

academic literature had been forbidden; academics could not even borrow books on the pedagogical reforms of the 1930s from the library without special permission.[7] Moreover, an entire generation of university lecturers grew up with little knowledge of any Western language. Under the socialist school system in Slovakia, Russian was the compulsory foreign language. Consequently, both societal change and access to the foreign language literature on pedagogy and psychology were hampered by the language barriers of those tasked with designing and implementing teacher training reforms.

Many university lecturers from the pedagogy and psychology departments began attending courses on alternative education models and pedagogical theory taught by foreign experts. Non-governmental organisations were the bearers of the new thinking on the paradigms that dominated in education in Western Europe. These types of innovative education also left their mark on teacher training, providing new information about teaching strategies that focused on the child's needs. Many of the teacher training lecturers attending these courses were attempting to fill in the gaps in their knowledge of pedagogical and didactical theories. Higher education lecturers and practicing teachers underwent a process of reflection on their own teaching strategies. They gradually became trainers and experts of alternative education approaches.

In the latter half of the 1990s in-service teacher training and specialist courses were also offered at universities. The lecturers sought out these alternatives in an effort to legitimatise the education the universities were able to provide. Thanks to the further in-service education of university lecturers, the ideas of the new education paradigm, mainly of a personalist and socio-constructivist nature, became part of primary education didactics. Influenced by the 'new pedagogy' and the developing international collaboration, over a number of years, groups of lecturers demanded that the traditional transmission-style teaching approach be dropped along with the excessive focus on the academic side of teacher training. There were also calls for HE teacher training to be linked with the requirements of teaching practice. The reform attempts in teacher education, more a result of the work and dedication of individuals, frequently ran into hostility from the majority of HE lecturers working in teacher training. These groups, in their efforts to maintain the academic level of teacher training, defended the idea that teacher training had to be of a high theoretical level. That was interpreted as meaning that prospective teachers had to have a good subject knowledge of all the disciplines relating to their teacher training specialism. The prevailing view was still that a biology teacher, for instance, had to be a good biologist in the first instance. Similarly, a language teacher had to be a good linguist. Attempts to bolster the pedagogical, psychological and didactical elements of teacher training were seen as lowering the quality. Thus began the battle over the new face of teacher education.

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[7] This was B. Kosová's experience as a university student when writing a paper on education reformism in Czechoslovakia.

2.2 Conceptualisation and Europeanisation of Teacher Training—1996/7 to Approx. 2004

The second stage of the transformation of teacher training in Slovakia took place from *1996/97 to around 2004.* This stage could be called the *conceptualisation period* (approx. 2000, 2001) and *the beginning of Europeanisation* (until approx. 2004, 2005) (Kosová et al., 2011, 2012). In the early years of this period the changes mainly affected the content of higher education programme and subject/course. Later the implementation of the credit system led to more formal changes that also affected the content of teacher training programmes.

In the *conceptualisation period* the inflow of new pedagogical and didactical ideas formed the conceptual basis of teacher training programmes. At HE institutions this initiative was undertaken by pedagogy departments. The paradigmatic innovations could be seen in the common pedagogy/psychology core of the teacher training programmes. Higher education lecturers of primary school (ISCED (1) teacher training programmes mostly adopted the conceptual approach towards the paradigmatic shift. In this period the issues that had to be resolved were (1) accommodating the personality aspects of teacher training, such as communicative or classroom management skills (2) developing a unitary programme profile combining pedagogy, psychology and pedagogical subject knowledge and creating graduate profiles and (3) boosting the practical teacher training components. Efforts began to make primary school education an academic discipline (Kolláriková & Pupala, 2001). The planned teacher training curriculum was discussed at all the teacher training faculties. The content of the pedagogy, psychology and didactics courses was overhauled and courses on alternative education were systematically incorporated into the curriculum of teacher training programme. The ability to follow different pedagogical approaches was valued. These trends and the impetus from preschool professional associations led to the reinstatement of higher education preschool programmes. Teacher training began to be conceived in terms of the reflective practitioner teacher model (Černotová, 2001; Doušková & Porubský, 2004) and as facilitating the development of the teacher persona, where teachers actively formed their own theoretically grounded teaching philosophies and teaching strategies. Teacher training programmes also began to include the new primary and lower secondary subjects, such as ethics and information studies.

Around 2000–2001 there was a shift towards the *Europeanisation of higher education programmes* (Kosová et al., 2011, 2012). It was triggered by the signing of the Bologna Declaration and the establishment of the Common Higher Education Area in 1999. With it came the introduction of the European credit transfer system (ECTS), which was designed to encourage mobility among HE students within Europe. Under this directive Slovak HE institutions had to overhaul their curricula to reflect the credit system of study. These changes affected all areas of tertiary education, including teacher training. The original teacher training curriculum had consisted only of compulsory subjects, and each subject had been considered equally important. With

the introduction of the new credit system, the curriculum had to be carefully analysed and three subject categories distinguished—compulsory subjects, compulsory options and options. This proved challenging as there was concern and reluctance among teacher educators/trainers over making compulsory subjects optional and thereby dependent on student choices. Teacher training programmes were particularly difficult to change given the number of subjects and the many departments involved. The lower secondary teacher training curriculum was taught by at least four or five departments. The primary teacher training curriculum was shared across at least 10 departments in the faculty. All the teacher training programme lecturers had to agree with the choices made.

2.3 Introduction of Separate Teacher Training Degrees in 2004/5

The final big turning point in the creation of higher education studies for teachers came in *2004 and 2005*. This was the beginning of the period of the *creation and introduction of separate postgraduate degree programmes* of the Bologna type. A Czechoslovak law from 1990 had already made Bachelor's degrees possible, and short Master's degrees were enabled under an amendment in 1996 (previously Bachelor's degrees had not existed; all first degrees ended in a Master's). However, there was no obligation to offer separate Bachelor's and Master's degrees, and they did not really exist in practice (Kosová et al., 2012). Following the adoption of the new Higher Education Act (2002) in 2005, newly accredited three-year Bachelor's degrees and standard two-year Master's degrees started to be introduced.

Teacher training 'descriptions' were produced, which listed the core knowledge areas and described the skills and abilities that became known as teacher competencies. There was some degree of conformity across the content of the various degree programmes. For accreditation of a degree programme, 60% of the content had to correspond to the topic areas listed in the teacher training description. The requirements for completing a programme also became more universally applicable. This was basically the first step in the standardisation of the teaching profession and teacher training (Kosová & Porubský, 2019).

The new separate degree structure was received with great reluctance by academics and this attitude still prevails today. They assumed that it produced 'artificial' graduates with a Bachelor's degree in secondary education, who were either, according to the law, supposed to (1) continue studying or (2) take up positions that still do not exist in Slovak schools and haven't been created or added to the official list of occupations because of the lack of available funding. Examples of such occupations are teaching assistants, after-school activity leaders and administrative and methodological staff. The Bachelor's degree programmes are considered teacher training programmes under the new regulatory framework and thus carry the title of profession, but don't in fact qualify students for these professions. Only

graduates holding a Master's degree can become a professional teacher. In this period there was much political debate as to whether a Bachelor's degree was adequate for a professional teacher. In an attempt to defend the teaching profession, but in contradiction to the theory of professional teacher development, the HE institutions adopted the tactic of creating such teacher training programmes that the core professional teacher subjects—general/basic didactics, pedagogical subject knowledge, subject didactics and teaching practice—were not taught until the two-year Master's level. For the aforementioned reasons the experience of running these programmes has led to recent calls for the combined teacher training degree to be reinstated, that is, without being divided into separate Bachelor's and Master's degrees.

3   Current Issues in Teacher Education in the Slovak Republic

In the Slovak Republic as in other countries of the European Union, there have been extensive debates about the quality of teacher education since the beginning of the 21st century. The issue of teacher education transformation in the framework of general education reform was addressed in 2010–2012 under the auspices of the Ministry of Education, Science, Research and Sports of the Slovak Republic and Matej Bel University (Petrová & Duchovičová, 2013). Following topics have been the subject of expert discussions.

3.1   Should Teacher Training Be Determined by HEIs or by the State?

In Slovakia almost all teacher training programmes are taught at universities. The universities maximise their efforts to maintain their autonomy, including over the design of teacher education curricula. Each university designs its own teacher training programme within the framework set out by the state. The programmes may vary from university to university in terms of the number of courses/subjects, the ratio and content of compulsory and optional courses and type of teaching practice. The programme often reflects the expertise and research profiles of the teacher training educators at the university. However, the responsibility for the regulation and monitoring of higher education quality, and thereby teacher training, lies with the Slovak Accreditation Agency for Higher Education. This state entity established by Act no. 269/2018 Coll. is responsible for (a) specifying the teacher education graduate profile, (b) defining verifiable descriptors of learning outcomes, (c) determining the qualification framework level and (d) indicating which area of knowledge, skills and understanding is relevant to both that field of study and the profession (Slovak Accreditation Agency for Higher Education, 2020). This public institution also undertakes

external quality assurance to ensure that higher education provision in the Slovak Republic conforms to the HEI study programmes standards. Its mission is to improve higher education quality based on the European Standards for Quality Assurance in Higher Education (ESG, 2015). The agency provides feedback concerning quality to higher education institutions.

The universities hold ambivalent views on the work of the accreditation agency. On the one hand they welcome the clearly defined quality descriptors for teacher education. But some university management teams fear that the convergence and an inability to comply with quality criteria could lead to the demise of some teacher education programmes. Nonetheless, most academics are of the opinion that so long as the accreditation agency ensures that the compliance process is transparent and applied consistently to all universities its work will improve the quality of teacher education.

3.2   The Teacher Model: Passive Curriculum Deliverer Versus Reflective, Research-Based Practitioner

Current debates on other modes of teacher training and potential reform in Slovakia (much like the debates on children's education) reflect certain theoretical trends and concepts. These are primarily personalist, constructivist and social contextual paradigmatic interpretations of education generally (Spilková & Vašutová, 2008) that are eclectically subsumed within the model of the *reflective practitioner*. The idea that teachers should above all be experts in facilitating learning and dealing with pupils' individual educational needs (Coolahan, 1991; Vonk et al., 1992; Perrenoud, 1994; Hustler & Yntire, 1996; Berliner, 2001) became popular in the Slovak pedagogical discourse. This ideological framework was then used to further specify the required teaching competencies, as systematically analysed in education theory and research (Hustler & Intyre, 1996; Korthagen, 2004; Oser, 2001; Vonk et al., 1992 etc.). The model of Oser (2001) provided inspiration and formed the basis of the interactive model of competencies. It distinguished between five sets of competencies oriented at: the self as teacher, the school, the individual pupil, pupils as a group and teaching strategies. These then formed the basis of the Slovak professional standards produced by a Slovak expert group responsible for standards development (Kasáčová & Kosová, 2006).

With the emergence of the teacher as reflective practitioner model, arose the question how this should be reflected in the *research-oriented stance* of teacher training. If reflective practice is to be a key component in the university teacher training curriculum, and reflection a value in itself, one will have to consider which sub-competencies students need to acquire. Students should be capable of critically examining their own actions and thinking in light of their scientific knowledge. Students should consider what is going on in the context of their teaching and what factors and assumptions are at play in the situation and their outcomes. The ability

to reflect on one's practice is regarded as a meta competency that is the source of the dynamic potential of the professional (Wright, 1992). The competencies of the reflective practitioner overlap with the competencies of the researcher. The practitioner requires research-based knowledge in order to reflect on practices in educational settings. According to Tack and Vanderlinde (2014) teacher educators' professional development can be conceptualised as the development of a 'researcherly disposition', which is defined as the tendency to engage in research and as involving an inclination towards research (affective aspect), an ability to engage in research (cognitive aspect) and a sensitivity to research opportunities (behavioural aspect).

In Slovakia a research-based stance is becoming more important in teacher training, especially in Master's programmes. The teacher training curriculum contains subjects/courses dealing with research methodology, with an emphasis on the students conducting action research as part of their school-based teaching practice. Part of teacher training now includes the acquisition of knowledge about research and the skills required to conduct (action) research. This can be broken down as follows: 1. acquisition of research- and study-based knowledge relevant to teaching (e.g. TIMSS, PISA assessments) and for reflecting on the teaching quality criteria; 2. acquisition of methodological skills in order to understand and reflect on teaching; 3. participation in research projects under the guidance of experienced researchers (Master's thesis); 4. conducting action research as cycles of inquiry in the classroom to combine theoretical research-based knowledge with practice (Altrichter & Mayr, 2004; Buschor & Kamm, 2013). However, it should be noted that this research-based perception of the educational reality of teacher training is not systematically thought out and nor is it undertaken at the national level in teacher education.

3.3   The Quantity and Quality of School Experience

Internationally the gradual transition of teacher education and training to the university level has raised questions about whether such programmes should be more theoretically or practically oriented (Kosová et al., 2012; Lukášová-Kantorková, 2003). In other words, what is the ideal proportion of theoretical study and practical training?

The practical part of teacher education is represented by a system of short- and long-term school-based practice. This is implemented in educational facilities (for more detail see Kosová & Tomengová, 2015). In Slovakia it is thought that continually linking theory and practice is crucial to the development of teaching professionalism. The proportion of theoretical study to practical training is not regulated, strictly defined or monitored by the state. However, the amount of state funding available for school-based practice is very limited. The quality of student supervision during school-based practice is also open to question. The schoolteacher/supervisor receives negligible or no remuneration for its role. Moreover, there are no professional standards for schoolteachers/supervisors. The tradition of having 'trainee'

university-based schools has been abolished and the distinction between the theoretical study versus school-based practical training dichotomy is fading. The quality of the content of both these aspects of teacher training is now more important.

3.4 The Fragmented Versus Coherent Conceptualisation of Pedagogical Content Knowledge

In Slovakia the theoretical approach to subject knowledge and pedagogical skills is problematic. It is related to the rigid, internationally outdated, dividing line between the 'subject knowledge' (e.g. biology, mathematics) and the pedagogical and psychological foundations/pedagogical subject knowledge, which are taught entirely separately. This distinction has a long history. Decades of legislation have greatly contributed to the complete misunderstanding of what teaching professionalism is and distorted the concept of professional teacher identity. The distinction between subject knowledge and the pedagogical and psychological foundations can still be found in teacher training today, owing to the 60-year tradition of separating out the different components of teaching skills, and the way these components are understood (Kosová et al., 2004). The terminology used in the graduate profile, 'subject knowledge and pedagogical competencies', is indicative of years of thinking that pedagogical skills are not expertise. As a result of the distinction between subject knowledge and pedagogical skills in the regulations issued by the Slovak Ministry of Education, they are treated as if they are independent of one another and they are therefore studied and acquired separately. Subject knowledge was, and still is, generally considered to be the basis of the teaching qualification, obtained either as part of teacher education or separately. The pedagogical skills are merely 'added on' and can be gained at any time alternatively, such as an additional course in pedagogy. In practice what happens is that a graduate with a degree in mathematics from the science faculty who has completed the 'pedagogic minimum' can become a primary/lower secondary school teacher (Petrová & Duchovičová, 2013). Not only has the education ministry spent years supporting this pathway into the profession, but also graduates who follow this pathway are financially rewarded. Master's graduates who have taken an additional pedagogy course fall within a higher pay bracket than a teacher who has undertaken the standard teacher training. This disqualifies teacher training programmes and casts doubt on the notion of professional identity. It creates the impression that anyone can be a teacher. Inevitably this has an impact on teacher training at universities. Notwithstanding the professional skills requirement, this conception of professionality, set out in the teacher training 'descriptions' is the reason for the often marked preference for degree courses in the subject to be taught. The pedagogy and psychology are undervalued (often only the theory is taught, with no practical application whatsoever), and the subject didactics and school-based practices receive very little attention.

3.5 The Professional Qualities of Teacher Educators

The changes in the teacher model in Slovakia manifested in the shift in the competency profile *from passive curriculum deliverer to reflective practitioner* raises questions about the professional programmes these teachers attend as part of their teacher education. The prevalent belief in Slovakia is that not all teacher educators, even in Master's study programmes, need be actively involved in research. However, those who have no experience of reflexivity, relativisation, comparison or generalisation within their own research can hardly be expected to be able to develop these qualities through study. It is highly likely that if the teacher training educators are involved in educational science research themselves, then they will make far more pronounced connections between research and reflective practice when teaching students than teacher training educators who are not. Another disputed issue in Slovakia is whether those teaching pedagogical subject knowledge at university should also work part-time in primary or secondary schools. It is rare in Slovakia to find teacher training educators with 'dual employment contracts' (university and school). University educators who have not worked in schools for many years may lose touch with the reality of school life. The lack of a connection between university educators and classroom practice can lead to a growing gulf between the 'theoreticians' in the universities and the classroom teachers in schools. If university educators do not conduct research and are not actively engaged in classroom practice, they are likely to become curriculum deliverers, and one can hardly expect them to be capable of training student teachers to become reflective practitioners.

Slovakia has no explicit standards for accessing the quality of teacher training educators. The existing quality criteria favour the number of publications the educator has in Web of Science or Scopus.

4 Conclusion

In light of the Slovak reality discussed herein one can conclude that teacher training in Slovakia is not grounded in solid research-based knowledge and theory. By and large teacher training programmes are not based on a well-thought-out approach for developing teaching professionalism. Paradigmatic confusion is evident: parts of the teachers training programmes (sometimes even the subjects themselves) are often based on different concepts and paradigms and exist in isolation from the other parts. Attempts to induce a paradigmatic shift in the perception of school, pupil, learning and teaching in Slovakia in recent decades have also been reflected in teacher training. However, it turns out that switching 'from passive curriculum deliverer to reflective practitioner' is not that simple. The spiritual heritage of totalitarianism is observable in people's behaviour even 30 years after the social changes. They are also reflected in the educational process, the school and classroom climate, teaching methods and the teacher's ability to address the needs of individual students. In

Slovakia (1) the tradition of normative pedagogy impinges on the exploratory and explanatory principle in education and does little to support teacher reflexivity, and (2) the underestimation of the pedagogical and psychological component in teacher training negatively affects the anticipated paradigm shift in teacher training. Another issue is that the teacher training curriculum consists of a disproportionate number of stand-alone subjects/courses, and a set of principles or a structured approach to curriculum design is lacking. Teacher training lecturers usually work alone, and there is no attempt to avoid duplication in the courses and topics, assuming that the various subjects comprise the professional competencies and that the theory and practice will automatically connect up in the student's mind (even when completely contradictory). The reflective practice model of teacher training noted in official school documents, is not implemented effective. Research into the expert professional knowledge and skills indicates endeavors for combining academic focus in training and the practical training of skills. In Slovakia research has also been conducted into teachers' conceptions of teaching, such as the teacher's subjective thinking about teaching, especially the implicit (intuitive, subconscious, emotional) ideas and explicit (theoretical justification, internalisation, expressible) theories teachers have about teaching and how these interrelate (Kovalčíková, In Chistolini, 2010; Kosová & Trnka, 2018; Porubský et al., 2016). The results of these studies are used in further communication with policymakers and stakeholders. Policy coherence and implementational consistency is reinforced through university research-based initiatives. Hopefully the development of evidence-based teacher training policy will be continuously improved over the long run.

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Teacher Learning and Development:
A Career Long Perspective

From Teacher Education to Lifelong Teacher Learning and Teacher Innovation: The Case of Hungary

Gábor Halász

1 Introduction

This study is about teacher learning and innovation in Hungarian schools.[1] It focuses on two parallel and complementary processes: how teacher learning is enhancing innovation and how innovation is influencing teacher learning. And it is also about teacher education: it shows how teacher learning embedded in innovation processes has changed the meaning of the notion of teacher education and has transformed its institutional practices. The aim of the study is to present how consecutive educational reforms and development interventions, spurring innovation processes in the Hungarian school system, have transformed the way teachers acquire the competences they need in a context where adaptation to rapid changes has become a daily requirement.

The first part of this two-pronged study presents the national context of teacher education and the development of teacher education in this specific context, with an emphasis on the emerging paradigm that we call "practice-based lifelong teacher learning". The second part places the national case into the broader European and global context and, relying on evidence from a number of recent surveys, shows how the emerging paradigm has changed teacher education.

G. Halász (✉)
ELTE University, Budapest, Hungary
e-mail: halasz.gabor@ppk.elte.hu

2 School Education and Teacher Learning in Hungary

Hungary is one of the Central European countries where, following the collapse of the Soviet Bloc about thirty years ago, people and institutions have been exposed to unprecedented historical processes of change. From the "protected" world of mono-lithic polity and planned economies they had to make an extremely rapid and turbulent transition to the world of open, globalized economies and pluralistic societies. This transition, not yet completely accomplished, has radically changed the landscape of education, including the way teachers work and the way they learn how to effectively perform their job.

2.1 The National Context: School Education Under Change Pressures

From the late sixties, school education in Hungary, in many respects, followed a unique path of development within the rather homogenous community of Central-Eastern European countries belonging to the Soviet Bloc. As the author of this article presented in a number of earlier publications (Halász, 1993, 2007, 2015), by the end of the eighties school education in this country developed into a relatively decentralized system which later, in the early nineties, became one of the most decentralized education systems of the world.[2] Although after 2010 the system was radically re-centralized (all ISCED1-3 schools were transferred from local (municipal) authority to state ownership and a prescriptive national curriculum was introduced) schools and teachers, in practice, continue to enjoy relatively high level autonomy.

The transition process has been strongly influenced by both internal and external pressures and driven by various forces. As for the latter, special attention has to be given to the accession of the country to the European Union in a period when educational development became a high political priority for the EU and modernizing teacher education was on top of the common policy agenda. As we shall see in the next section, the EU's strategy has contributed to the shift of policy thinking and practices related to teacher education. While 15–20 years ago, for most people the term "teacher education" was identical with the higher education-based preparatory training of teachers, nowadays the term is increasingly associated with the life-long learning of teachers which is embedded in their daily practice.

Similar to many countries, school education in Hungary is seen by many stake-holders as ineffective and in need of reform. Until recently GDP-related spending on school education was rather low: in 2014, according to OECD data, Hungary spent 2.8% of its GDP on school education while the OECD average was 3.6%.[3] Since 2014, due to significant increases in teacher salaries, GDP-related spending has been

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[2] See the chart entitled "Percentage of decisions relating to public sector lower secondary education, taken at each level of government" in OECD (2004).

[3] See the OECD Education at a Glance database (http://dx.doi.org/10.1787/888933557869).

increasing but it is still below the OECD average. The performance of the school education system, as measured by the PISA survey of OECD, is relatively low both in terms of pupil achievement and equity outcomes.

One way to evaluate the overall performance of the Hungarian education system is to compare a number of key indicators with EU averages and the common EU-level educational benchmarks, as the EU is regularly monitoring the performance of the education systems of its member countries. According to one of the monitoring reports (European Commission, 2017), Hungary achieved the EU average and the benchmark value for eight performance areas but it was well below par in the rest (see Fig. 1). The EU evaluation was particularly critical of the low level of educational integration of the Roma ethnic minority. The EU monitoring report stressed that in the last PISA survey "Hungarian pupils performed significantly worse in problem-solving than pupils in other countries with a similar overall performance", suggesting that "teaching and the national curriculum are too focused on knowledge and not on its application".

Thanks mainly to a high number of development interventions supported by the European Union, Hungary has a relatively high number of schools with well-prepared teachers who can provide effective education in heterogeneous student groups but the upscaling of the most successful practices is rather low. There is a strong contrast between schools which have been actively involved in EU-funded development projects and those that have been left out. An interesting feature of education policy over the past decade has been the existence of two parallel, yet contrasting policies: while classical regulatory policies, based mainly on the use of legal instruments, were
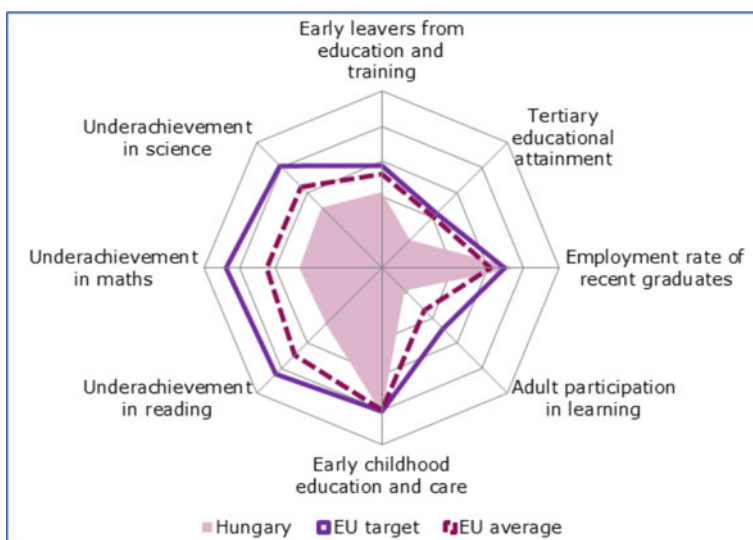
Fig. 1 Overall performance of the Hungarian education system against the common EU educational benchmarks. *Source* European Commission (2017)

pushing the system towards restoring tighter and more bureaucratic state control and traditional pedagogies, EU-funded development programs pushed it in another direction. The latter, in accordance with EU policy priorities, continued to promote local initiatives and innovative pedagogies for the development of twenty-first century competences.

2.2   From Teacher Education to Practice-Based Lifelong Teacher Learning

Teacher education in Hungary, in terms of policy thinking and policy action, has dramatically changed since the country joined the European Union in 2004. This is due largely to four key factors. First, the accession has accelerated higher education reform processes generated by the *Bologna Process* which strongly affected not only the structure but also the delivery modes of university-based initial teacher education (ITE). Second, the EU's "*continuum approach*"—considering initial teacher education, induction and continuous professional development (CPD) as the three interconnected parts of teachers' life-long learning—has strongly influenced policy thinking on teacher learning, blurring the earlier sharp borderlines between initial and "in-service" teacher education, and upgrading the value of workplace learning. Third, the use of *teacher competence frameworks* to guide teacher education has received significant policy support from the European level. Fourth, the use of *European development funds* for modernizing teacher education, and to make it more compatible with EU policies, has created strong incentives for all relevant actors to move towards the "European paradigm".

Prior to the massive participation of teachers in development programs with strong capacity-building components, teacher education was seen as higher education based, formal initial teacher training, and academics working in teacher training higher education institutions were seen as teacher educators. Until the end of the 1990s, the ITE system was fragmented: each ISCED level had its own, separated institutional subsystem. A major development in the nineties saw the integration of ISCED0- and ISCED1-level ITE colleges into universities and, later, the introduction of the two-cycle Bologna structure which led to the establishment of unified master-level ITE programs for ISCED2 and ISCED3 teachers. Following the 2010 parliamentary elections, this move towards integration was stopped and elements of the earlier fragmented structure were restored; this accompanied reforms aimed at re-centralizing the governance of the school system.

Years before its accession to the EU, Hungary was already making significant efforts to modernize the institutional frameworks of teacher learning. In the late nineties, for example, a demand-driven system of continuous teacher education was introduced with elements such as (1) facilitating the entry of private providers into the training market, (2) allocating resources to schools to buy training services, (3) a quality assurance system based on the national accreditation of competing training

programs, and (4) connecting the school-level purchase of training services to school-level development strategies. At the end of the nineties, a teacher competence framework, based on the competence needs of schools, was introduced to guide the design and evaluation of teacher education programs. Parallel to this, a system of school-level quality assurance models was established and promoted—it was based on the total quality management model imported from industry and emphasized school-level knowledge management and quality culture supporting collective learning.

The reform of the demand-driven and open CPD system in the middle of the nineties led to the emergence of new learning spaces for teachers and schools, characterized by high levels of diversity. This broke the earlier monopoly of teacher training universities and state agencies in the field of CDP and, in a few years, created an ample supply of learning opportunities with highly diverse content. By 2001, more than 40% of accredited CPD programs were offered by non-traditional providers, such as for-profit and non-profit companies, schools and private institutions s (OKI, 2003). Although, since then, many new training providers and programs have disappeared, there are still a number of non-traditional opportunities to learn, due mainly to the high variety of training components integrated into various targeted development programs.

The diversification of institutional opportunities has led to an enriched repertoire of channels teachers can use to gain professional support, knowledge and advice. Although participation in formal professional training has remained a major form of learning—especially for those teachers who need complex, specialised knowledge and expertise to perform complex pedagogical tasks—the role of informal, school-level and network-based knowledge generation and sharing has gained significant importance. A 2014 survey, covering more than 8,000 teachers, revealed that informal professional conversations with colleagues has remained by far the most important resource for teachers who need help with their daily professional problems, while their participation in active school-based professional groups, and other communities and networks designed for professional development, were also playing a role (see Fig. 2). Data from the survey shows an interesting negative correlation between the frequency of encountering professional problems that require some professional support and the participation rate in activities having the potential to provide such support. The same survey revealed that more than 90% of teachers see their school as a place where "teachers discuss regularly their problems and difficulties related to teaching and learning".

The richness of development interventions containing training components embedded into daily school practices has significantly strengthened practice-based or work-based approaches to teacher learning. There was a growing conviction that the optimal way for teachers to acquire the competences they need to effectively carry out their duties is not by attending formal training courses organized by remote training providers but through involvement in school-level development processes and mutual learning both within their own school and through professional networks that connect schools. Several surveys have demonstrated that horizontal knowledge-sharing is seen by teachers as the most influential form of learning. The key role of classroom observations—that is, when teachers observe their colleagues either
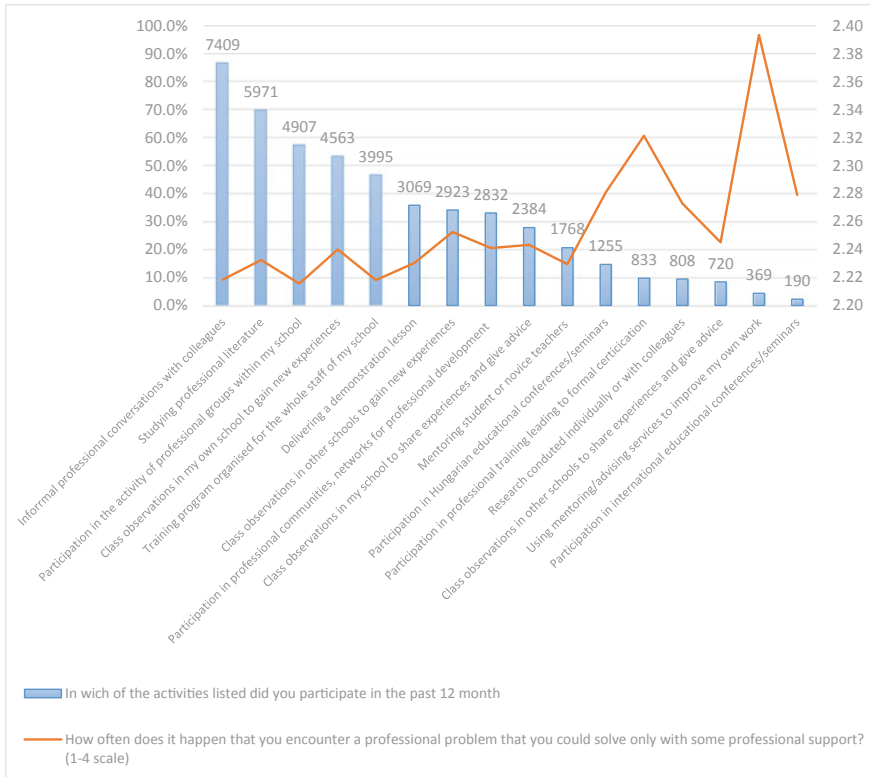
Fig. 2 Proportion of teachers taking part in various activities with the potential to supporting professional development and professional problem-solving. *Source* OFI 2013–2014 teacher survey[4] database. *Note* the figures above the bars indicate the number of cases

in their own school or in another, with the goal of either gaining new professional experience or sharing their own knowledge with other colleagues—is illustrated by the survey data presented in Fig. 2. This is confirmed also by international comparisons which show that Hungary is one of the countries where the frequency of mutual classroom observations has dramatically increased in recent years (see Fig. 3).

The increasing role of mentoring is also reflected in the data presented in Fig. 2. Over the past decade there has been a growing awareness of the importance of mentoring, and this has been supported by EU policies and EU-funded development interventions. Mentoring has become a key activity in the induction period of novice teachers as demonstrated also by international comparative surveys such as TALIS (Szivák & Tóth, 2020). A new teacher career system introduced in 2013 led, among others, to the creation of a career position called "master teacher". Master teachers have a variety of roles, and mentoring student teachers engaged in practical training or

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[4] A survey conducted by the Hungarian National Institute for Educational Research in 2013 and 2014 among school teachers.
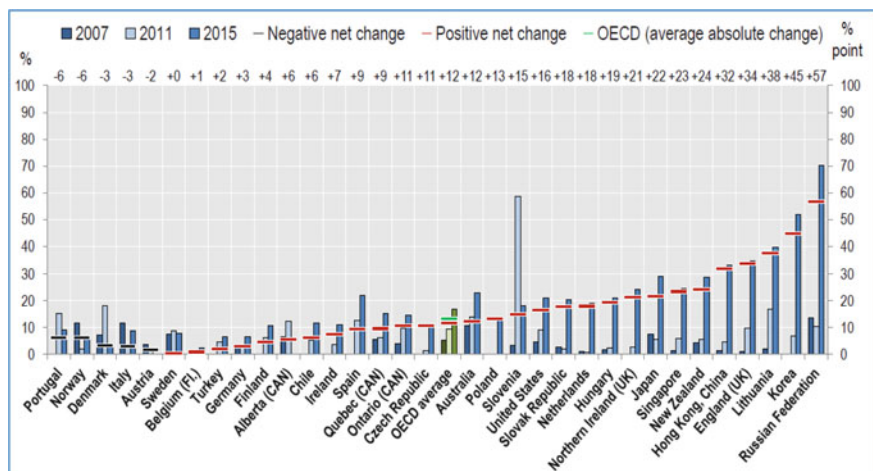
Fig. 3 Proportion of teachers who observe the class of another teacher in grade 4 (2007–2015). *Source* IEA data. OECD Education Innovation Strategy project leader's presentation (2017.11.16)

newly-employed novice teachers is one of them. In a survey regarding the creation of the new career system, more than 4,000 teachers (aspiring for the status of "master teacher" or "researcher teacher") were asked about their professional profile and activity structure. Nearly a fifth of them reported that they often or systematically mentored student teachers in ITE doing their practice, and 22.5% of them said they performed frequent or systematic mentoring of novice teachers newly employed in their schools. The survey also tested the suitability of those who aspired to become "master" or "researcher" teachers. They were asked to evaluate their own credentials (on a scale of 1–10) against six different professional roles—outstanding practitioner, innovator, leader, mentor, researcher teacher and teacher educator. Figure 4 shows the value of the six roles among those who do mentoring often or systematically.

The establishment of a teacher competence framework at the end of the nineties[5] has had a major impact on initial teacher education (Kotschy, 2012; Symeonidis, 2017a). The new competence requirements reflected the actual needs of schools, advancing the relevance of ITE programs. As they defined competences for the whole teaching profession at ISCED2 and ISCED3 levels, they were also narrowing the gaps between the different teacher categories. Furthermore, the original teacher competence framework for ITE had a major impact on the development of a new, broader competence framework for teacher evaluation and career promotion in 2013[6]:

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[5] See Government Decree 111/1997, VI. 27 on teacher qualification requirements. [Korm. rendelet a tanári képesítés követelményeiről] (online: http://www.art.pte.hu/sites/www.art.pte.hu/files/files/menuk/dokument/admin/szabalyzatok/torveny/111-1999.pdf).

[6] See Government Decree 326/2013, VIII. 30 on of promotion of teachers and on the implementation of the XXXIII. Act on the status of civil servants (year 1992) in public education institutions [Korm. rendelet a pedagógusok előmeneteli rendszeréről és a közalkalmazottak jogállásáról szóló 1992.
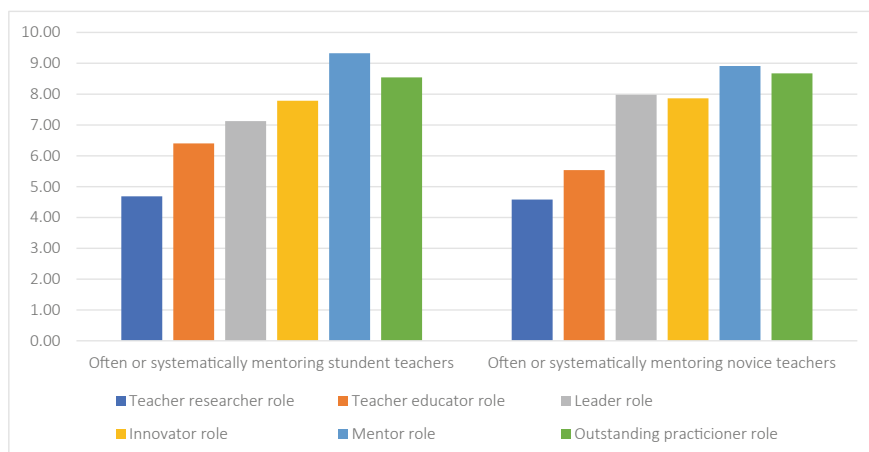
Fig. 4 Professional role definition of teachers who do frequent or systematic mentoring (1–10 scale). *Source* Mentor and research teacher pilot survey database, 2015

the categories of the latter are almost the same as those of the former, both reflecting a broad understanding of the actual tasks of teachers working in schools (see Table 1). As the two competence frameworks cover the entirety of the professional life of teachers, they also strengthen the "continuum" perspective, connecting ITE, induction and CPD.

The establishment of the teacher competence framework has been complemented by the introduction of a new assessment method based on student portfolios. In 2006, the final examination at the end of initial teacher education was changed and as a result student teachers had to present a portfolio consisting of documents that illustrate their experiences gained during their studies, especially those related with practicum. The same approach was later brought in for teacher evaluation serving career promotion. Since 2013 teachers envisaging a move to a higher level professional category (e.g. "master teacher") have to upload an e-portfolio containing documents illustrating their professional activities to a platform managed by the national authorities and this is used by evaluators during the evaluation process. Likewise, master teachers, as well as researcher teachers have to submit a multi-year individual research and development program that is regularly evaluated by external evaluators. These individual programs reflect particularly intensive innovation and learning activities among master teachers (Szivák & Pesti, 2020).

évi XXXIII. törvény köznevelési intézményekben történő végrehajtásáról] (online: https://net.jog tar.hu/jr/gen/hjegy_doc.cgi?docid=a1300326.kor).

Table 1 Teacher competence frameworks for ITE and teacher evaluation and career promotion

Teacher competence framework for ITE[7]	Teacher competence framework for teacher evaluation and career promotion
1. Developing the student's personality together with tailor-made treatment, based on individual needs	(d) Developing the student's personality together with tailor-made treatment, appropriate methodological preparation for the successful education of disadvantaged students; students with special needs or integration, learning and behavioural difficulties together with other students
2. Helping and improving the development of student groups and communities	(e) Helping and improving the development of student groups and communities, creation of opportunities, openness to different social and cultural diversity, integration activities, classroom activities
3. Having knowledge of the special methodology and the special subject	(a) Professional tasks, professional-scientific, specialized subject, curricular knowledge
4. Planning the pedagogical process	(b) Planning the pedagogical process and activities, and the self-reflection related to the implementation
5. Supporting, organizing and managing the learning process	(c) Supporting learning
6. Assessing pedagogical processes and the students	(f) Continuous assessment and analysis of pedagogical process and personality development of students
7. Communication, professional cooperation and career identity	(g) Communication and professional development, problem solving
8. Autonomy and responsibility	(h) Commitment and professional responsibility to professional development

Source Symeonidis, 2017b

Following EU accession, a high number of EU-funded development interventions—to support competence-based learning and social integration—were launched. Between 2004 and 2011, on average, more than 50 million euros was spent every year on EU-funded non-infrastructural education development programs, which was about two percent of the total national spending on school education.[8] All these interventions contained strong capacity-building components which supported the participation of teachers in various training programs and also in school-based teacher learning directly connected to the implementation of the development interventions. As expected and evidenced by research data (Fazekas, 2018), the impact of development interventions has largely been determined by the teacher learning components of these interventions, and they produced a deeper and more sustained impact

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[7] Amended in 2013.

[8] Calculation by the author presented at a national education conference in 2013.
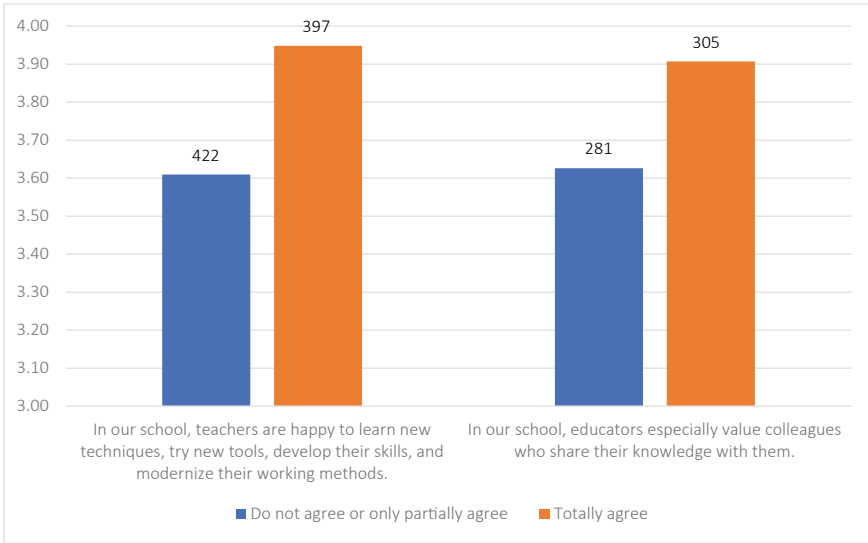
Fig. 5 Impact of development interventions aimed at curriculum improvement in schools characterized by different teacher learning and knowledge-sharing practices. *Note* The scale shows the value of a school level composite indicator of "deep and lasting impact" of development interventions (min.: 1; max.: 6). Differences in both cases are significant (p < 0.01). Number of cases is indicated above the bars. *Source* ImpAla database (calculations by the author)

in schools where teachers were eager to learn and where knowledge-sharing was especially appreciated (see Fig. 5).

Development interventions were supported in the second half of the 2000s by a new institutional form called "regional network coordination agencies". The mandate of these agencies—typically private consultancies—was to establish connections between schools participating in the development programs and to support knowledge-sharing. They organised regular regional meetings for schools and teachers to present the results of their development work and to learn from each other. Inter-school horizontal learning was seen as a major driver of school-based curriculum development induced by the development interventions: most of them deliberately supported adaptive implementation or even prescribing the creation of original school-level curriculum solutions.

Some of the development interventions were targeted at higher education and specifically at the ITE subsystem. One of these aimed to establish school networks around teacher training universities. This has fostered school-university partnerships with the hope of increasing the involvement of schools in teacher education (Baráth et al., 2020). Several development interventions were aimed at establishing "reference" or "mentoring" schools. Schools looking to obtain this "title" had to demonstrate a capacity that they could produce effective, innovative teaching practices, as well as a capacity to share the practices with other schools. In the late 2000s, several national platforms for sharing "best practices" were created: in one of them more than

4,800 standard "best practice" descriptions were made publicly available to schools participating in a development program which formally required the initiation of school-based innovations (Fazekas, Halász, Horváth, & Sági, 2018).

According to data from the state agency maintaining public schools, 17% of the 1,545 state-run schools in Hungary, which benefited up to 2015 from EU-funded development, have participated in the development intervention supporting the creation of "reference institutions". This very high proportion shows the capacity and willingness of schools to share good practices, that is, to teach other schools and their teachers. One of the largest teacher training universities in the south of the country has created a network of schools committed to becoming "learning organisations". More than three-quarters of the schools participating in this project and its related survey (N = 76) affirmed they make use of other schools' experiences; while 62% of the schools revealed they were members of institutionalised networks which offered opportunities for knowledge sharing.[9]

As mentioned earlier, the EU-funded development programs have two major goals: competence-based education and social integration, the latter with a special focus on supporting the educational integration of children belonging to the Roma ethnic minority and on the inclusive education of children with special educational needs (SEN). One of the action lines of supporting inclusive education was the transformation of SEN schools into pedagogical support centres called EGYMI.[10] A significant part of the capacities of these schools has been transferred from the direct provision of care for SEN children to providing support to mainstream schools and developing inclusive practices. A large proportion of the staff at these institutions became so-called "travelling SEN teachers" who started visiting mainstream schools and transferring SEN pedagogical knowledge to their teachers.

Those who designed the system of EU-funded development interventions deliberately included components related to teacher learning and knowledge-sharing in these interventions, and followed two major principles: one the one hand, they believed that competence-based and inclusive teaching requires major cognitive, attitudinal and behavioural changes from teachers and schools; while, on the other, they had a strong belief in the power of horizontal learning and networking.

It is noteworthy that using networks to support teacher learning is not exclusive to EU-funded development programs. Networks promoting innovative teaching approaches have long been used by various movements of "alternative" pedagogies and new knowledge-sharing networks are continuously being created and operated by groups of teachers committed to specific pedagogical approaches. One of the most successful schools in Hungary, selected by the OECD as a case for its global inventory of innovative learning environments,[11] and one which applied particularly effective inclusive pedagogical methods, created in the summer of 2018 a knowledge-sharing

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[9] Data for the survey conducted in the "*Mentorháló*" research project of the University of Szeged (Anka et al., 2015).

[10] EGYMI is an abbreviation which stands for "Unified Methodological Institution".

[11] See the "Universe Cases" webpage of the Innovative Learning Environments (ILE) program of CERI (http://www.oecd.org/edu/ceri/universecases.htm) and also the case description at

network which later comprised of more than 90 "follower schools". In cooperation with a regional university, the school has also created a teacher education methodological centre.[12] In this network, not only teachers teaching teachers and schools teaching schools is a daily norm, but also there are some very innovative forms of teacher learning (such as, for example, placing teachers into student roles and using students to support the learning of teachers).

3 Teacher Education, Teacher Learning and Innovation

This study looks at teacher learning from the perspective of innovation. It explores how teacher learning supports innovation processes potentially leading to higher school and pupil performance in Hungary. Its departure point is that without innovation there is no real chance to improve performance, and innovation is not possible without effective teacher learning. The aim of this section is to present, on the basis of recent empirical research, how innovation processes are shaping education at school and at classroom level in Hungary and what role teacher learning is ultimately playing. But, as the new relationship between innovation and teacher learning in Hungary has been directly and strongly influenced by the changing European and global contexts, there is a need to look first at some relevant developments.

3.1 The Global and European Context

There's growing recognition globally that educational outcomes are largely determined by the quality of teaching. As Darling-Hammond and her colleagues (2017) stated: "Research into educational performance around the globe increasingly points to the role of a strong teaching workforce in achieving a high-performing system" (p. 5). Improving the quality of the EU's teacher labour force has long been at the top of the bloc's education policy agenda (Stéger, 2014; Symeonidis, 2017a). Over the past 15 years, the European Commission has been supporting a number of specific activities related to teacher learning and, through this, the emergence of a common European thinking on how teacher learning can be improved. According to one of the Commission's most relevant reports, the aim of teacher learning is to enable teachers to become "adaptive experts" and "to be as effective as possible in supporting the learning of students in specific contexts" (European Commission, 2013). Consecutive generations of "working groups"[13] —composed of competent administrative

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http://www.oecd.org/edu/ceri/49756250.pdf. For a more detailed analysis see Rapošová and Medľová (2016).

[12] See more about this in Halász (2016).

[13] See the website "*Working Group on Schools*" of the European Commission (https://ec.europa.eu/education/policy/strategic-framework/expert-groups/schools_hu).

leaders and experts delegated by member states—produced a number of key reports which have become the basis of the emerging common European approach to teacher learning and teacher education.

The documents presented and discussed at the closing conference[14] of the final working group (operational between 2016 and 2018) proposed a policy approach which was very close to the approach behind the processes presented in the previous section (about the shift from traditional teacher education to practice-based lifelong teacher learning in Hungary). As the synthesis document of the conference stressed, there is a need to "promote teacher collaboration, autonomy and distributed leadership within professional learning communities" and networks play a crucial role in the "exchange of knowledge, as well as skills and resources" (European Commission, 2018). A major underlying assumption is that instead of one-way, linear knowledge imparting often traditional thinking about teacher education schools as intelligent learning organisations producing and sharing knowledge and connected to each other in clusters and partnerships should play a key role in supporting teacher learning.

One of the implications of the shift from classical, university-based formal teacher education towards practice-based continuous learning is the changing relationship between professional *learning* and professional *knowledge*; there was also a new connection between professional *knowledge* and professional *practice* to consider. Professional learning is increasingly seen as a collective creation of new knowledge adapted to specific contexts. Procedural knowledge becomes in many contexts more important than declarative knowledge. The dynamics between exploring and sharing tacit knowledge and conveying and storing explicit knowledge becomes a key aspect of professional learning, and supporting this dynamic becomes the target of school-level knowledge management processes. In this context, teacher learning, as a "*collaborative, action-oriented, and co-designed*" activity becomes a fundamental component of educational improvement (Paniagua & Istance, 2018), and teacher education is increasingly seen as the "*governance of teacher knowledge*" (Guerriero, 2017). In this approach, teacher education and teacher learning cannot be detached from innovation in the continuous search to improve educational practices.

This is in accordance with what modern research on innovation describes as the DUI (*Doing/Using/Interacting*) model of innovation, which is in contrast to the classical STI (*Science, Technology and Innovation*) model. In the former the "interactive learning engaging diverse agents" (Lundvall, 2013) play a key role and learning becomes the most important component of the production of effective practices. This is also in accordance with what modern school development theories hypothesize about the role of professional learning communities in school improvement and the way they conceptualise teacher knowledge and teacher learning. The way we think about teacher education has been influenced to a great extent by our better

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[14] See the conference website "*Inspiring change in school education*" here: https://ec.europa.eu/education/news/inspiring-change-school-education---conference-discusses-european-ideas-better-learning_hu.

understanding of the nature of teachers' professional knowledge and of the relationship between teacher knowledge, teacher learning and innovation, or the development activities of teachers. Teachers' professional knowledge is seen increasingly as a combination of different components, such as, for example, "knowledge-for-practice", "knowledge-in-practice" and "knowledge-of-practice" (Cochran-Smith & Lytle, 1999); and not as a static entity that can be "transmitted", "imparted" or "conveyed" but as something dynamic in a continuous process of construction and re-construction (Révai & Guerriero, 2017). This has major implications for teacher education and what it is supposed to support: teacher learning.

3.2   The Emerging Landscape of Teacher Learning and Innovation

In the section on the shift from classical university-based teacher education to practice-based life-long teacher learning, a number of processes will be presented at the level of educational policy and school practice in Hungary since the early nineties. This section elaborates on teacher learning and innovation in the country by presenting relevant findings from recent empirical research.

Teacher learning and innovation are strongly connected. Student teachers and novice teachers are only a small fraction of the teaching labour force and their learning is different from the learning of teachers with several years of practice. While the members of the former group, when acquiring new teaching skills and learning how to use new teaching resources, can contrast what they learn against their experiences as students observing their own teachers, those who belong to the latter group are constantly restructuring their knowledge. To a certain degree, this can also apply to the former group when what they learn is far from what they had experienced themselves as students.

Integrating the use of ICT into teaching, or learning the application of project-based teaching, for example, is generally more difficult for those experienced teachers who have to replace their established routines by new ones. This is what typically happens when new curricula stressing twenty-first century skills are introduced, when teachers participate in development interventions challenging the existing curriculum, or when they themselves are experimenting with new ways of organising student learning. In these cases, teacher learning is closer to what we call expansive or innovative learning, in contrast to reproductive or adaptive learning (Engeström et al., 1999; Engeström, 2001; Ellström, 2010). While the latter form of learning is typically reproducing what others do and is aimed at acquiring standard, codified knowledge, the former is a more complex, cognitive and emotional journey into unknown areas involving more elements of discovery and characterized by higher levels of uncertainty.

Over the past 15 years, thousands of teachers involved in development interventions have made their expansive or innovative learning journey in Hungary. Formal,

non-formal and informal learning events built into these interventions have become the most important aspects of teacher learning, more important than initial teacher education. According to data from our education sector innovation survey,[15] more than 50% of schools (including kindergartens) have participated in "national/regional development programs aimed at improving the effectiveness of teaching and learning" and a similar proportion took part in programs which required that they "develop new solutions themselves". Data from the same survey shows that about 70% of individual teachers were involved in programs where they had to participate in training and almost one-third of them participated in programs in which they themselves had to "create new curricula, teaching tools and pedagogical methods". This data also shows that besides the traditional forms of teacher education a parallel system of teacher learning has emerged where learning is embedded into school development and is directly connected to the daily professional activities of teachers.

The learning behaviours and attitudes of teachers participating in the various development programs have significantly influenced the impact of these programs on their professional practices. Data from a survey on the impact of development interventions suggests that a) the most effective forms of learning have been delivering or observing demonstration lessons, and b) learning seems to be less effective when carried out independently (see Fig. 6). Qualitative evidence from case studies demonstrates the powerful potential of collective learning in professional learning communities or communities of practice within the teaching staff of schools which participated in development interventions creating knowledge-sharing networks and partnerships.

Data from our innovation surveys shows very strong connections between the learning activities of teachers and their innovation activities. In these surveys innovation activities have been measured by various indicators: most of them indicate the frequency of certain specific activities based on self-reporting, such as, for example, inventing new solutions leading to more effective pedagogical work. From more than 3,200 teachers participating in one of our surveys, only 16% of them said they had never invented a pedagogical solution which significantly improved the effectiveness of their work, while more than 40% said they had invented such solutions "often" or "very often".

As Fig. 7 shows, innovation activities (measured by the frequency of inventing new solutions that significantly improve the work of teachers) are strongly correlated with various learning activities (measured by the frequency of participating in various activities offering formal, non-formal or informal learning opportunities). The activities listed in Fig. 7 also illustrate the high level of diversity of learning opportunities ranging from participating in discussions about teaching within his/her own school to sharing educational solutions with his/her colleagues and receiving new ideas from partners, such as parents, NGOs, employers or even students.

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[15] The "Innova" research project: see Footnote 1.
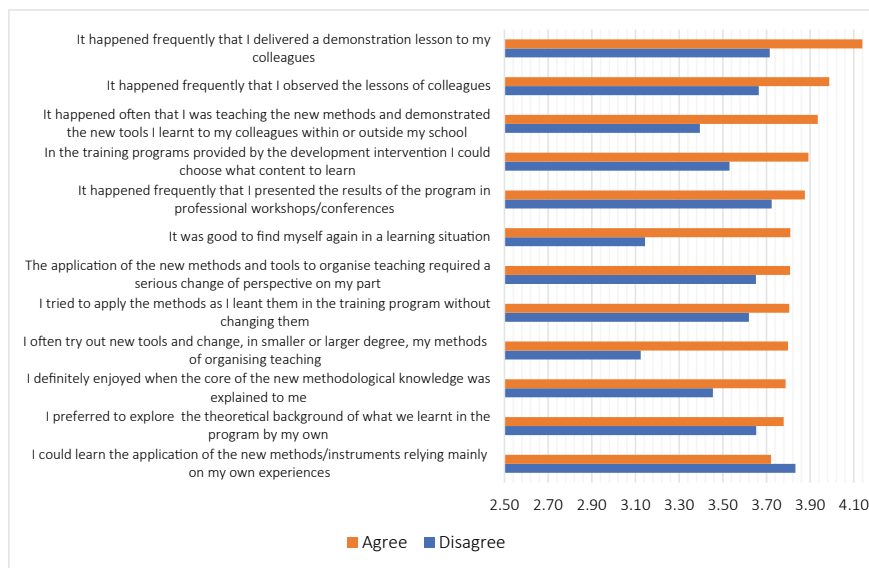
Fig. 6 Impact of development interventions aimed at curriculum improvement on individual teachers in function of various elements of their reported behaviour and attitudes related to learning. *Note* The scale shows the value of an individual composite indicator of the "deep and lasting impact" of development interventions (min.: 0; max.: 7). Differences larger than 0.15 are typically significant. Respondents were asked whether they agree or disagree with the statements listed in the figure (in some cases they had to indicate the frequency of the occurrence of listed events). The data refers to development interventions implemented between 2004 and 2013. *Source* ImpAla database (calculations by the author)

The strong connection between the learning and innovation activities of teachers has also been demonstrated by a more recent survey on teacher learning.[16] In this survey a composite indicator of teacher learning was calculated, based on more than thirty various forms of learning, mostly non-formal and informal, and typically embedded in daily activities and occurring at the workplace. Figure 8 shows the value of this indicator in function of the innovation activity of responding teachers.

Teacher *education* is traditionally seen as an activity targeted at individuals, whereas teacher *learning* has a stronger collective dimension. In other words, when teachers are *educated* they typically are seen as individuals but when they *learn* they are more often seen as members of learning communities. The capacity development components of the development interventions presented in this paper have typically targeted at teacher communities rather than individual teachers. As shown in Fig. 5, the impact of development interventions aimed at curriculum improvement is stronger in schools characterised by advanced teacher learning and knowledge-sharing practices. According to data from a survey conducted in the project mentioned

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[16] Research project entitled "Models of Teacher Learning" (MoTeL). See the website of the project here: https://nevtud.ppk.elte.hu/en/projects/motel.
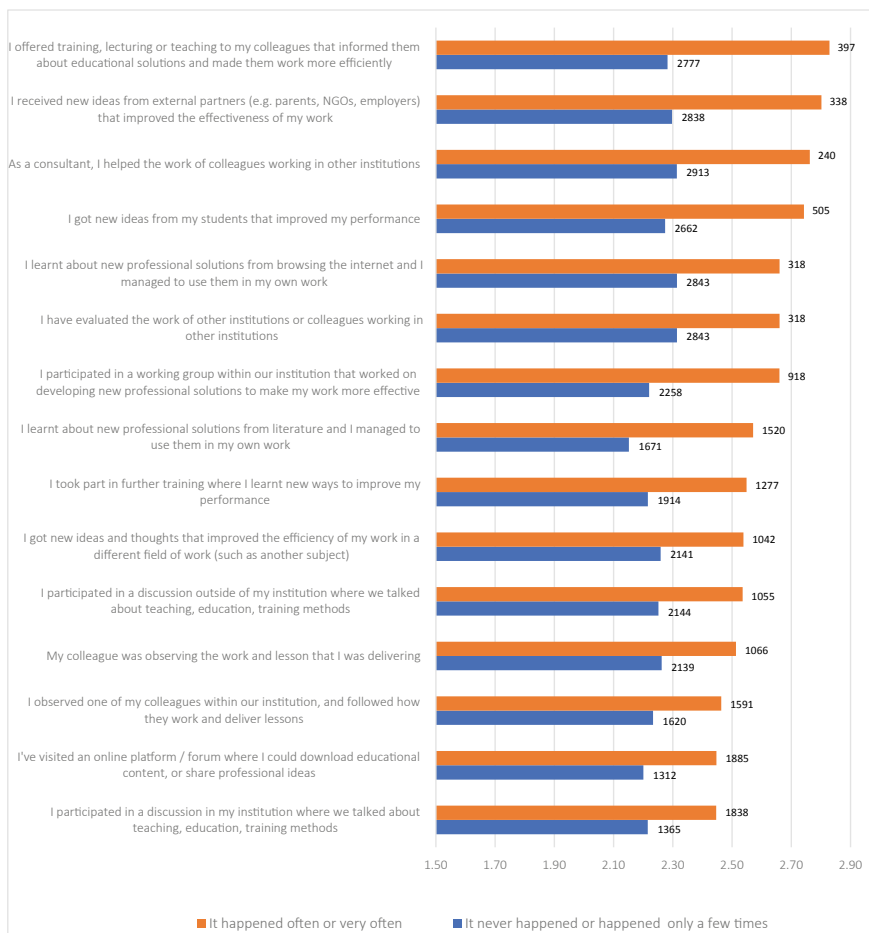
Fig. 7 Level of innovation activity in function of different forms of learning among teachers in Hungarian K-12 schools. *Note* The scale shows the average value of innovation activity measured by a scale based on the variable "*Some of the new solutions I invented significantly improved the efficiency of my work*" (1 = "*This has never happened*"; 2 = "*This happened a few times*"; 3 = "*This happened often*"; 4 = "*This happened very often*"). All differences are statistically significant. The number of cases is indicated besides the bars. Data was collected in May and June, 2018. *Source* Innova database (calculations by the author)

earlier—which aimed to create a network of schools as learning organisations in the southern part of Hungary[17]—teacher learning supported development interventions more effectively when the key features of learning organisations could be observed. One of the questions used to measure the level of a school's progression towards a learning organisation was to what extent were teachers seen by school leaders as

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[17] See Footnote 9.
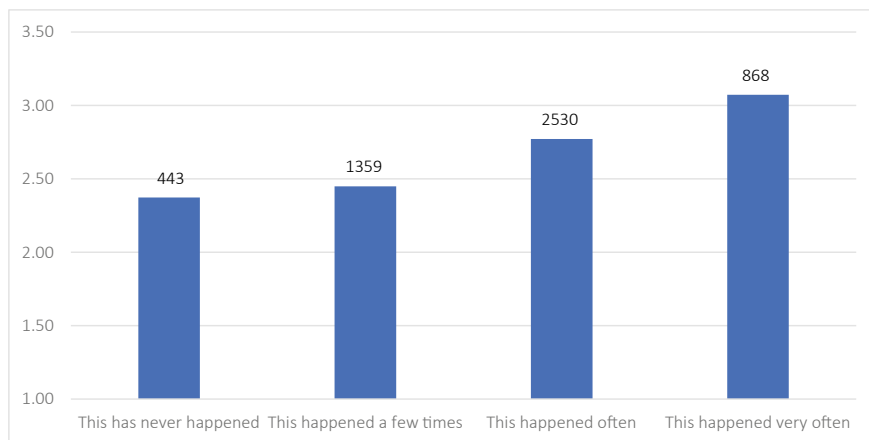
Fig. 8 The value of the composite teacher learning indicator in function of responses to the question "How often did it happen to you that you developed or adapted new solutions to improve the effectiveness of your teaching practice?". *Note* The scale shows the average value of 31 variables related with teacher learning. The minimum value is 1, the maximum is 5. Data was collected in late 2020 and early 2021 on a sample representing Hungarian school teachers. The numbers above the bars show the number of respondents. The differences between all values are statistically significant (p < 0.05). *Source* MoTeL research database (calculations by the author)

"adult learners being capable of self-regulation". In those schools where the value of this indicator was higher than the average, teachers were using more student-centred pedagogical methods for competence development. For example, the proportion of teachers using project-based learning was, on average, about four times higher in schools where teachers reported that their leaders were seeing them as self-regulated adult learners. In the schools which did *not* participate in development programs, this correlation was even higher than in those that were involved in development programs which provided training for project-based teaching techniques.

The shift from teacher education to teacher learning, embedded in daily practice, has been accompanied by a parallel shift from individual to collective learning. Reports and public presentations on the implementation of EU-funded development interventions have been full of images showing teachers working in small groups and learning collectively (see Fig. 9 for an example). In many cases, cooperative project work in the framework of development interventions is not formally defined as learning but a closer look at how teacher-teams work in these project environments shows the typical signs of intensive collective learning.

According to data from the learning organisation survey mentioned earlier, more than two-thirds of teachers believe that the practice of sharing new knowledge and practices learnt in external training programs is characteristic of their school. A similar proportion was reported on the practice of teachers collectively discussing individual cases related to specific students. In many schools, teacher learning appears in the form of explicit or implicit knowledge management often supported by digital

Fig. 9 Teachers working together in a project aimed at upscaling a successful pedagogical model in the framework of an EU-funded development intervention[18]

technology. Again, in the same survey, teachers reported the existence of a digital database supporting internal knowledge-sharing in more than 50% of schools.

In 2015, under the framework of an EU-funded development project, one of Hungary's leading teacher training universities elaborated an innovation strategy for education sector which focused on school- and system-level knowledge management with a strong emphasis on various forms of collective teacher learning, especially through knowledge-sharing networks and school-university partnerships (Balázs et al., 2015). The role of knowledge-sharing networks supporting innovation can also be illustrated by data from our innovation survey. As Fig. 10 shows, teachers who are members of informal communities, where they can discuss issues directly related to their daily work, undertake a significantly higher number of innovation activities than that of their colleagues who are not members of such communities.

Both the example of EGYMIs[19] and the aforementioned innovative school,[20] show that the development of some schools into "mentoring institutions", as suggested by the education sector innovation strategy, became a reality in the past 15 years. The activity profile of these schools has been gradually extended to become partners of higher education institutions for traditional teacher training, providing new learning opportunities for teachers. Teachers in these institutions often teach not just pupils but also other teachers.

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[18] Source: the website of the project "Complex Program of Base" [Komplex alapprogram] (https://www.komplexalapprogram.hu/Felsos-tanari-kezikonyv-munkacsoport-vezetoi-meg beszeles-es-DFHT-workshop.php).

[19] See Footnote 10.

[20] See Footnote 11.
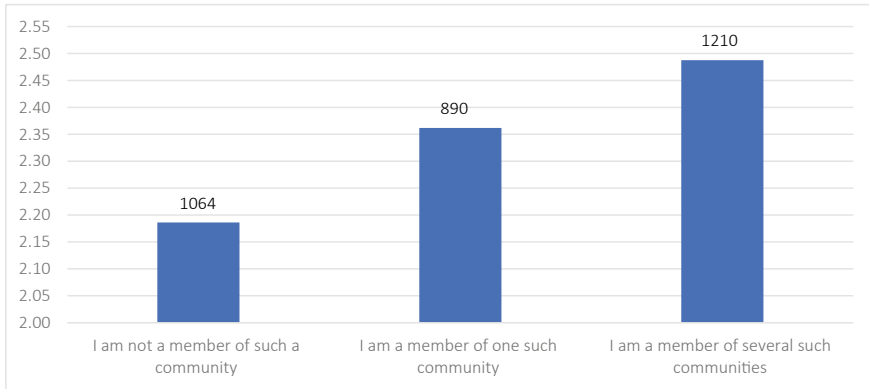
Fig. 10 Level of innovation activity in function of participation in informal communities supporting learning among teachers of Hungarian K-12 schools. *Note* For the scale of innovation activity see the note of Figure. The question about membership was: "Do you belong to an informal community (e.g. a professional circle of friends, an online community) where you regularly talk about issues that are directly related to your daily work?" All differences are statistically significant. The number of cases is indicated above the bars. Data was collected in May and June, 2018. *Source* Innova database (calculations by the author)

4   Conclusion

Since the mid-2000s, learning opportunities, created by massive development interventions, has reached a large number of schools, and teachers have been able to fundamentally transform the landscape of teacher learning in Hungary. Teaching is increasingly becoming a learning profession and a growing number of schools have developed capacities in pedagogical knowledge creation, sharing and application. Many schools now have a high proportion of teachers who are active members of communities of practice which enhances continuous professional learning.

EU-funded development programs have spurred innovation processes in schools. Many of these programs require participating schools to support inclusive education and to create new pedagogical solutions aimed at more effective competence development processes. Almost all programs contain substantial capacity development components which provide new learning opportunities for teachers or help them to share their own professional knowledge with other teachers. This has created strong links between innovation and teacher learning: the latter serving the former and the former stimulating the latter.

Since the implementation of the EU-funded development programs have been accompanied by intensive monitoring and research, the emergence of new forms of teacher learning, embedded into the daily practices of schools and supported by various forms of active horizontal knowledge sharing, has been well documented. Data (both quantitative and qualitative) about these processes is abundant.

Evidence shows that teacher learning, innovation and knowledge management in Hungary, supported by EU-funded development interventions, has been substantially interwoven during the past 10–15 years. This has led to a shift from the traditional forms of higher education-based teacher education to a more comprehensive form of teacher learning where induction and continuous professional development have become as much, if not more important forms of equipping teachers with skills and competences needed for effective teaching than classical initial teacher education. These developments seem to be in harmony with European and global trends supporting advanced forms of teacher learning and stronger links between professional knowledge and teaching practices.

Connecting teacher learning, innovation and knowledge management has led to the emergence of an environment in which teacher learning is better connected to the daily challenges teachers face, and which supports efforts to drive teaching towards a more competence- and inclusion-oriented teaching paradigm. This has been pushing traditional ITE and CPD providers (especially higher education institutions) to modify their institutional practices so the content they offer and their forms of delivery become more relevant for schools.

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Teacher Learning and Development in Singapore: A Career-Long Perspective

Oon-Seng Tan and Ee-Ling Low

1 Introduction

Teaching is a highly respected profession in Singapore. Large sums of investments are poured into preparing pre-service teachers at the sole teacher education institute, the National Institute of Education (NIE), which resides within a research-intensive university, the Nanyang Technological University, and continuing professional development (PD) of teachers. Pre-service teachers are adequately prepared and equipped with the values, skills and knowledge needed to teach in future-oriented classrooms, ensuring that teachers' competencies are relevant with the era that the younger generation will enter.

Underpinning the pre-service and in-service teacher learning continuum are a host of frameworks and policies that were carefully developed by NIE, the Ministry of Education (MOE), the Academy of Singapore Teachers (AST) and the schools. Examples include the teacher preparation philosophy, code of ethics, PD frameworks. These frameworks and policies work together to ensure that pre-service and in-service teachers are given the right support at every stage of their career.

Teachers' career aspirations are realised through different career tracks, with the option to switch between tracks at any time in their career. As can be expected for a highly regarded profession, teachers in Singapore are well remunerated and given appropriate benefits to ensure a harmonious work–life balance.

O.-S. Tan · E.-L. Low (✉)
National Institute of Education, Nanyang Technological University, Singapore, Singapore
e-mail: eeling.low@nie.edu.sg

O.-S. Tan
e-mail: oonseng.tan@nie.edu.sg

Singapore takes a career-long perspective when it comes to growing its teaching fraternity. Viewing teachers as nation-builders and teaching to be of the highest calling, Singapore is constantly reviewing and evolving its teacher education and professional development programmes and policies to ensure that teachers are able to confront with the changing demands of today and tomorrow's schools and classrooms.

2   Being a Teacher

Teachers in Singapore are highly regarded by its citizens and teaching is seen as a profession. This perception of teachers has been nurtured through the recruitment of highly qualified teacher applicants who are selected and given the appropriate pre-service teacher education pathway that will equip them with right competencies, values, skills and knowledge.

2.1   Social Perception of Teachers in Singapore

Singaporeans have an extremely high regard for teachers and the teaching profession in general. According to the Varkey GEMS Foundation 2013 Global Teacher Status Index, an international survey of teachers' status in 21 countries that measured the general attitudes towards the education system and perception of teachers, Singapore ranked seventh, ahead of Finland, Britain and the US (Cheok, 2013). In terms of citizens' confidence in their national education system, Singapore ranked third, next to Finland and Switzerland; more than 45% of Singaporeans felt that students respected their teachers (Kok, 2013). Teachers in Singapore enjoyed a higher status than teachers of every other country surveyed in Europe, except Greece, and the US (Dolton, 2013). Moreover, Singaporeans polled sixth along with Portugal in terms of trusting teachers to deliver a good education for the young) and only 20% of Singaporeans would not encourage their children to become teachers (Cheok, 2013).

The investment in teachers shows how the society and government value the teaching profession. Teachers in Singapore are all civil servants of the MOE. In the same 2013 Varkey survey, beginning teachers in Singapore had the highest average salary of all the countries surveyed, at US$45,755 (S$57,000) annually, in contrast to countries such as Finland where the average pay was US$28,780 (Kok, 2013), the US where it was US$44,917 and South Korea where it was US$43,874 (Cheok, 2013). In reality, Singaporeans thought that their teachers were earning less than they actually deserve.

Teachers in Singapore typically enter into the education field for altruistic reasons, particularly, their love for and deep interest in teaching (Low et al., 2011). The intangible rewards of teaching also play a role, for instance, in viewing teaching as a calling and the desire to make a difference in young learners. Others enter into

the profession because they had positive experiences when they were in school and wanted to emulate the teachers who impacted their lives.

Perceptions of teachers' about their own profession from the Teaching and Learning International Survey (TALIS; Organisation for Economic Co-operation and Development [OECD], 2014) showed that 88% of teachers in Singapore are satisfied with their job in comparison to the TALIS average of 32%, and given the chance to decide again, 82% of teachers would still choose to become a teacher in comparison to the TALIS average of 78%. Furthermore, 68% of teachers believe that the teaching profession is valued in Singapore, much higher than the TALIS average of 31% in absolute terms.

In Singapore, "teaching has been given status, teachers are treated well, paid well and so much professional development has gone behind them" (PISA, 2017). It is believed that Singapore valued their teachers and the status of the profession as a result of it being intellectually attractive (ibid).

2.2 Teacher Qualifications in Singapore

Attracting better quality candidates into the teaching professions is one way to increase the status of the profession. The best graduates would not want to join a profession that is seen as second-best (Dolton, 2013). Therefore, a teaching profession filled with the most talented people will naturally improve its status in the eyes of the people.

Potential teachers apply for a teaching position with MOE and the majority of them, if not all, are placed in a school first for a compulsory teaching stint for a school experience that typically lasts several weeks or for contract teaching that lasts from several months to a year in order to experience the realities in classrooms. This mitigates pre-conceived unrealistic notions that an applicant may have. During this time, an applicant and MOE through the school are able to evaluate if teaching is suitable for him or her. MOE requires the applicant to first have the aptitude and passion for teaching as well as strong personal attributes and values for a teacher. In terms of academic qualifications, applicants should possess either a university degree, a polytechnic diploma, two "A"/H2 Level passes and two "AO"/H1 Level passes (including General Paper or KI), or an International Baccalaureate (IB) Diploma.

After the compulsory teaching stint or contract teaching period, the applicants go through a strict screening process organized by MOE including an interview. Selected applicants undergo pre-service teacher education at NIE through one of the following programmes in line with their prior academic qualification:

- 16-month Postgraduate Diploma in Education (PGDE) and the 2-year PGDE (Physical Education) for degree holders
- Bachelor of Arts (BA)/Bachelor of Science (BSc) (Education)
- Diploma in Education for "A" level/Diploma holders.

NIE is the only teacher certification agency in Singapore, thus, all candidates are required to obtain an NIE certification before they can become full-fledged teachers in the schools under MOE.

As teachers in Singapore are civil servants, MOE and the Public Service Commission also offer a wide array of scholarships and awards that target students who are obtaining their post-secondary qualifications (e.g., "A" level, IB, Polytechnic Diploma) and undergraduates pursuing courses at local universities. Successful applicants are sent to top universities, and MOE covers their tuition fees for regular degrees and also their PGDE teacher preparation fees at NIE (MOE, 2017b). In 2014, MOE introduced the premier NTU-NIE Teaching Scholars Programme (TSP) to attract the best and brightest of the "A" level and polytechnic students to pursue the rigorous 4-year Bachelor of Arts/Science (Education) programmes. TSP aims to "prepare tomorrow's leaders of education who possess the passion and aspiration to inspire, nurture and lead our next generation" (NIE, n.d.a).

3   Pre-service Teacher Preparation

Pre-service teacher preparation aims to provide student teachers with a solid theoretical foundation and extensive practical clinical experience by leveraging its strong partnerships with key stakeholders, MOE and schools. This is realized through various NIE programmes underpinned by a host of models and frameworks as well as a comprehensive curriculum structure.

3.1   Teacher Education Model for the 21st Century (TE^{21})

The overarching philosophy for teacher education at NIE is expressed in the Teacher Education Model for the 21st Century (TE^{21}). The TE^{21} Model underscores the conception, delivery and evaluation of NIE's programmes that prepare students teachers to become teaching professionals who can tackle the challenges and demands of the future (NIE, 2009). The goal of the TE^{21} Model is to prepare "*autonomous thinking teachers* for the 21st century through *a new paradigm of teacher education*, supported by *a robust partnership with stakeholders* and *a strong theory–practice link in the programmes*" (Tan & Liu, 2014, p. 140). It represents NIE's effort to stay relevant and responsive to the increasingly volatile and complex world of the future, aligned with Singapore's vision of teaching and learning that is student-centric and values-driven (Heng, 2011).

3.2 V³SK Framework

Working in tandem with the TE²¹ Model is the V³SK Framework, which delineates the values (V), skills (S) and knowledge (K) required of a future-oriented teaching professional (Fig. 1). A strong belief of NIE is that the learner is central to duty of teachers and teacher education, and this is reflected in the V³SK Framework (2013). It converges on three values-focused paradigms: (i) Learner-centredness; (ii) A Strong Sense of Teacher Identity; and (iii) Service to the Profession and Community (NIE, 2009). The skills and knowledge spelt out in this model are the competencies that teachers in the globalised world need to bring about 21st-century learning outcomes in line with MOE's desired student outcomes (Goodwin et al., 2017).

The V³SK Model undergirds all programmes at NIE, "emphasised consistently, holistically and methodologically throughout the programmes" (Tan & Liu, 2014, p. 143). The first values-focused paradigm, Learner-centredness, emphasises that the learner is at the heart of all teaching and learning endeavours, and teachers should be aware of learners' development and diversity, believe that all learners can learn, and bring out the best in each student (NIE, 2009). Hence, student teachers are exposed to key concepts on learners and learning, and are expected to reflect on how they consider diverse learner profiles in order to facilitate and optimise learning for all (Lee & Low, 2014). The second values-focused paradigm, a Strong Sense of Teacher Identity, refers to student teachers having high standards, a strong drive and a strong sense
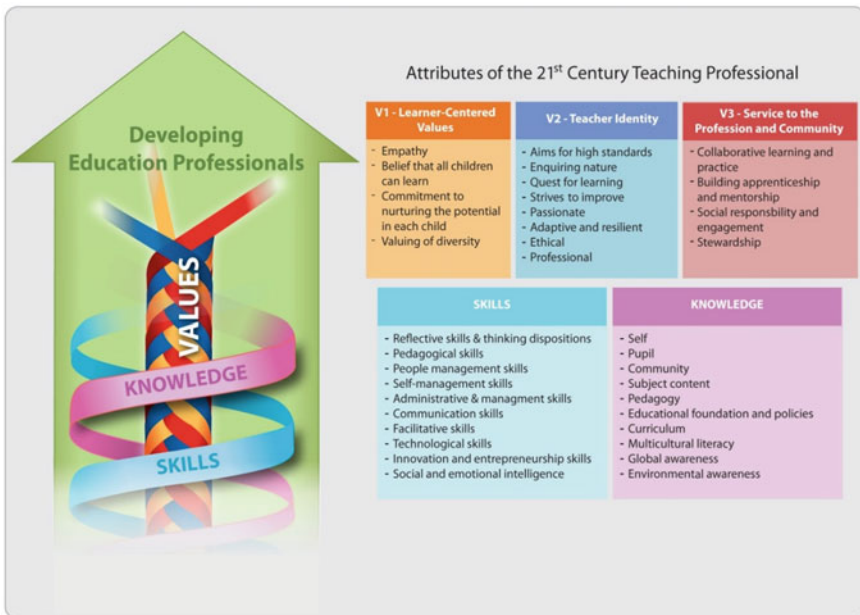
Fig. 1 The V³SK model. *Source* NIE (2009)

of professional identity in order to uphold the professionalism and integrity of the teaching fraternity (Lee & Low, 2014). The third values-focused paradigm, Service to the Profession and Community, looks to the commitment of student teachers to the profession by way of stewardship, mentoring, collaborative learning and social responsibility to prepare next generation of teachers in the fraternity (Lee & Low, 2014).

The skills component of the TE[21] Model highlights essential competencies such as reflection, thinking dispositions, pedagogical skills, people- and self-management, communication and facilitation, technology, innovation and entrepreneurship, and social and emotional skills (Lim & Huan, 2017). The knowledge component include knowledge of oneself, the students, the community, the subject content, curriculum and pedagogy, educational foundation and policies, global and environment awareness, and multicultural literacies (Lim & Huan, 2017).

3.3 Graduand Teacher Competencies (GTCs) Framework

Alongside the V[3]SK Framework is the articulation of the Graduand Teacher Competencies (GTCs) Framework which outlines the professional standards, benchmarks and desired outcomes of NIE graduands (NIE, 2010; Table 1). It integrates NIE's V[3]SK Model and MOE's competencies framework (MOE, 2015) by three performance dimensions: professional practice, leadership and management, as well as personal effectiveness (NIE, 2009). Embedded in NIE's courses, the GTC Framework is used to evaluate student teacher outcomes. It serves as a scaffold to support the growth and development of student teachers and facilitate graduands' transition to beginning teachers (NIE, 2009).

Another key initiative arising from TE[21] recommendations is the Professional Practice and Inquiry (PPI) project. Teachers are required to maintain a Teaching and Learning electronic portfolio (e-portfolio)—a collation of authentic and diverse artefacts of a student teacher's learning and achievements, which he/she has reflected on and designed for personal development and presentations for various purposes (NIE, n.d.b.). It documents student teachers' development of their personal teaching philosophies, capacities and competencies over the course of their pre-service preparation and continues into their in-service careers.

3.4 Curriculum of Teaching Preparation Programmes

The main components of the teacher preparation programmes may be divided into the following categories (Table 2).

Table 1 Graduand teacher competencies

Performance dimensions	Core competencies
Professional practice	1. Nurturing the whole child 2. Providing quality learning of children 3. Providing quality learning of children in CCAs 4. Cultivating knowledge a. With subject mastery b. With reflective thinking c. With analytic thinking d. With initiative e. With creative teaching f. With a future focus
Leadership and management	1. Winning hearts and minds a. Understanding the environment b. Developing others 2. Working with others a. Partnering parents b. Working in teams
Personal effectiveness	1. Knowing self and others a. Turning into self b. Exercising personal integrity and legal responsibilities c. Understanding and respecting others d. Resilience and adaptability

Source NIE (2009)

Table 2 Main components of the pre-service teacher preparation programmes

Program components	Areas of focus
Academic subjects Subject knowledge	Content knowledge (academic and pedagogical)
Education studies	Educational philosophy, psychology, professional practice and inquiry, assessment, information and communication technology, etc.
Curriculum studies	Teaching methodology (discipline-specific)
Character and citizenship education Group endeavours in service learning Meranti project	Character and values development
Language enhancement and academic discourse skills	Oral and written communication
Practicum (teaching practice)	Field experience
Research component	Academic research project
	Educational inquiry project

3.4.1 Academic Subjects

The Academic Subjects cover the knowledge of the content, concepts and principles of either one or two disciplines depending on the programme in which the student teacher is enrolled. Those enrolled in the 4-year BA/BSc (Education) programme have the opportunity to pursue Academic Subjects in one discipline for the Primary track or two disciplines, a major and minor, for the Secondary track (NIE, 2017a). As student teachers are pursuing their first degrees, they need to specialise in certain disciplines. Specifically, the 4-year degree programme integrates academic content with pedagogical methodology in a single degree. In contrast, candidates in the PGDE programme should have already obtained a Bachelor's degree and are not required to study Academic Subjects (NIE, 2017b). The exception is candidates in the 2-year PGDE (Physical Education) who are required to study "Physical Education" as an Academic Subject (NIE, 2017c).

3.4.2 Subject Knowledge

The group of courses under the Subject Knowledge helps student teachers reinforce their mastery of subject content for primary school teaching. Primary track student teachers in the BA/BSc(Ed), PGDE (Primary) (General) and Dip Ed programmes must take Subject Knowledge courses aligned with their choice of Curriculum Studies, which is introduced later in their studies (NIE, 2017a, 2018). Secondary track student teachers do not take Subject Knowledge courses as it is assumed that they have obtained relevant knowledge from their Academic Subjects (NIE, 2017a).

3.4.3 Education Studies

The component of Education Studies covers multiple courses that provide student teachers with the essential foundation to understand and engage learners, such as key concepts and principles for effective instruction and reflective practice in school. Typical examples are educational psychology, professional inquiry and practice, classroom management, information and communication technology, and assessment literacy (NIE, 2017a, b). The courses are pivoted on the V^3SK Model and the GTC Framework.

3.4.4 Curriculum Studies

Curriculum Studies aim to equip student teachers with pedagogical methodologies for teaching specific subjects. In the Primary track, student teachers are prepared to teach three subjects. In the BA/BSc (Education) and PGDE Secondary tracks, student teachers take one major and one minor Curriculum Studies subject (NIE, 2017a, b). The entry criteria for the major and minor subjects are different, the major

having higher standards. The rationale for subject differentiation is that teachers need certain depth of knowledge in the subjects. While a majority of them teach two subjects after graduation, it is expected that teachers are able to teach the major at all levels in secondary school and the minor only at the lower secondary levels.

3.4.5 Values Development

Given the focus on values development in the TE[21] Model, a range of initiatives have been introduced based on the philosophy that values can be both taught and caught. Student teachers take part in three mandatory programmes: a Character and Citizenship Education (CCE) course, the Group Endeavours in Service Learning (GESL), and the Meranti Project (NIE, n.d.c.). The objectives are to help student teachers (1) develop better self-awareness, (2) foster a clearer understanding of the teacher's role in nurturing CCE and National Education in fresh and novel ways, (3) suggest approaches to working in a diverse classroom, (4) develop strategies to cope as a teacher, and (5) help affirm their choice of teaching as a career (Lee & Low, 2014).

The course on CCE was introduced for student teachers to understand the key concepts in CCE as well as their roles and professional commitments in CCE in school. Student teachers learn about character development, elements of citizenship, key approaches and current MOE policy and curriculum on CCE, thus prepared to teach CCE in schools.

GESL is a mandatory community involvement project that helps student to engage with communities of their choice. In groups of 20, student teachers spend at least 20 hours of contact time with their selected community and produce a tangible end product. Through a hands-on approach, GESL aims to broaden student teachers' knowledge and understanding of under-served communities and, meanwhile, develop their social and emotional learning competencies, project management skills, team-work, decision-making skills and empathy towards the communities around them and help them to build strong partnerships with these communities (NIE, n.d.d.).

The Meranti Project was named after the Meranti tree which produces a very hard wood. The project aims to foster resilience and develop values and character of student teachers. It is a two-day session where student teachers reflect upon their life journeys and reasons for joining the teaching profession. They also interact with in-service teachers and school students to understand the realities of teaching in school (NIE, n.d.c.).

3.4.6 Language Enhancement and Academic Discourse Skills

Teacher education programmes include a component for developing student teachers' competencies of effective oral and written communication in the classroom, known as Language Enhancement and Academic Discourse Skills (LEADS; NIE, 2017a, b, c, 2018). This comprises one course that builds oral communication skills via

training in basic phonetics, voice projection and oral presentation techniques, and another that focuses on written academic discourse required for assignments and reports.

3.4.7 Research

Research is another component that features strongly in Singapore's teacher education programmes. Student teachers in the degree programmes have the opportunity to undertake two research projects, one focusing on education and another on the major subject of their choice. They work with faculty members to explore a topic of mutual interest (NIE, 2017a) and conduct the research projects. In so doing, student teachers can gain an understanding of the scientific methods behind research, acquire methods of designing, collecting, analysing and interpreting data using examples from a variety of education specialty areas, and learn to think more critically about research in general. (NIE, 2017a, p. 109).

The exposure to research is important in providing a strong foundation whence student teachers can inquire into their own practices once they become qualified teachers.

3.4.8 Practicum and Field Experience

Practicum is essential for building strong teacher education programmes (Darling-Hammond & Hammerness, 2005; Hairon et al., 2014; Tan & Liu, 2014). NIE's enhanced practicum model aims to prepare teachers to be reflective practitioners and professionals (Liu et al., 2014), with the emphasis on thinking in context, skilful teaching, reflective teaching and innovative teaching (Tan et al., 2012).

The model encompasses three key foundations and five tenets (Liu et al., 2014). The first foundation is the philosophy of regarding teaching as a professional thinking activity that provides a platform for practice and reflection for pre-service teachers. The second foundation is a strong NIE–school partnership that joins all parties to work together towards high-quality teacher preparation. The third foundation is the strengthening of theory–practice links through reflection, experiential learning, school-based research projects, the use of authentic classroom materials and pedagogical tools that simulate real-classroom settings (Liu et al., 2014). Other means to bridge the theory–practice gap include the use of e-portfolio, planned and structured reflection, and focused professional conversations (Tan & Liu, 2014). The planned and structured reflection invites student teachers to mentally restructure an experience or a problem and actively reflect on their practices to see where and how they can improve (SingTeach, 2010).

In addition to the aforementioned key foundations, the model comprises five key tenets (Liu et al., 2014): (1) making practicum an integrated part of the teacher preparation programme so as to have a greater impact on pre-service teachers' conceptions and practices; (2) providing instructional and psychological support

through purposeful mentoring from experienced teachers and university supervisors; (3) developing pre-service teachers' professional competencies through gradually greater responsibilities and opportunities to practice the competencies; (4) assessing pre-service teachers holistically through both formative and summative measures beyond pedagogical content knowledge; and (5) using structured reflection and focused professional conversations to develop thinking teachers.

The three key foundations and five tenets are essential in developing autonomous thinking teachers for the 21st century (Liu et al., 2014; Tan & Liu, 2014). Their purpose is to ensure that student teachers have a solid knowledge base to inform their practice when they become teachers, as well as sufficient practice to deepen their understanding of theoretical concepts (Darling-Hammond, 2006; Tan & Liu, 2014). They must be able to carry out reflective practice, make effective use of theories and research, take adaptive and innovative approaches to support students' learning, and take the initiative and responsibility for their own learning and PD (Tan & Liu, 2014). In addition, student teachers should graduate with positive attitudes towards teaching and have a strong commitment to their students and their profession (Tan & Liu, 2014).

4 Teacher's Career Development

Complementing the teacher development frameworks, policies and measures are the multiple career tracks, and welfare and benefits that ensure teachers' career aspirations and considerations are met. This allows them to fully focus on their learners.

4.1 Career Tracks

The teaching profession in Singapore is a tightly knit network of teachers that enables teachers to support and encourage one another in spite of their varied aspirations. MOE created three career tracks which support teachers to achieve their aspirations: the Teaching Track, the Leadership Track and the Specialist Track (MOE, 2017b; see Fig. 2). Each track has specific coordinated experiences and development programmes to prepare teachers for leadership roles with greater responsibility. MOE also allows teachers to switch flexibly between tracks at any time of their career, as long as they meet the standards and requirements of the intended track.

4.1.1 Teaching Track

The Teaching Track is designed for teachers who aspire to make a direct impact on students in classrooms, aiming to further develop and deepen the pedagogical
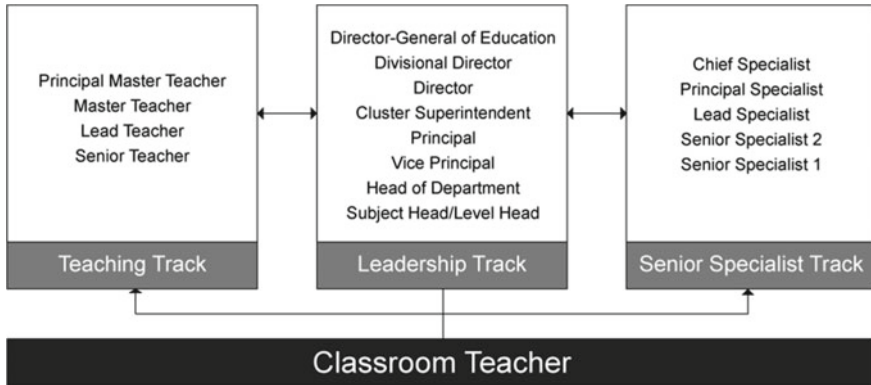
Fig. 2 Career tracks for teachers. *Source* MOE (2017a)

capability of the whole teaching force. Teachers with more experience mentor those with less, thus developing the entire profession's capacity in the following ways:

- Senior Teachers are role models who raise the professional excellence and expertise within schools.
- Lead Teachers support a culture of teaching excellence and collaborative professionalism through their subject knowledge and pedagogical skills. They nurture Senior Teachers and Teachers, develop schools into strong professional learning communities, and share subject expertise within their school clusters.
- Master Teachers and Principal Master Teachers continue their mentoring role and pioneer new pedagogies to improve instructional practice school-wide, champion their subject discipline and take lead in curriculum innovation. They mainly work at MOE HQ and AST, teaching masterclass and PD courses, drive curricular innovation and conducting pedagogical research.

4.1.2 Leadership Track

The Leadership Track is designed for teachers with the potential to be leaders at school or MOE HQ. They are identified early in their career and groomed for various school leadership positions including the following roles:

- Subject Heads and Level Heads who observe and coach new teachers.
- Heads of Department who have four functions: (1) departmental management that includes coaching other teachers and implementing comprehensive instructional programmes, (2) administration, (3) teaching and (4) whole-school management.
- Vice Principals who oversee non-academic areas, implement holistic education, and lead the administrative staff to achieve operational excellence. They also assist principals in a whole range of academic and non-academic areas.
- Principals who lead and guide teachers, help students discover their strengths, and work with parents and the community. Principals are systematically appointed and

rotated among schools every few years so that schools are always infused with fresh perspectives with every incoming principal, who share their best practices from the different schools which they have led.

4.1.3 Senior Specialist Track

The Senior Specialist Track is designed for teachers who are disposed towards more specialised areas where deep knowledge and skills are pre-requisites for breaking new ground. They are a strong core of the teaching fraternity who possess deep knowledge and skills in such areas as curriculum, planning, educational programmes and educational technology. To support those who aspire to be senior specialists, MOE sponsors their postgraduate studies. This role takes them to MOE HQ where they are engaged in curriculum development and evaluation that can inform policy formulation.

4.2 Welfare and Benefits

As civil servants, MOE (2017c) caters to every teacher's welfare and benefits of every teacher including salary and bonuses, Central Provident Fund contributions, and insurance and service benefits. Each one is also entitled to salary increments commensurable to their performance, and PD and mentorship opportunities at every stage of their career.

4.2.1 Salary and Bonuses

As valued professionals and nation-builders of the society, teachers are given salaries and bonuses that are highly comparable to other professions, such as accountants and engineers in the civil service. Starting from the compulsory teaching stint or contract teaching period in school before entering pre-service education, student teachers in Singapore receive a full monthly salary from MOE. The starting salary for fresh graduate student teachers in the Dip Ed programmes range from S$1,600 to S$2,100 monthly, while candidates in the PGDE programme receive a salary between S$3,100 and S$3,500 (MOE, 2017a). Those who have made a mid-career switch are eligible for additional salary increments in recognition of their previous working experience.

Once the student teachers complete their teacher education, they will be appointed as General Education Officers and receive the following salary and benefits: salary according to MOE pay scales and criteria, medical benefits (such as medical co-pay insurance coverage), an annual 13-month bonus (given to all Singapore civil servants as permanent establishment), a variable bonus depending on the fiscal capacity of the country, and other bonuses tied to performance or relevant work experiences. All bonuses are given at the discretion of MOE.

Beginning teachers have to complete a bond of service of three or four years, depending on whether they had attended the graduate or undergraduate programme at NIE. For the first three years of teaching, teachers receive annual increments. After the third year, increments are given according to the work performance.

Based on the Enhanced Performance Management System (EPMS), performance grades are linked to financial compensation (e.g., salary adjustments) and non-monetary rewards (e.g., recognition and awards). Teachers may be rated from "A" to "E". Depending on the economy, those with an "A" will receive a bonus of up to 3.25 months' salary, whereas those with a "C" receive up to 1.5 months. Teachers who are rated "E" are put on a performance review for 6–9-months and if their performance is not up to standard, they are asked to leave (Barber & Mourshed, 2009).

4.2.2 CPF Contributions

Based on Singapore's Central Providence Fund (CPF) law (MOE, 2017c), a part of the teacher's salary is placed into their CPF accounts which may be used for retirement, medical expenses and a range of other necessities, such as housing. The employer (in this case, MOE) will also contribute additional amounts to each employee's (i.e., teacher) account, including performance bonuses or non-pensionable annual allowances. It is noteworthy that CPF contribution is only for Singaporean citizens or Singaporean permanent residents.

4.2.3 Service Benefits

Teachers also enjoy the following service benefits:

- Medical and dental benefits—Entitlement to subsidised outpatient and dental treatments, as well as an additional 1% CPF-Medisave contribution.
- Public Officers' Group Insurance Scheme—POGIS is an optional insurance scheme for all teachers, their spouses and children, which includes life coverage against death due to any cause as well as total and partial permanent disability arising from accidents or illnesses. In addition, teachers may purchase a Critical Illnesses Coverage against 37 major illnesses.
- Leave for urgent personal affairs—Up to 10 full-pay working days a year which is applicable to term time.
- School holidays—Teachers may enjoy a total of 12 weeks of school holidays spread across a year and they may use this period for overseas travel if they are not called up for duty. The school holidays do not include national holidays, which teachers are also entitled to. Teachers are often required to go back to school for meetings, enrichment and remediation classes during school holidays and as such, the number of weeks of actual holidays is often much less than the 12 weeks that school students enjoy.

- Medical Leave—Up to a total of 14 full-pay ordinary sick leave days a year or 60 days for hospital leave.

4.3   Code of Conduct

To ensure that the right values work in the system, Singapore has developed several frameworks that work in unison to help educators achieve alignment of their values with those of the system. These include the Teacher Competency Model (Lee & Tan, 2010) and the Ethos of the Teaching Profession (AST, 2012a).

4.3.1   Teaching Competency Model

The Teaching Competency Model (see Fig. 3) helps identify teachers' strengths and weaknesses. Grouped around 13 competencies, the model assists teachers to perform well consistently. Nine competencies are performance-related for assessing teachers under Core Competency, Cultivating Knowledge, Winning Hearts and Minds, and Working with Others. The latter four competencies, nurturing self-reflection, self-development and emotional intelligence, are not assessed formally.

Each competency corresponds to behaviour indicators of expertise, knowledge and sphere of influence at five levels. Teachers who are more senior are expected to
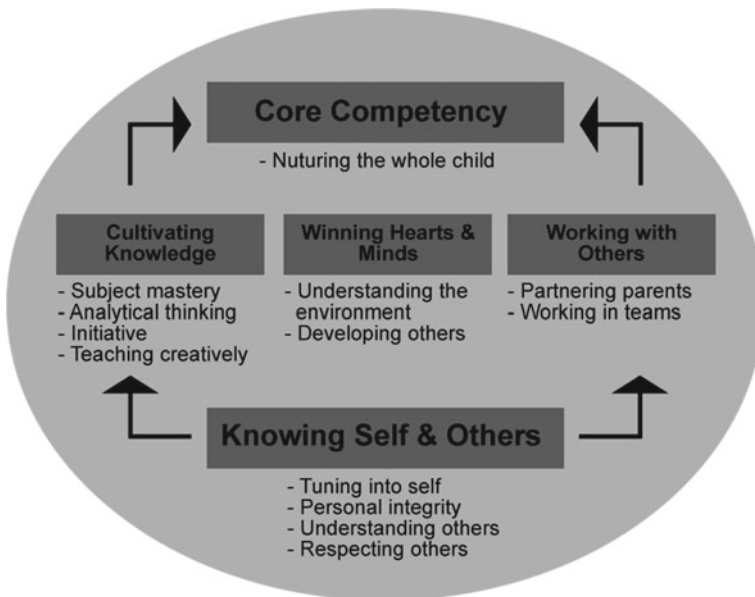
Fig. 3 Teaching competency model. *Source* Lee and Tan (2010)

perform at higher levels; for example, Master Teachers are expected to perform at levels 4 or 5.

4.3.2 Ethos of the Teaching Profession

The Ethos of the Teaching Profession helps define a teacher's professional identity, in particular, reflecting on their conduct, improving their practice and ensuring that they meet the standards of the profession. It is articulated in five documents:

1. **Singapore Educators' Philosophy of Education**. This captures the **core beliefs and tenets** of the teaching profession and serves as the foundation of all teachers' professional practice.
2. **Desired Outcomes of Education**. This establishes a **common purpose** for the teaching fraternity, guiding educational and school policies, programmes and practices.
3. **Teachers' Vision.** This articulates the **aspirations and roles** of the teaching profession, helping teachers to focus on the pursuit of professional excellence.
4. **Teachers' Pledge**. This constitutes an **act of public undertaking** that each teacher takes to uphold the highest standards in professional practice. It includes five key statements that guide teachers to in their professional practice (MOE, 2017a):

   - We will be true to our mission to bring out the best in our students.
   - We will be exemplary in the discharge of our duties and responsibilities.
   - We will guide our students to be good and useful citizens of Singapore.
   - We will continue to learn and pass on the love of learning to our students.
   - We will win the trust, support and cooperation of parents and the community so as to enable us to achieve our mission.

5. **Teachers' Creed**. This codifies the practices of teachers and makes explicit their tacit beliefs. It **guides** teachers to fulfil their responsibilities and obligations and to honour the promise of attaining professional excellence.

A compass symbolises the Ethos, pointing to the direction of the true north which illustrates the unwavering nature of teachers' values (Fig. 4).

4.3.3 Performance Appraisal System

The performance of teachers is appraised by the Enhanced Performance Management System (EPMS; Lee & Tan, 2010), which charts teacher development along the different tracks. Teachers are promoted based on the ratings evaluated by EPMS when they perform better over the years. EPMS also helps educators improve themselves with clarified expectations and behaviours. As competency-based system, it also details a clear career progression of each career track and defines the knowledge, skills and professional characteristics appropriate for each track.

Fig. 4 Ethos of the teaching profession. *Source* AST (2012a)
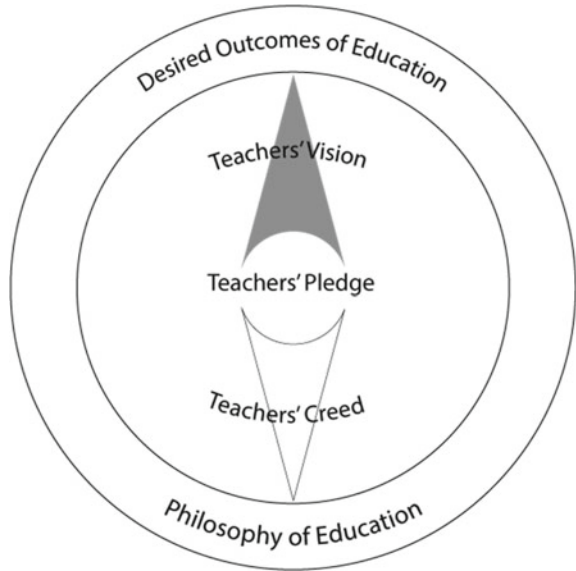
EPMS is essentially a holistic appraisal system encompassing self-evaluation, coaching and mentorship, and performance-linked recognition. It reviews a teacher's progress and achievements by three Key Result Areas (KRAs) that serve as reference points: (1) holistic student development, which includes quality student learning, student character development and co-curricular activities; (2) professional development, which includes developing one's self, and coaching and developing others; and (3) organisational outcomes, which include contributions to the school, the community and the nation, in collaboration with parents. Evaluation of these KRAs are summative and formative in nature, involving performance planning, performance coaching and performance evaluation (see Fig. 5). They help teachers choose a desired career track, determine their PD needs, and acquire their promotion and bonus compensation.

5   In-Service Teacher Development

While teacher preparation is important in equipping teachers, continual teacher development throughout their careers is just as vital. Singapore has several frameworks, policies and measures that support teacher continual development, both in the professional and personal domains.

Fig. 5 Performance management process. *Source* Lee and Tan (2010)

5.1 Core Competencies of In-Service Teachers

Teachers' core competencies are reflected in the TEACH Framework (MOE, 2017b) and the Teacher Growth Model (AST, 2012b).

5.1.1 TEACH Framework

The TEACH framework shows MOE's dedication to supporting teachers as they grow in their careers (Fig. 6). TEACH stands for Teacher professionalism, Engagement, Aspirations by providing opportunities for academic upgrading, enhancing teacher Career advancement options by providing more leadership positions in school, and providing work–life Harmony to retain good teachers.

These measures reward every teacher for their commitment by providing them with career options, PD and flexibility to maintain their work–life balance.

Engagement
- Dedicated HR Partners for School Leaders
- Multiple Engagement Points for Teachers

Aspirations
- Better Support for Part-time Masters
- Additional Advanced Diploma Offerings
- New Study Awards (Postgraduate and Undergraduate)

Teacher Professionalism
- Ethos of the Teaching Profession
- Subject Chapters
- Professional Learning Communities

Career
- Wider Choice of Key Personnel Positions in Schools
- More Expertise-building HQ Positions

Harmony
- Part-time Teaching Scheme Expansion
- Enhanced No-pay Leave Scheme
- Work Management Guidelines

Fig. 6 TEACH framework. *Source* MOE (2017b)

5.1.2 Teacher Growth Model

The Teacher Growth Model (TGM; Fig. 7) is a learning framework for PD planning. It takes a comprehensive and coherent approach to support teacher development in the five desired teacher outcomes of the 21st century, namely, (1) the Ethical Educator, (2) the Competent Professional, (3) the Collaborative Learner, (4) the Transformational Leader and (5) the Community Builder. Thus, it makes the skills and competencies explicit to teachers so that they may benchmark and plan for their growth towards the expected outcomes, including PD courses to be taken.

The TGM aligns the core teacher learning areas of holistic professional growth and development to those of 21st-century competencies and skills intended for students, namely, (1) Confident Person, (2) Self-directed Learner, (3) Concerned Citizen, and (4) Active Contributor. With the TGM, teachers are supposed to take ownership of their professional growth.

5.2 Policies and Measures to Attract and Retain Teachers

Apart from the competitive remuneration and three career tracks, non-monetary awards and recognitions as well as further PD also help ensure the teaching profession remains attractive to future and present teachers.

5.2.1 Non-monetary Awards and Recognition

With education being a cornerstone of society that supports the moral, emotional, mental and physical development of the young generation, there is a need to reward and recognise teachers who are key to quality of education. Singaporean teachers
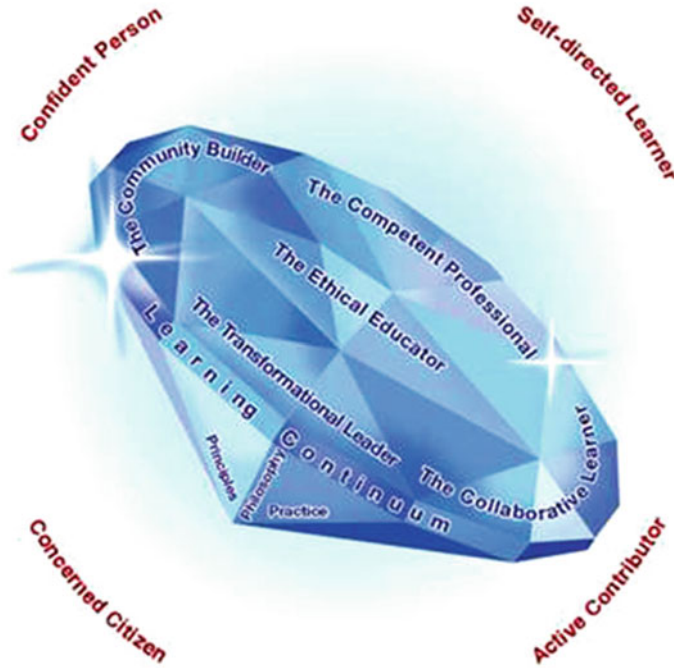
Fig. 7 Teacher growth model. *Source* AST (2012b)

are always prepared to go beyond the call of duty and some even sacrifice their out-of-school time and energy to bring out the best in their students. In recognition of their herculean efforts and steadfast dedication to education, Singapore annually honours deserving teachers with the President's Award for Teachers. Awardees are those who prepare students for life and inspire both students and peers through words and deeds, with commitment to continuous learning and enterprise. Another national award is the Caring Teacher Award that pays tribute to teachers who show care and concern for the holistic development of their students and go the extra mile to help their students become confident and independent learners.

5.2.2 PD to Grow and Retain Teachers

PD is another avenue that offers teachers development opportunities to stay and growth in the profession. Valuing every teacher as part of the education family, MOE is deeply committed to supporting and developing each one to his or her fullest potential and empowering them in their craft. There is a great variety of PD opportunities to deepen teachers' knowledge, upgrade their skills, and broaden their horizons.

Cognisant that PD should not interfere with teachers' time spent in school, MOE has created the Professional Development Packages and Leave Scheme involving a variety of scholarships, study loans and leave provisions (MOE, 2017d). These allow teachers to improve their competencies in different education specialty areas, such as educational psychology and guidance, curriculum studies, educational testing and measurement, educational policy and administration, just to name a few.

MOE's Academy of Singapore Teachers (AST) is tasked with developing the teachers through imparting expertise and conducting research. AST and NIE jointly provide a vast range of PD courses. In doing so, AST's subject chapters, teacher academies and language institutes work in tandem to foster a strong teacher-led culture of professional collaboration and professional excellence and thus energise them in their career development aiming at the improvement of the whole education fraternity. MOE and NIE also organise conferences relating to the PD of teachers that are available to all teachers regardless of their seniority.

The Teachers' Work Attachment programme allows teachers to take part in short-term attachments in external organisations to gain new perspectives, insights and exposure. These may include attachments to education institutions outside of MOE's purview and even to corporate and commercial industries.

5.2.3 Singapore Teachers' Union (STU)

Founded in 1946, the Singapore Teachers' Union (STU, 2020) is the largest teachers' organisation in Singapore with a membership of 12,000 teachers. Revolving around well-being, personal and remuneration interest, and professional development of teachers in Singapore, it supports teachers to understand their obligations, limits and rights as teaching professionals and address important workplace issues. Membership fees are only SGD117.00/year. In 1967, it started the Teachers' Housing Estate to provide Singaporean teachers with affordable housing, which ensures teachers did not have to worry about basic housing necessities and to focus on teaching. This estate has since been opened to the general public but retained its historical significance. Together with the foregoing policies and measures, teachers in Singapore are attracted and retained in the profession.

6 Evolving Policies: The Singapore Teaching Practice (STP)

The Singapore Teaching Practice (STP; MOE, 2018) Model was launched by Mr Wong Siew Hoong, then-Director-General of Education, MOE, at the opening ceremony of the 2017 NIE Redesigning Pedagogy International Conference. Co-developed by MOE and NIE, it makes explicit how effective teaching and learning are achieved, with the intention to elevate the entire teaching practice to greater heights. STP is represented in the form of the Vanda Miss Joaquim orchid (Fig. 8),
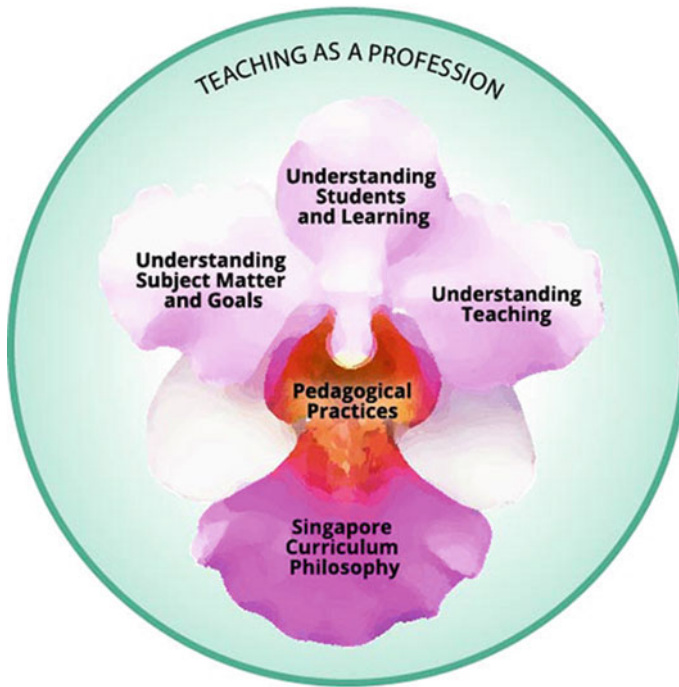
Fig. 8 The Singapore teaching practice model. *Source* MOE (2017d)

the national flower of Singapore. This was chosen for its vibrant colours, hardiness and resilience, qualities that exemplify the Singapore spirit of the practising Singapore teacher in the Singapore context.

STP provides an overview of the four Teaching Processes and central to the model are the Pedagogical Practices (PP; MOE, 2017d). These reflect what teachers should practise and reflect on before, during and after their interaction with their students. When applying and reflecting on the Teaching Processes, teachers are obligated to look to the Teaching Areas with corresponding actions or considerations (Fig. 9).

STP is underpinned by the Singapore Curriculum Philosophy which represents MOE's core beliefs about teaching and learning, with students at the heart of its educational decisions steering all aspects of the curriculum, including design and implementation. These beliefs include:

- A belief in holistic education.
- A belief that every child wants to and can learn, so there is a need to focus on children's learning needs when designing learning experiences.
- A belief that learning flourishes in a caring and safe learning environment, where children construct knowledge actively through the development of 21st century skills and competencies, and where assessments address children's learning gaps.
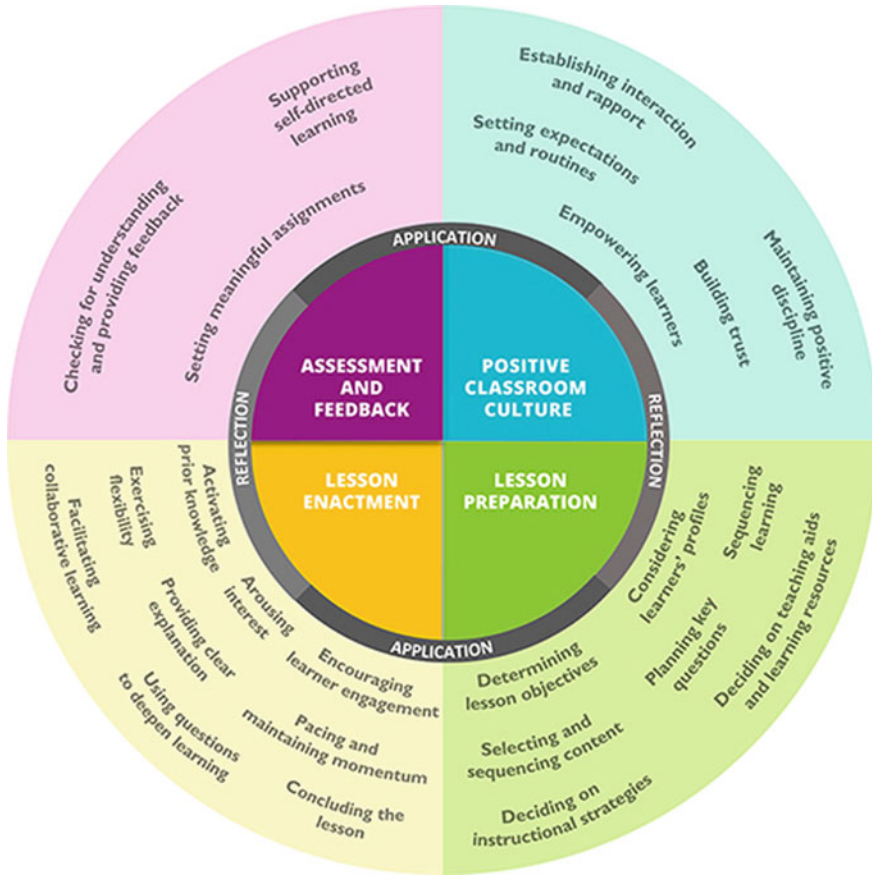
Fig. 9 Pedagogical practices. *Source* PP; MOE, (2017d)

STP is set to breathe new life into and strengthen the already robust Singapore education system, making teaching relevant to the learning needs of the nation's youth.

7 Conclusion

At the core of the Singapore education system lies a critical node known as the teacher, whom the Singapore government heavily invests in, from recruitment to preparation, professional development and the realisation of their career goals and aspirations. Thus, teacher development is viewed from a career-long perspective, starting from the point of entry into pre-service through their development from beginning to professional teachers. At every stage of a teacher's career, care is taken to ensure

that their aspirations are realised and their passion towards teaching is sustained. In Singapore, preparing and developing high-quality teachers career-long is not merely functional; it is tied deeply to the belief that teachers hold the key to ensuring that the nation thrives and rises up to the many complex challenges confronting us in today's globally connected, digitally mediated and ever-changing world.

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Preparing Teachers for Diversity and Inclusion: An Analysis of Teacher Education Policies and Practices in Austria

Vasileios Symeonidis and Heike Wendt

1 Introduction

Austria committed itself to providing inclusive and equitable quality education and promoting lifelong learning opportunities for all (Bundeskanzleramt, 2020). Education research, local and global discourses and intensified monitoring initiatives have created increased awareness and pushed diversity and inclusion onto the education policy agenda of Austria, where the proportion of students with an immigrant background and German as a second language (approx. 26%) is rather high in comparison to other European countries (Herzog-Punzenberger, 2019). Education research in the last two decades revealed that inclusion and equity remain major challenges in the Austrian education system. For example, large scale assessments of educational achievement consistently show that students with an immigrant background significantly underachieve in education (OECD, 2019; Wendt, Schwippert, Stubbe, & Jusufi, 2020; Wendt & Schwippert, 2017). Additionally, segregation between schools on the basis of socio-economic status and migrant background is becoming more widespread (Breit et al., 2018). In urban areas, classrooms become increasingly heterogeneous and multicultural, so that teachers need greater support. There are indications that the schools operating in challenging circumstances (*Schwerpunktschulen*) are encountering difficulties with recruiting and retaining high quality teachers and that their teachers more often lack subject specific knowledge (European Commission, 2019).

To improve the academic and practical training of teachers in Austria and provide them with support in relation to the challenges posed by social developments, a reform of initial teacher education (ITE) was passed in 2013 and has been in place

V. Symeonidis (✉) · H. Wendt

Institute of Education Research and Teacher Education, University of Graz, Graz, Austria
e-mail: Vasileios.Symeonidis@uni-graz.at

H. Wendt
e-mail: Heike.Wendt@uni-graz.at

for primary school teachers since 2015/2016 and for secondary school teachers since 2016/2017. The Teacher Education New reform (*PädagogInnenbildung NEU*) substantially restructured teacher education in Austria, implementing the Bologna architecture for ITE and strengthening collaboration between the various providers (Symeonidis, 2021). Among its provisions, the reform stated that inclusive education and intercultural competences were necessary for teacher education curricula (RIS, 2013a), to prepare teachers for diversity in the classroom. Although a 'broad' understanding of inclusive education goes beyond the focus on a specific group of learners—such as students with disabilities—and seeks to "respond to the diversity of all students" (Armstrong, Armstrong & Spandagou, 2011, p. 31), in most Austrian policy documents the term is used to describe challenges relating to the implementation of the *2006 United Nations Convention on the Rights of Persons with Disabilities* (Buchner & Proyer, 2020). Challenges relating to students' cultural, linguistic and socio-economic backgrounds and segregation in society are often discussed using the term "diversity" (Qualitätssicherungsrat, 2013). To avoid confusion, we will use the terms in this way in this chapter.

Regardless of the terms, we argue that the quest to provide inclusive and equitable quality education for all starts with the rights of vulnerable and marginalised people, advocacy of their participation in all areas of life and the aim of achieving structural changes in regular institutions to meet the different needs and requirements of all users (Biewer, 2011). This means that high quality education must become accessible to all and that learning environments must be specifically designed to provide vulnerable and disadvantaged groups with equal opportunities throughout their lifetime (Powell & Tummons, 2011). To this end, we concur with Banks (2009) that effective multicultural education necessitates critical review of the content of curricula, a change in approaches to teaching and learning, equity structures and prejudice reduction programmes, and a school culture that empowers every individual. Teachers are crucial change agents and gate keepers for all these dimensions of multicultural education, able to create a school culture that validates and legitimises the cultures of their students and enriches their personal lives.

Against this background, the chapter will describe recent policy developments that aim to promote diversity and inclusion in the Austrian teacher education system, focusing on how ITE curricula prepare future teachers for multicultural classrooms. The chapter will begin with a short description of the Austrian schooling system. We will then provide an overview of the diversity and inclusion policy environments in the Austrian schooling system and highlight major challenges in this context on the basis of contemporary research studies. In the second part of the chapter we will systematically review the approach taken by Austria in preparing prospective teachers to take better account of inclusion and diversity, starting with discussion on recent teacher education policies in both the European and national context. It will then discuss recent policy initiatives of relevance to teacher education with regard to diversity and inclusion, and review the extent to which they are reflected in the ITE curricula of the country's four teacher education clusters. The focus of the analysis

is on ITE curricula for secondary school teachers which is the level where teacher education providers collaborate with each other to implement the Teacher Education New reform. The chapter will conclude with a summary of the main findings and recommendations for the future.

2   Austrian Education System: Governance and Structure

Austria is a federal state consisting of nine provinces (*Länder*) which to some extent have individual historical identities. After the fall of the Austro-Hungarian Empire in 1918, Austria became a parliamentary republic with a Federal Constitution established in 1920/1929 and based on democratic, federal and legal principles, and on the principle of the separation of powers (Bruneforth, Chabera, Vogtenhuber, & Lassnigg, 2015). Over the course of history, Austria changed from a large, multi-ethnic and centrally regulated empire to a small democratic country (*Parlamentarische Demokratie*), characterised by a centralised approach to national policymaking (Schratz, 2012). The strong tensions between federal decision-making and the political influence of provinces often resulted in compromise, which leads some scholars to refer to Austria as "the most centralized federal state—or the most federal centralized state" (Schratz, 2012, p. 96) depending on the perspective one wants to adopt. Compared to other federal countries in Europe, such as Germany and Switzerland, legal control over education policy is more centralised in Austria (Nusche, Radinger, Busemeyer, & Theisens, 2016). Austria has about nine million inhabitants and migration-driven population growth is leading to increased demand for education throughout the school system, with some regions (especially urban areas) affected more than others. Here a need for additional space and personnel (+20% in the capital) in the short to medium term has been identified (Oberwimmer, Baumegger & Vogtenhuber, 2018).

With regard to the structure of the education system, it is important to know that compulsory schooling lasts nine years, starting at the age of six with four years of primary school (*Volksschule*). Lower secondary education starts in year five and marks the beginning of academic streaming, with schools being divided into general secondary schools (*Mittelschule*) and junior cycle of academic secondary schools (*Allgemeinbildende höhere Schule Unterstufe*) (RIS, 2020a, b). This separation of students into alternative school streams at an early age is generally accepted by the public, on the basis of the argument that it allows students to succeed in different ways (Schratz, 2012). Upon completing one of the lower secondary education options, students can choose to continue their studies in the upper cycle of an academic secondary school (*Allgemeinbildende höhere Schule Oberstufe*), or in a variety of vocational education and training schools.

General legislation on school organisation and the delivery of school education is provided by federal laws, including for example statutory regulations related to teachers' employment conditions and ITE. With regard to teacher education, most decisions about the structure and organisation of ITE (e.g. institutional structure,

duration of programmes, exam regulations, certificates) are taken by the parliament and government. Until 2018, two different ministries used to be responsible for the different types of teacher education, namely ITE at University Colleges of Teacher Education (*Pädagogische Hochschulen*, PHs), overseen by the Ministry of Education, and ITE at universities, overseen by the Ministry of Science. To date, there is one Ministry of Education, Science and Research that is responsible for both PHs and universities. PHs have to follow national laws and decrees, which regulate the structure, aims, subjects and content of teacher education programmes. To a different degree, universities have to follow national laws and decrees that regulate the basic structure, aims and fields of study within ITE, although the law guarantees academic freedom for teaching at universities.

In the last 15 years, the Austrian education system has been substantially reformed, including the implementation of output control mechanisms and a focus on competences, the centralisation of the final university entrance exams, a structural reorganisation of primary and secondary education, and progress towards the implementation of inclusion and the restructuring of teacher education (Schober, Schultes, Kollmayer & Lüftenegger, 2018).

3   Diversity and Inclusion in the Austrian School System: Policies and Challenges

Diversity and inclusion are recognised in the federal law for equal treatment, which states that people cannot be discriminated against on the basis of race/ethnicity, sex, religion/belief, disability, age or sexual orientation because all human beings are entitled to the same rights (RIS, 2004). With regard to students with special educational needs which constitute between 2 and 5% of pupils (Oberwimmer, Vogtenhuber, Lassnigg & Schreiner, 2019), Austria has adopted a dual system in which parents can choose between special or integrative education at both primary and secondary school levels (Buchner & Proyer, 2020). To overcome this division, following the United Nations Convention on the Rights of Persons with Disabilities, a National Action Plan was launched in 2012 aiming to improve teacher education and creating three model regions to implement inclusive school structures and reduce special education in segregated settings (BMBWF, 2019). This development led to a moderate increase in students with disabilities in mainstream schools, especially in model regions (Buchner & Proyer, 2020). Nonetheless, more than a third of all students with an official diagnosis of special needs are still educated in segregated settings (Mayrhofer et al., 2020). Students with special educational needs are mostly taught according to the regular education curricula, provided they are generally capable of attaining the learning objectives. In all other cases, students study a special school curriculum geared to their disability.

The Austrian compulsory school system is accessible to all students, regardless of factors such as first language or religious affiliation. Across Austria, in 2017 about

22% of the population were not born in the country and 40% of elementary school children in densely populated areas have a migration background. The majority of these children are first generation migrants, which means that the native language of a high proportion of students is not German. Approximately 38% of elementary school students in densely populated communities speak a language other than German in everyday life (Vienna: 42%) and only 6% in sparsely populated communities (Mayrhofer et al., 2019).

German is the official language of the country and the language of instruction used in almost all Austrian schools. Slovenian, Croatian, and Hungarian are recognised as official languages in some districts in Carinthia and Burgenland; a few primary schools offer bilingual instruction and in some secondary schools study of a minority language is compulsory (Wallner-Paschon, 2017). Additionally, schools can offer mother tongue education and foreign languages as electives (BMBWF, n.d.a). To cater for language diversity, students without the required competency must study German as a foreign language (RIS, 2020a, b) and language sensitive teaching is required in all subjects. At primary school level, children requiring language support can receive up to 11 h of small group instruction per week with provision varying between schools for various reasons, such as feasibility or lack of qualified personnel (Wallner-Paschon, 2017). It is compulsory for every primary school to teach one modern foreign language to all pupils from the first school year onwards to promote basic communication skills (CES-402, 2010). Students who enter the Austrian school system without competency in German (as determined by a compulsory examination) are normally recognised as "non-regular" students. They make up about 1–2% of students at primary school level (Wallner-Paschon, 2017). Language support classes, second language classes and, if feasible, extended mother tongue tuition is offered. In the last decade, the government introduced also compulsory language assessments and compulsory attendance in elementary education to reduce language gaps at school entry (BMBWF, n.d.b).

Diversity and inclusion are also recognised in the curricula at both primary and secondary level. The overall educational objective of primary school is to guarantee a basic and balanced education in the social, emotional, intellectual and physical sphere of the pupils. The aim of the curriculum for primary level education is to develop global justice values among pupils (CES-368, 2005). In addition, intercultural learning and learning with and without disabilities or special needs is considered crucial for the development of openness and mutual appreciation, the recognition of commonalities and the reduction of prejudices (CES-368, 2005). Secondary education is intended to promote young people's development, in particular with regard to the acquisition of knowledge, the development of competences, and the choice of values. Tolerance and respect are important educational objectives and schools are required to ensure pupils acquire the language of instruction but also value multilingualism, and to ensure gender equality. A special emphasis is additionally put on encouraging autonomous thinking and critical reflection, democratic participation and personal development (RIS, 2020a, b).

Alongside the implementation of numerous reforms, inclusion, diversity and an unsatisfactory level of student achievement have been major challenges for the education system. It was suggested that an increase in integration rates was accompanied with a decrease in the quality of the special education, especially in terms of individual support and diagnostics (Buchner & Gebhardt, 2011). Research also reveals that secure resource commitment, special education staff and team-teaching are crucial factors for successful inclusion in East Styria (Gasteiger-Klicpera & Bešić, 2016). Many schools are also still awaiting financial support to undertake structural rebuilding to ensure that their buildings are fully accessible and useable by students with disabilities (e.g. Stadtrechnungshof, 2014).

Studies of student achievement show that 17% (mathematics), 18% (reading) to 24% (science) of primary school students and 21% (mathematics), 22% (science) to 24% (reading) of lower secondary school students struggle to meet minimum achievement levels as expected by the curricula and will therefore have problems transitioning to the next stage (OECD, 2019; Wendt & Hußmann, 2020; Schwippert et al., 2019). International comparative studies of student achievement reveal that small gender differences in achievement already exist at primary school level and develop into more profound discrepancies throughout secondary education (Bergold, Wendt, Kasper, & Steinmayr, 2017; OECD, 2019). Compared with other European countries, Austria ranks rather high when it comes to inequality between students from different socio-economic backgrounds and migration backgrounds, with no changes over recent decades (OECD, 2019; Schwippert et al., 2019; Hußmann et al., 2017). Students of lower socioeconomic status or with a migrant background not only show substantially lower competence levels but also report lower motivation and self-perception (OECD, 2019).

Results from the *Teaching and Learning International Survey* (TALIS) show that with an average of 79%, the majority of secondary school teachers have some experience of teaching in a class that is characterised by cultural or ethnic diversity. Compared with other European countries, most teachers in Austria have the experience in this respect. In the judgment of principals in 95–98% of schools, the majority of teachers are committed to equal treatment and non-discrimination, tolerance and the promotion of intercultural learning, and integration (Höller, Itzlinger-Bruneforth, & Widauer, 2019, p. 94). However at about 10–15% of secondary schools, not all teachers are committed to addressing the different cultural backgrounds of students, catering for intercultural learning, supporting the integration of different socio-economic backgrounds or actively teaching stereotype reduction (Höller, Itzlinger-Bruneforth, & Widauer, 2019, p. 94). Up to 75% of the teachers also report that they feel somewhat confident about teaching in a multicultural class and dealing with the challenges this presents, and promote collaboration between children with and without migration backgrounds when teaching in multicultural classes. However, a good quarter of teachers continue to report not coping at all or only coping somewhat. Between every second and third teacher reports low self-efficacy when it comes to adapting their teaching to the cultural diversity of children, reducing stereotypes among students and creating awareness of cultural differences among students (Höller, Itzlinger-Bruneforth, & Widauer, 2019, p. 89). When it comes to teaching

in a multicultural or multilingual environment, only about a third of the teachers reports that their formal training prepared them for the relevant challenges, with notable differences between age brackets: 77% to 83% of those over 50 feel totally unprepared for a multiculturally diverse classroom. For those under 40, the figure is one in four to one in two (Höller, Itzlinger-Bruneforth, & Widauer, 2019, p. 90). However, when compared with other topics, teachers seldom take advantage of in-service training on multicultural topics, with only about one in six teachers reporting having attended in-service training on teaching in a multicultural or multilingual environment or communicating with people from different cultures or countries.

Due to regional differences, high levels of social and ethnic segregation present a challenge for the Austrian education system (Biedermann, Weber, Herzog-Punzenberger, & Nagel, 2015). Significantly fewer initiatives to promote integration are introduced for pupils in rural schoowel locations (Schwab et al., 2013, p. 156). The same is true for schools where few students have German as a second language, even if they are located in urban areas. Due to teacher allocation mechanisms and especially at general lower secondary schools catering for low achievers, teachers with little professional experience are overrepresented in schools with a higher proportion of students with a non-German native language, and the phenomenon of out-of-field teaching (non-subject teaching) is more common (Weber, Moosbrugger, Hasengruber, Altrichter & Schrodt, 2018). Moreover, teachers in classes with a higher proportion of students with a different first language, a migrant or refugee background, or a socioeconomically disadvantaged background report that they spend significantly more time on classroom management task than on actual teaching and learning compared to their colleagues in classes with a more privileged student intake (Höller, Itzlinger-Bruneforth, & Widauer, 2019, p. 16). In the light of these findings, unsurprisingly studies find evidence for the so-called composition effect (Biedermann, Weber, Herzog-Punzenberger & Nagel, 2015), which is also high when compared internationally (Martin & Mullis, 2013).

4   Teacher Education Policies and Practices for Diversity and Inclusion

After mapping the policy environment and highlighting the major challenges for diversity and inclusion in the Austrian schooling system, this part of the chapter will focus on contemporary policies and practices related to the Austrian teacher education system and the extent to which they cater for diversity and inclusion. Firstly, we identify how the broader European context that influences developments in Austria promotes diversity and inclusion across ITE programmes, particularly through the notion of "social dimension". We will then focus on the reform of teacher education in Austria and the efforts to create a comprehensive system of ITE that would prepare teachers for diverse classrooms. The ensuing section will review the

extent to which ITE curricula in Austria have integrated aspects of diversity and inclusion at the level of higher education institutions.

4.1   The European Policy Context

"United in diversity" has been the official EU motto since the year 2000, pointing to the strength of a common European identity that embraces diversity and draws on the unique characteristics of the European nations. As such, diversity has been a core concept in EU politics and policies, framed by the broader social dimension of the European integration process. Although the Member States of the EU have never had a uniform view of how to implement the social dimension of European integration (Dodo, 2014), the launch of the European Pillar of Social Rights by the European Commission in 2017 was an attempt to rethink and revitalise European social policy, particularly after the financial crisis that threatened the survival of the European political project. In this context, education has traditionally played a crucial role in promoting the social dimension of the EU, and has thus been included as the first key principle in the European Pillar of Social Rights: "Everyone has the right to quality and inclusive education, training and life-long learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market" (European Parliament, Council of the European Union & European Commission, 2017).

The social dimension has also been an integral part of the European Higher Education Area (EHEA) and the Bologna process. In the London Communiqué (2007), the EHEA Member States agreed that "the student body entering, participating in and completing higher education at all levels should reflect the diversity of our populations" (Bologna Process, 2007). In 2015, the Member States further committed themselves through the Yerevan Communiqué to making their higher education systems more inclusive by widening student participation and supporting institutions that provide relevant learning activities for different types of learners (Bologna Process, 2015). They also agreed to "enhance the social dimension of higher education, improve gender balance and widen opportunities for access and completion, including international mobility, for students from disadvantaged backgrounds" (Bologna Process, 2015). To this end, several countries, including Austria, have actually made an effort to develop social dimension strategies at the national level, as will be explained later in this chapter. Although the social dimension has remained a rather peripheral concern of the EHEA (Crosier & Haj, 2020), recent efforts to define "Principles and Guidelines to Strengthen the Social Dimension of Higher Education in the EHEA" (Bologna Process, 2020) signal an effort to highlight the social dimension in the Bologna Process agenda.

As an increasingly integral part of the EHEA, teacher education is also called upon to include the social dimension, fostering wider student participation and ensuring that teachers are adequately prepared for multicultural classrooms. For some time

now, the EU has argued that ITE should prepare teachers for diversity, acknowledging that education plays a crucial role in promoting social cohesion, equality, non-discrimination and civic competences (Council of the European Union & European Commission, 2015). Specifically, EU Education Ministers agreed that ITE "should not only include subject knowledge and pedagogical competences reinforced by integrated periods of practical teaching experience, but also encourage both self-reflection and collaborative working, adaptation to multicultural classrooms and acceptance of leadership roles." (Council of the European Union, 2014). Teachers should thus be prepared "to deal with learners' individual needs and growing diversity in terms of their social, cultural, economic and geographic backgrounds" (Council of the European Union & European Commission, 2015). Supporting teachers with the management of linguistic and cultural diversity in school is considered a key element for promoting quality in education, while inclusion and gender equality are among the six dimensions that are intended to shape the development of the European Education Area by 2025 (European Commission, 2020).

In addition to the relevant EU policies, there have also been efforts to research the role of diversity in ITE systems across Europe. In 2017, the European Commission published a report on "Preparing Teachers for Diversity: the Role of Initial Teacher Education", describing policy measures and initiatives in several European countries aimed at preparing student teachers for diversity in the classroom. Among the major research findings of this study was that several European countries have adopted policies that aim to steer ITE systems in a more inclusive way, but there is a lack of clear definitions of concepts relating to diversity in ITE and education policy overall. Policymakers are also increasingly focusing on defining teacher competences for diversity, although there is no common understanding on what these competences should entail. The study further argued that initiatives integrating diversity content in ITE curricula in a cross-cutting and mandatory way are rare in Europe and that teacher educators are often inadequately prepared. Nevertheless, a number of support initiatives have been identified across Europe that help ITE systems adjust to the needs associated with classroom and societal diversity. The report argues that national systems should strive to develop a supportive culture of change at all levels of policy, in order to integrate diversity training successfully into ITE.

4.2 The Reform of Teacher Education in Austria

The history of Austrian teacher education is linked to developments in education and varies according to the different school types. Until the implementation of the Teacher Education New reform, lower secondary school teachers were educated differently, depending on whether they were going to teach in a general secondary school or in an academic secondary school. Different teacher education providers were thus responsible for the different types of teachers. University Colleges of Teacher Education (*Pädagogische Hochschule*, PHs) were responsible for educating primary and lower general secondary school teachers, as well as teachers for special

education and polytechnic schools, while universities were responsible for academic secondary school teachers. Traditionally, ITE at PHs is rooted in a "seminaristic tradition" (*Ecole-Normale-Tradition*) with its origins in teacher seminars formerly provided at the upper secondary level of the education system, while ITE at university is rooted in an "academic tradition" that follows the Humboldtian principle of "education through science" (*Bildung durch Wissenschaft*) and thus focuses on the study of academic disciplines (Buchberger & Seel, 1999, p. 17).

The years from 2000 to 2012 brought significant changes to the teacher education landscape in Austria, notably the implementation of the Bologna process and the introduction of the Teacher Education New (*PädagogInnenbildung NEU*) reform. Following the results of the first PISA tests in 2003, overall trust in the quality of the Austrian education system was shaken, but it did not immediately lead to radical change (Schratz, 2012). The pressure for political action, combined with wide media coverage of the topic, increased, and the Ministry of Education established the so called "future committee" (*Zukunftskommission*), in order to identify strategies and proposals for the reform of the Austrian education system. Following the 2008 elections, which resulted in a grand coalition led by the Social Democrats, the Teacher Education New reform project was launched on the basis of a government agreement for the 2008–2013 period. During this time, the ruling Social Democrats were determined to achieve the political goal of comprehensive schools for lower secondary education to reduce the stratifying effect of early streaming. The so-called new secondary school (*Neue Mittelschule*, NMS) was introduced in the 2008/2009 school year, first as a pilot project and since 2012 as an official school, in order to provide basic comprehensive education to all students aged between ten and 14 years. Although the aim was to integrate the lower academic secondary school track into the NMS, a political compromise within the government coalition allowed the lower academic secondary school track to exist in parallel to the NMS (Bruneforth et al., 2015) and this continues to be the case today. The new model features some innovative teaching methods (such as team teaching in mathematics, English and German lessons), but there are no clear indications that the overall level of students' achievement has improved in NMSs (OECD, 2017). On the contrary, it seems that the concentration of academic secondary schools in urban areas indicates that NMSs perform significantly worse than those in medium- or sparsely populated areas, because a higher proportion of high performing students transfers to academic secondary schools after primary education (Neubacher et al., 2018). Nevertheless, the idea of a common comprehensive school implied the need for a common teacher education scheme that would prepare teachers to teach students hailing from diverse socio-economic backgrounds (Symeonidis, 2021).

Unifying ITE at the level of lower secondary education through the Teacher Education New reform also had broader implications for the teachers' status and salary. Teachers educated at universities and working at federal schools (i.e. employed by the federal state) used to have higher salaries and social status compared with their colleagues educated at PHs and working at provincial schools (i.e. employed by provincial governments) (Symeonidis, 2021). Following the reform, teacher education is now orientated towards age groups rather than different school types, which

means that all newly recruited teachers working in secondary education have the same qualifications and can find a job on equal terms in both lower and upper secondary schools. This alignment of qualifications for secondary school teachers was further complemented by the introduction of a new teacher service code (*Dienstrecht*) in 2013 that has been mandatory for all teachers since September 2020 and aims to harmonise the employment conditions and salary of secondary school teachers (RIS, 2013b).

The Teacher Education New reform was developed in four phases over a period of four years (from 2009 to 2013) and both the Ministry of Education and the Ministry of Science were involved. As an outcome of the four phases, a federal law introduced a new teacher education programme in 2013 (RIS, 2013a). The new model of teacher education is structured in line with Bologna, in a Bachelor's programme of eight semesters and a Master's programme of two to four semesters, organised jointly by universities and PHs. Although the reform maintains the institutional division between PHs and universities, it creates the obligation for them to collaborate in developing and providing Bachelor's and Master's programmes for secondary school teachers (RIS, 2013a). To enhance collaboration between PHs and universities, four regional clusters were developed throughout the country: South-East Cluster (Burgenland, Styria, Carinthia), North-East Cluster (Vienna, Lower Austria), Middle Cluster (Upper Austria, Salzburg), and West Cluster (Tyrol, Vorarlberg).

4.3 Promoting Diversity and Inclusion Through ITE Programmes in Austria

Austrian policy documents outline policy goals on ITE for diversity and inclusion in an explicit and comprehensive manner, which has been previously described (see European Commission, 2017b, pp. 10–14). This section takes a closer look at the implementation of two of these policy goals, namely the implications of the social dimension for ITE, and the extent to which the ITE curricula integrate aspects of diversity and inclusion.

To support a cultural shift towards social inclusion, gender equality and diversity in universities, Austria has launched a "National Strategy on the Social Dimension of Higher Education" (BMWFW, 2017), following the recommendations of EHEA and the Bologna Process. This national strategy laid out three target dimensions: (a) more inclusive access; (b) avoidance of drop-out and improvement of academic success; and (c) creation of basic parameters and optimised regulation of higher education policy. Each target dimension includes three action lines and practical measures. The implementation of the national strategy is accompanied by a monitoring process, which stipulates that higher education institutions failing to meet the specific targets will receive fewer public funds (i.e., 0,5% less of the overall budget) (BMBWF, n.d.c). To meet the target dimensions, the University of Graz, for example, has been developing relevant infrastructure for some time and launched initiatives

at various levels. Key initiatives are the Disability Resource Centre (*Zentrum Integriert Studieren*), diversity monitoring of student trajectories, peer monitoring and orientation studies, a university-wide anti-bias awareness campaign, and compulsory professional development modules for emerging researchers and new professors. Diversity is a core category of the university-wide teaching award, which highlights outstanding teaching practice on an annual basis. With regard to ITE, peer mentoring and individualised guidance aim to increase access from structurally disadvantaged groups. The Disability Resource Centre provides individual support to students with special needs and also advocates, reminds and monitors lecturers to ensure their offerings are inclusive. Study programmes are analysed to systematically identify the trajectories of teacher education students and an ongoing research project "Habitus.Power.Education" is currently developing measures to support teacher education students to develop the necessary reflective competences to ensure they do not reproduce inequalities as they progress through the profession. Such initiatives are considered relevant in diversifying the teacher workforce and thus ensure representation among teachers.

Following the Teacher Education New reform, inclusive education and intercultural competences were identified as necessary components of teacher education curricula. Specifically, the handbook on curriculum development for teacher education institutions includes a number of compulsory diversity-related competences for teachers: interreligious competences, basic competences for inclusive language education, intercultural education and migration pedagogy (Braunsteiner, Schnider & Zahalka, 2014). The different teacher education clusters integrated the recommendations of the specific handbook in different ways, as shown in Tables 1 and 2. References to diversity and inclusion can particularly be traced in the description of competences for ITE graduates and the different ITE study components (i.e. subject specific knowledge, teaching methods, educational studies). It has also been suggested that student teachers can undertake a specialisation track during their studies, such as inclusive education and multilingualism. Inclusive education has been considered a necessary specialisation track that ITE programmes for both primary and secondary school teachers should offer (Braunsteiner, Schnider & Zahalka, 2014).

With regard to inclusive education, the new teacher education curricula imply some forward momentum (Buchner & Proyer, 2020; Feyerer, 2012). In 2015, the aims of inclusive education policies (to reduce the number of special schools and establish inclusive education in every federal state) led to the rapid termination of all special education training at secondary school level. Instead of the former "special training for special education", the teacher education reforms allowed for the introduction of inclusive education into all general undergraduate curricula for secondary school teacher education. Additionally, starting from 2016, inclusive education can also be studied as a subject in its own right in combination with another subject, for example, Maths, Sports, English or Arts, since all secondary education student teachers have to study two subjects in Austria. Furthermore, since the end of 2019, inclusive education has been part of the teacher education Master's programme, an important development considering that teachers working in upper secondary academic education need to have obtained a Master's level qualification. Compared

to the former special education structures, the new inclusive track comprises more European Credit Transfer and Accumulation System (ECTS) points and thereby enables deeper knowledge to be gained of the basics of special needs education and to be critically contextualised within inclusive education. The curriculum prepares alumni and alumnae to work in a specialised, integrative or inclusive setting. Specialisations such as Sign Language qualifications are possible depending on where study is undertaken (see Tables 1 and 2).

The large migration movements in 2015 have also pushed for integrating multilingual education in the professionalisation of teachers, placing a stronger focus on the subject area of German as a second language (Schrammel-Leber et al., 2019). The handbook on curriculum development for teacher education institutions promoted the adoption of the "Framework for basic competences of language education for teachers", a course consisting of 6 ECTS that could be undertaken over the course of a year, combining theoretical input with practical exercises (ÖSZ, 2014). Moreover, the Ministry of Education established for the first time a qualification for teaching German as a second language with the "Pedagogical Decree on the Implementation as well as Quality Development and Quality Assurance of Language Support Classes/Language Beginner Groups" (BMBWF, 2016). To this end, a competence framework for teachers of German as a second language has been recently established (see BMBWF & BIMM, 2020), functioning as a guidance tool for the assessment of relevant qualifications and as a supporting instrument for teachers in the selection of further qualification offers. Although the specific framework can support the professional development for teachers at the PHs, the framework was not available at the time when the new ITE curricula were developed at the PHs.

At this point, we lay our focus on the ITE curricula for secondary school teachers across the four teacher education clusters in Austria (Johannes Kepler University Linz, 2020, 2021; University of Graz, 2019, 2021; University of Innsbruck 2019a, b; University of Vienna 2017, 2022). We choose the secondary school level where both universities and PHs collaborate in the framework of the Teacher Education New reform to develop and implement the curricula. In analysing the curricula, we consider both the Bachelor's and Master's levels, as well as the different ITE components. The primary aim is to examine the extent to which aspects of diversity and inclusion are considered in the curricula and the findings of our analysis are illustrated in Tables 1 and 2.

As shown in Table 1, in all clusters inclusive education can be studied as a separate subject and prospective German language teachers will, with varying scope, attend some basic introductory course on German as a second language. Even though language, inclusion/disability, equality multilingualism, interculturality, interrelation, gender and talent are mentioned as important cross-sectional competences for all courses, the degree to which explicit learning opportunities relevant to these dimensions of diversity are implemented at the Bachelor's level for secondary school teachers is rather low. With differences between the clusters, the relevant courses make up only about 5% of overall study time. It should also be noted that even within the courses, the extent to which emphasis is given to diversity-related content and competences is left to the interest and motivation of the lecturer or the student.

Table 1 Explicit diversity and inclusion learning opportunities in Austrian ITE (secondary education: Bachelor's level)

Bachelor	South-East Cluster [Total ECTS 240, 40 for education (E), 2 × 95 subject knowledge and teaching methods (S)]	North-East Cluster [Total ECTS 240, 40 for education (E), 2 × 97–107 subject knowledge and teaching methods (S)]	Middle Cluster [Total ECTS 240, 40 for education (E), 2 × 97 subject knowledge and teaching methods (S)]	West Cluster [Total ECTS 240, 40 for education (E), 2 x 100 subject knowledge and teaching methods (S)]
Course name/ECTS				
Specialisation offered	*"Inclusive Education as a separate subject"/95*	*"Inclusive Education as a separate subject"/97–107*	*"Inclusive Education as a separate subject (focus disabilities)"/97*	*"Inclusive Education (focusing on disabilities) as a separate subject"/100 Islamic Religion as a separate subject/95*
Language, inclusion/disability, equality Multilingualism, Interculturality, Inter Religion Gender Talent as cross-sectional competence for all courses	**Yes,** especially in: **S: Interaction processes in the pedagogical context (E)/2 S: Pedagogical diagnostics, support and performance assessment (E)/2 L: Social conditions of educational processes (E)/1**	**Yes**	**Yes,** especially in: **2 × teaching methods (S)/4**	**Yes,** especially in **L: School as an educational institution and the role of teaching staff (E)/2 S: Profession-specific knowledge and action (E)/2**

(continued)

Table 1 (continued)

Bachelor	South-East Cluster [Total ECTS 240, 40 for education (E), 2 × 95 subject knowledge and teaching methods (S)]	North-East Cluster [Total ECTS 240, 40 for education (E), 2 × 97–107 subject knowledge and teaching methods (S)]	Middle Cluster [Total ECTS 240, 40 for education (E), 2 × 97 subject knowledge and teaching methods (S)]	West Cluster [Total ECTS 240, 40 for education (E), 2 × 100 subject knowledge and teaching methods (S)]
Study component	**S: Diversity and Inclusion (E)/2** **2 × S: teaching methods for dealing with heterogeneous classrooms (S)/1–3** *S: Diversity and Heterogeneity in Education & Instruction (E)/3* *When studying German:* **German as a second language (S)/7,5** *When studying Sport:* **Psychomotor activity (Focus on inclusion and talent) (S)/4,5** *S: Few specific subjects (S)/2*	**S: Inclusive School and Diversity (E)/5** **S: Inclusive School and Diversity: Opportunities and limits (E)/5** *When studying German:* **German as a second language (S)/3 & German in the migration society/4** *S: Few specific offerings in subjects (S)/2* *When studying Languages: Cultural studies/4* *When studying Religion:* **Introduction in Islam/3**	**S: Development and learning in childhood and adolescence with special emphasis on gender socialisation (E)/2** **S: School and Society (E)/2** **S: Gender, Diversity and Inclusion in the school (E)/3** *When studying German:* **German as a second language (S)/6** *When studying Sport:* **Pedagogic diagnostic and principles of inclusion/2,5** *S: Few specific subjects on interculturality (languages) or inclusion (S)/1–2*	**L: Learning and teaching in a diversity context (E)/2** **VO:** *Gender or Inclusion or Multilingualism and Intercultural Learning, or Plurality of worldviews (E)/2,5* *When studying German:* **German as a second language (S)/5** *S: Few specific subjects (S)/2*
Practical component	**Diversity and Inclusion (E)/1 + 1** **2 × teaching methods for dealing with heterogeneous classrooms (S)/1**		**Dealing with heterogeneity: individualisation, diagnosis, promotion, learning process support (E/S)/1,5–2**	**Learning and teaching in a diverse context (E)/2**

Bold: compulsory (relevant for all future teachers); italics: electives (relevant for some future teachers), ECTS: European Credit Transfer and Accumulation System (one credit represents around 25 actual hours of student workload), S: Seminar, L: Lecture, PPS: School secondments

Table 2 Explicit diversity and inclusion learning opportunities in Austrian ITE (secondary education: Master's level)

Master	**South-East Cluster** [Total ECTS 120, 20 for education (E), 2 × 20 subject knowledge and teaching methods (S)]	**North-East Cluster** [Total ECTS 120, 20 for education (E), 2 × 26 subject knowledge and teaching methods(S)]	**Middle Cluster** [Total ECTS 120, 20 for education (E), 2 × 21 subject knowledge and teaching methods (S)]	**West Cluster** [Total ECTS 120, 20 for education (E), 2 × 25 subject knowledge and teaching methods (S)]
Course name/ECTS				
Specialisation offered	*"Inclusive Education as a separate subject"/20*	–	*"Inclusive Education" additional study component"/30 "School and Religion" additional study component"/30*	*"Inclusive Education (focus disabilities) as a separate subject"/25 "Islamic Religion as a separate subject"/25*
Diversity **as cross-sectional competence for all courses**	**Yes**	**Yes**	**Yes**	**Yes**
Study component	**S: Individuality, difference, and social dynamics in learning communities (E)/3** **L: Theories on Education and Society/2** **L: Language Education and Multilingualism (E)/2** *S: Elective Courses (E)/3 S: Few specific subjects/2–3) (S)/2*	**S: Designing inclusive educational processes (E)/4** *L: Dealing with Diversity (E)/2 S: Few specific subjects (S)/2*	*S: Diversity and Inclusion (E)/3 S: Diversity and Inclusion (E)/2 S: Few specific subjects (S)/2*	**In-depth topics on school and educational research (E)/2,5** *S: Few specific subjects (S)/2*

Note Bold: compulsory; italics: electives, ECTS: European Credit Transfer and Accumulation System (one credit represents around 25 actual hours of student workload)

As shown in Table 2, the degree of implementation at the Master's level looks pretty much similar as to the Bachelor's studies. These findings correspond with those of Schrammel-Leber et al. (2019) and Purkathofer (2017), whose analysis of the content of teacher education curricula with a focus on multilingualism and interculturality

shows that these topics are only marginally embedded, mainly as cross-sectional objectives.

5   Concluding Remarks

In recent years, Austria undertook important steps to reform its teacher education system in view of better preparing teachers for the twenty-first century. To cope with the challenges of an increasingly diverse student population, aspiring policy initiatives aimed to introduce diversity and inclusion for both higher education in general and ITE in particular. A national action plan for promoting the social dimension in higher education provides a framework to improve the representation of students from diverse socio-economic and cultural backgrounds in ITE. Additionally, the Teacher Education New reform promoted the integration of diversity related competences along with relevant ITE content as necessary for future teachers, and included specialisation tracks for inclusive education and multilingualism as elective options for student teachers. Special provisions were also adopted for teachers of German as second language.

Although the implementation of ITE curricula has started only recently, our analysis of them across the different teacher education clusters has highlighted some trends for the training of secondary school teachers. Overall, it seems that ITE curricula contribute rather weakly in creating learning opportunities for future teachers to gain content knowledge and acquire competences relevant to diversity and inclusion. These results concur with the findings of Herzog-Punzenberger (2019), who argues that the majority of Teacher Education New curricula dealing with the training of secondary school teachers in Austria have few courses that are relevant to inclusion and diversity. Apart from specialisations offered and few initiatives at some universities, we can argue that, given the little coverage of relevant subjects (about 5%), the Austrian education system fails to systematically train a basic stock of experts which is necessary to respond to current challenges. Hence, only few teachers can be expected to be sufficiently prepared to enter schools as experts who can effectively deal with diversity related challenges, as, for example, proposed by Banks (2009). It is therefore not surprising that the TALIS survey in 2018 also reveals that the majority of teachers under 25 years of age, i.e., who graduated with a teaching degree between 2015 and 2018, reported that they didn't feel sufficiently prepared to teach in diverse classrooms. This demonstrates the importance of in-service training in this area (Höller, Itzlinger-Bruneforth, & Widauer, 2019, p. 99).

To help teachers constructively engage with diversity and inclusion in classrooms, adequate learning opportunities are necessary across the different ITE components, starting from the beginning of their studies and advancing as students move on to the Master's level. This implies course requirements related to the mandates of diversity and inclusion integrated as compulsory subjects in the curricula, as well as a holistic and coherent approach that is not reduced to teaching about disability. Initiatives that integrate diversity content in ITE in a cross-cutting and mandatory way

are considered particularly effective (European Commission, 2017a). Professional development opportunities should, thus, be provided to teacher educators on how to integrate diversity-related course content into their teaching and on how to appropriately support student teachers with a migrant background (European Commission, 2017a).

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Institutional Reform for Transformative Competencies: Teacher Training Transformations in Lithuania

Ausra Rutkiene

1   Introduction

The State Progress Strategy Lithuania Progress Strategy "Lithuania 2030" (2012) and The National Education Strategy for 2013–2022 (2013) *suggested main goal of education development in this country—to enable Lithuanian education become a sustainable basis for the welfare of the state; to develop growing and independent person, responsible for himself or herself, the future of Lithuania, and the world; encourages the creation of smart society; and orients general education in Lithuania towards creativity, citizenship and leadership* (Zelvys et al., 2018). The Good School Concept (2015) and The Guidelines for the Change of General Education Schools (2017) drew action directions for teachers, emphasizing the development of competencies necessary for the creation of schools aligned with such a goal. This posed new challenges for teacher training and their professional growth. As such the system of teachers education has been reoriented– *towards developing growing, independent, responsible person* in schools and seeking to mobilize the best forces for teachers' preparation. The aim of this paper is to present Lithuanian education system in general and teachers' education in Lithuania ever since.

2   Lithuanian Education Context

The Republic of Lithuania has two periods of its life: 1918–1939 and from 1990 to present. During 1939–1990 Lithuania was a part of a Soviet Union. After 1990 Lithuania started a new period as an independent state. Now Lithuania covers an

A. Rutkiene (✉)
Vytautas Magnus University, Kaunas, Lithuania
e-mail: ausra.rutkiene@vdu.lt
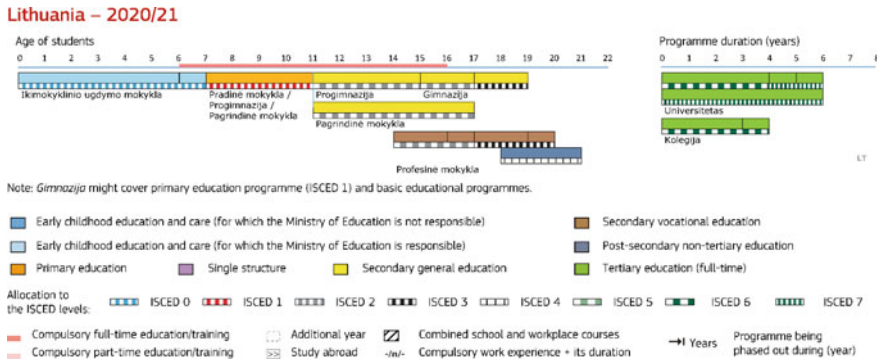
Fig. 1 Structure of the national education system since 1990. *Source* https://eacea.ec.europa.eu/national-policies/eurydice/content/lithuania_en

area of 65,300 km², with a population of 2.8 million. The Number of inhabitants decreased from 3.7 million in 1991 to 2.8 in 2020 (Eurostat data[1]).

2.1 Educational Institutions

In Lithuania, compulsory education is from 6 (early childhood education, pre-school) to 16 years (10th grade, basic, see Fig. 1). Early childhood education and care is composed of pre-school and pre-primary education and is categorized into the type of non-formal education. Pre-school education is not compulsory. A child can be educated by parents according to the pre-school curriculum.

The number of educational institutions does not reflect the demographic decrease of recent years. For example, there were more than 538,000 students and 1193 institutions of general education during 2005–2006 school year, about 322,000 students and 1056 institutions of general education during 2018–2019. Both the numbers of students and teachers shrank but not so much in the number of education institutions.

The reform of educational institutions has shown that it is difficult to attract new and motivated school leaders to educational institutions. Low salaries, high requirements, administrative burdens, tough competition to apply for these positions and fixed-term contracts do not motivate people to apply for managerial positions. A working group set up by the Ministry of Education, Science and Sport is developing a toolkit to encourage school leaders to apply for and renew the corps of school leaders.

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[1] http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do.

2.2 Funding

Since 1990 Lithuania has centralized its funding model developed in a Soviet Union. In 2002 the funding model was changed on the principle of 'the money follows the learner' (commonly referred to as the 'student basket'). This principle was adopted in general as well in vocational and higher education sectors. One of the main reasons for changing the Lithuanian education finance system was dissatisfaction with the quality of education. It was underpinned by the belief that by changing the funding procedure, institutions will work better, and funds will be used more efficiently (Tumalovskaja & Prakapas, 2020). Before the introduction of the 'student basket', most educational institutions were public, i.e. there was no competition between schools, schools was thus not motivated to improve the quality of education. There were few private schools, because parents had to "pay twice (with taxes to the state and a separate fee to the school)" (Leontjeva, 2000). Another important reason is the large number of children who do not attend school. The third reason for introducing a 'student basket' was the non-transparent funding system. The schools did not receive money directly from the state budget. The funds were first distributed to municipalities, which in turn distributed the funds to the schools. The main objectives of this 'student basket' funding model were to increase school choice, promote school competitiveness, enhance parental participation, and enable children from less affluent families to attend better schools.

The financing model for pre-school and general education has been changed since1st September 2018. There has been a shift from the 'student basket' to the 'class basket', a basic education costs basket that is compatible with the implementation of curricula. This means that around 80% of funding is not allocated to each student (the 'student basket') but to the class as per its size. A small percentage is allocated to textbooks and other teaching aids based on the actual number of students. The remaining less than 20% of funds are allocated by municipalities for the organization and management of the educational process, support for education, and assessment of learning achievements, etc.

In higher education sector, the 'Student Basket' and the 'Class Basket' essentially consists of funds for education, including both public and private educational institutions. The 'Student Basket' is provided to public (or state) higher education institutions. In public institutions, the remaining funds are provided by the founder (usually the municipality or, in the case of higher education, the state). Private schools can raise money by charging tuition, receiving donation from private fund, etc.

2.3 Level of Achievements

The results of PISA 2019 revealed that the achievements of 15-year-olds in Lithuania were still lower than the average among OECD countries. In comparison with the results of PISA 2015, it is clear that the level of achievements has increased only

slightly. The result of Lithuanian 4th grade students' mathematics in 2019 was 542 scale points (7 points increase compared to 2015), similar to the students in Ireland, Latvia, Norway (5th grade), Austria and the Netherlands, occupying the 12th position out of the participants of 58 countries. The result of Lithuanian fourth-graders in sciences is 538 scale points (10 points increase compared to 2015), similar to the students from Latvia, Norway (5th grade), the USA, Sweden, England, the Czech Republic, Australia and Hong Kong, occupying the 10th position out of 58 participant countries (Bruzgeleviciene, 2019).

In terms of students' performance in mathematics, one third of the graduates who passed the state maturity exam in 2020 did not pass the state maturity mathematics exam. This may have been partly influenced by the COVID situation and quarantine, but the general trends show that the results of the mathematics exam are not good all the time.

3   Being a Teacher in Lithuania

The teacher's profession was highly valued in the 21th century. The changes in society and technological development made crucial changes in the assessment of professions in Lithuania. And now society of Lithuania experiences the consequences of these changes.

3.1   The Structure of the Teaching Force

As a result of the recent demographic change of the country, the number of teachers has dropped from 38,104 teachers at the beginning of 2010–2011 school year to only 28,599 educators in 2020 (see Fig. 2) according to the information provided by the Lithuanian Department of Statistics, The number of students in general education also decreased crucially: from 415,873 to 325,677 (see Fig. 3). The number of students in the higher and vocational education sectors changed as well.

In Lithuania, the average student teacher ratio is 11 students per teacher, although in rural schools this ratio is even lower and reaches 9 students per teacher. The student teacher ratio is lower than most countries in the world, such as OECD countries that average 13 students, Brazil with 32 children per teacher, and Finland with 16 children per teacher on average.

The teacher community is aging—the larger share of working teachers of retirement age and the smaller share of young teachers. Some 40% of teachers are between the ages of 50 and 59, around 30% are between 40 and 49 and only 3–5% of teachers are younger than 30. The average age of teachers is 50 years, and they retire at the age of 65. The percentage of employed retired teachers is around 8%, with an increase to 9% over the last two years (see Fig. 4).
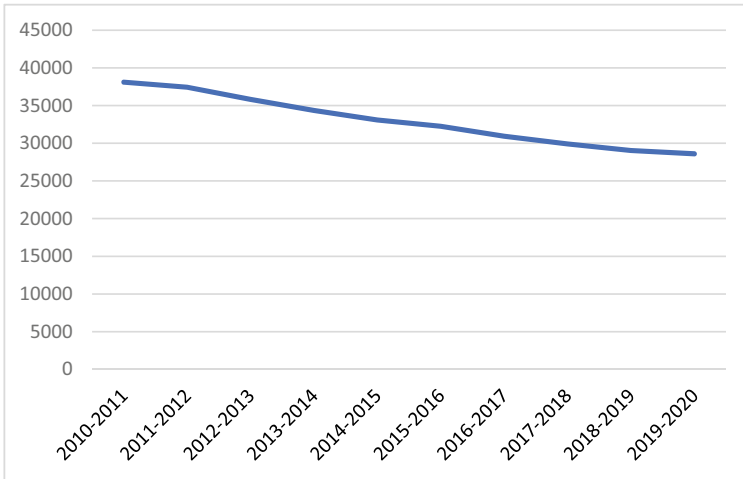
Fig. 2 Changes of number of teachers in last decade
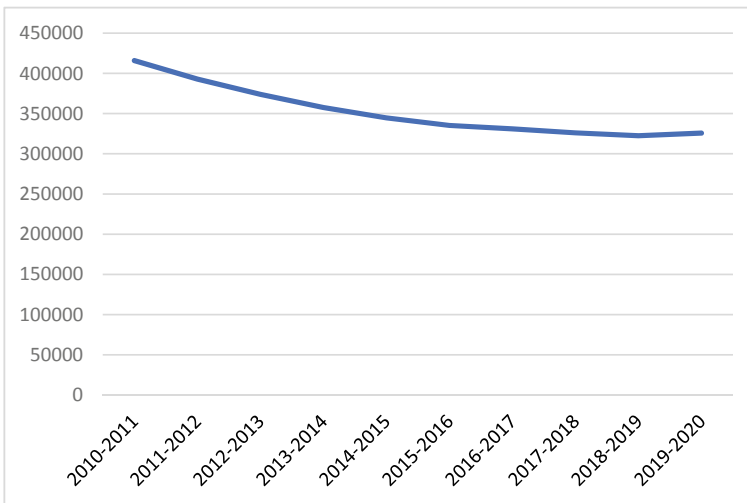
Fig. 3 Changes of students' number in last decade

3.2 Teacher Salary as Incentives to Teaching

Many surveys note that salary is an important factor in determining the supply of teachers. This is especially true in order to attract young people to work in educational institutions. Salary growth may encourage other people who work with children but do not have a teacher qualification to acquire this qualification. In spite of this situation, no real actions have been taken during last decade. In 2016 the average
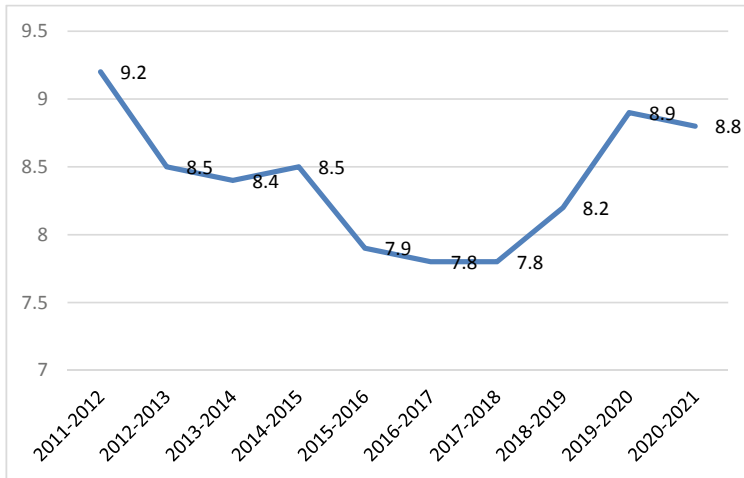
Fig. 4 The percentage of employed retired teachers

net salary of teachers was EUR 686, compared with the national average of EUR 636. In 2020, the average net salary of teachers was EUR 951 compared with of the national average salary of EUR 946. Salary depends on four main factors: workload, qualification level (there are 4 formal levels of qualification), experience (up to 2 years and longer) and class size (up to 11 students per class, 12–20 and more than 20 students). But this level of salary is not attractive as well as workload of teachers. As mentioned above, a full-time payment system has been introduced since 2018. But only about half of teachers in general education are working as full-time teachers.

Meanwhile, the teaching force is not easily renewed with younger teachers. The main reasons why the teaching profession is not attractive are salaries (one of the lowest in the EU), limited access to professional qualifications and the image of the teaching profession in society. Since September 1, 2018 a full-time payment system has been introduced. However, due to some shortcomings, it has been updated and will be updated again if there is a need. In 2018, the national initiative "*Ideas to Lithuania*" raised the goal of having a teacher as a prestigious profession by 2025.

4   Reforms and Situation in Lithuanian Teacher Training

Teacher training in Lithuania has changed along with changes in politics and society. Although politicians have always declared the importance and significance of education, science, decisions are often determined by economic conditions, international and domestic political agreements. It is possible to state that teacher training reforms are happening all the time.

4.1 Reforms in Teacher Training

Since 1990 teacher training in Lithuania has been undertaken by higher education institutions. There are two main models of teacher education in the world: special (professional) and university (Comparative Education, 1996; Pukelis, 1995). In the first model, teachers are trained in specialized colleges and institutes, where less attention is paid to fundamental (general cultural) training. In the second model, teachers trained at universities acquire a wide range of fundamental and subject education, less attention is paid to special psychological and pedagogical training. Most of the teachers who worked in schools in Lithuania were trained in the first model. Teachers for pre-school education were trained in colleges which has not been considered higher education since 1990.

In 2000, the reform and creation of the higher non-university sector started in Lithuania, and colleges became higher education institutions awarding 6 EQF level qualifications (as well as a bachelor's degree from a university). Studies last 3 years in colleges and 3.5–4 years in universities, which leads to a bachelor's qualification I and a bachelor's degree respectively.

In September 2017 a new model of teacher training ("Teacher Training Model") was approved. This model aims to modernize the initial phase of teacher education—to attract motivated future teachers to pedagogical studies to start with. A comprehensive admissions system has been introduced to assess candidates' learning achievements, values, motivation, and personal qualities. Students' suitability for the profession must also be assessed during their studies.

The initial phase of teacher education is still organized using consecutive and parallel models. Teacher qualifications can also be obtained through professional one-year studies and in alternative ways, through programs such as 'I choose to teach!'.

Prior to the adoption of the new model, *the Law on Education* states that teachers must upgrade their professional qualifications. Teachers have the right to attend refresher courses at least five days each year. Participation in continuing professional development leads to salary increases and career benefits. For the first time, a new stage of pedagogical training has been established in the model (by the Law on Education)—a one-year pedagogical internship. It means after graduation teachers should spend one year at school as final "on-the-job" qualifying phase the pedagogical traineeship. This is mandatory for beginning teachers.

The Teachers' Training Regulation (2018) includes some important aspects:

- Module of Pedagogical studies 60 ECTS credits (European Credits Transfer System—ECTS; 1 ECTS approx. 26–27 h of studying);
- In-service practice at least 30 ECTS;
- Recognition of competences (gained through practice informally);
- One year of pedagogical traineeship;
- At least 30% of teaching staff must be practitioners;
- At least C1 level of foreign language proficiency.

4.2   Key Policies on Teacher Training

Essentially, in Lithuania, the direction of teacher training have been shaped by the following two main national documents based on the competences of future teachers. And they are evaluated by other strategic documents drawing on the future perspective of Lithuania, for example, **Lithuania Progress Strategy "Lithuania 2030"** and others. One is The Good School Concept (2015), the other is the Teacher Training Regulation (2018). They will be discussed briefly, emphasizing the competencies of teachers.

4.2.1   The Good School Concept

In connection with *the Concept of a National School* (1988), this policy emphasizes what the school should have. It highlights two important components: school life and educational outcomes. It is worth noting that educational outcomes in terms of academic achievement at international and national tests, secondary school entrance examinations are appreciated more than the personal progress of a student. This implies an inaccurate understanding of educational outcomes, since education and students' personal growth are inter-linked. Attention is also drawn to nine aspects that should be assessed by the teacher and be implemented in their day-to-day activities (The Good School Concept, 2015, pp. 5–7). These aspects are integrated into teachers' education curriculum in Lithuania. All nine aspects will be discussed briefly as follows.

1. *Personal growth.* It is characterized by the following features: personality maturity; achievements; progress. Since the main and desired results of school activities are the maturity of the pupil's personality, the achievement of the educational achievement that corresponds to the individual continuous progress of education, the teachers should help the students to perceive themselves as a person, to enjoy their achievements and to patiently overcome failures without losing faith in their success. This aspect has focused on schools, teacher training and continuous teacher training processes. Efforts have been made to shift from formal summative assessment towards formative one, including reflection. *The Good School Concept* stresses "the school places equal emphasis on the development of all person's competencies set forth in curricula … Student achievements are valued not only according to definite and programmatic educational goals, but also to the individual capabilities and characteristics of each student, in order to achieve continuous personal progress in a manner and pace appropriate to the student, which do not undermine the student's achievement level in the classroom or in the group of students." (The Good School Concept, 2015, p. 3). The new curricula for secondary education which is to be enacted in 2021also highlights personality maturity.

2. *Pupil's life at school*. This emphasizes self-expression. These are activities, events and adventures; feelings of the students; communality; as well as self-governance. The concept also notes that self-expression in school life is as important to personal growth as formal education. In a good school, life and education blend together through activities, spaces, and time. The school should foster positive values and promote healthy lifestyles. Students should feel psychologically safe, accepted, their opinions and ideas are listened and respected, and they consider their stay at school meaningful. This aspect also highlights creating a community based on humane principles of kindness, respect, trust, solidarity, equal rights and the formation of strong relationships between parents and teachers of children, to ensure the implementation of educational goals. These changes were significant comparing with school life before 1990's– in terms of visual artefacts in schools such as artworks and paintings (Kaire and Duobliene, 2016). These artefacts demonstrate pupils' creativity, self-expression, and freedom to establish their private spaces in schools. On the other hand, pupils cannot avoid the existing norms, open or hidden control.

3. *Learning: dialogue and exploration.* It is characterized by the following features: interesting and incremental; open and experiential; personalized and self-paced; interactive; contextual and relevant. Educational content should be interesting, provocative, broad and deep, and challenging. This aspect focuses on a student-centered approach, one of the basic principles for education and for teacher training (Beresneviciene & Tereseviciene, 2020).

4. *Teaching: supporting learning.* It is proposed that teaching should be: purposeful; tailored to individual students; flexible. It should be noted that education in a good school is not self-driven—rather it helps the pupil to develop various competences that are important for him/her and society, teaches flexibility in changing environments and ability to cope with challenges, promotes self-raising questions and reflection. Attention is paid to learning to learn—to find, to select, and to make sense of knowledge. Teaching is partnering—a teacher is a learner's helper in exploring the world, not only a learning partner, but also an authority in areas where the learner does not have enough experience or wisdom. It suggests teaching according to individual needs and choices based on personal experience, aspirations, perception of meaning. One big problem that teachers face in their practice is low students' motivation. Teachers face the challenges not only to work in a student-oriented paradigm, but also to individualize their activities in order to attract students and enhance their learning motivation. The teacher training system includes several subjects of psychology, in service practice, and traineeship (The Teachers' Training Regulation, 2018) to develop teachers as supporters for learning and to promote inclusive education (Naraian, 2021; Keppens et al., 2021).

5. *Variety of personalities.* This aspect is characterized by: positivity of the attitudes; professionalism; personal development; and balanced team. Teacher training in this aspect aims at flexible and open-minded professionals in the future. The perception of quality of teacher training has been changed (Poviliunas, 2020; Petrauskaite & Kucinskas, 2016; Martisauskiene, 2016) The new approach to

teacher development is illustrated as "spread of values should comprise the core of pedagogical studies, whereas the study process should become education, which empowers preparation to teach others" (Martisauskiene, 2016, p. 32).

6. *The school community should be a learning organization.* Huge attention is paid to school community: community learning—working with colleagues, sharing experiences and ideas; sharing responsibilities between teachers and other staff; promoting learning and personal development. Thus, teachers have to develop the competencies of lifelong learning and become members of the school community, organized into a permanent learning organization (Parra et al., 2021).

7. *The importance of learning to empower leadership and management.* There is a need to develop a culture of dialogue and agreement (involving all members of the school community in decision-making), which involves relying on shared leadership; participating in developing and implementing a school vision and strategy, understanding that diversity of opinions and discussions are an integral part of school life. Besides leadership in teaching (teacher leader in classroom) plays important role in teacher education (Zydziunaite et al., 2020).

8. *Dynamic, open and functional learning environment.* It is characterized by the following features: "classless walls"; education-stimulating environment; the contribution of students to the creation of the environment; virtual environment. Thus, the teacher has to create an environment that responds to educational objectives. In essence, this would be an open educational environment—from the traditional classroom spaces to "classrooms without borders": the process of education can also take place in corridors, lobbies, library, school yard and in other internal and external schools.

9. The teacher as an active member of the community, initiative and creative participant. The teacher teams and their involvement into communities are important (Krammer et al., 2018; Dobber et al., 2013; Densmore, 1998). It would be the responsibility of school community to create a vision and strategy of the school and to implement the goals. It is also important for the school community to collaborate with the local community

All these aspects were highlighted in *The Good School Concept* as guidelines for schools, teachers, and teacher trainers. All or almost all aspects are implemented in pedagogical studies of all study programmes. Having assessed the nine aspects of *The Good School Concept*, it becomes clear that the field of activities of a teacher is not limited to pupils' education issues. It is related to the wider range of activities at school and beyond the school. This implies the need to review the teacher's competences in the broader range of activities and take them into account in teacher training and their professional growth.

4.2.2 Teachers' Training Regulation

This national policy enacted in 2018 also points to teachers' competences. The chapter "Raising the Profile of Teacher Professionalism: Approaches and Strategies in Brunei Darussalam" is entitled "Requirements for teacher qualification and specific competences". It states that 'General and specific competences necessary for the acquisition of a teacher's qualification are developed and deepened throughout the period of active professional activity:

General competences:

1. leadership;
2. creativity, problem solving and critical thinking;
3. social justice and citizenship;
4. Reflection, self-evaluation, continuous improvement;
5. organization and change management;
6. social emotional;
7. digital literacy;
8. media literacy.

Specific competences:

1. knowledge of the educator and his or her environment;
2. curriculum management and implementation;
3. achievement assessment and feedback;
4. professional action research;
5. professional partnerships, networking, communication and collaboration' (Teachers' Training Regulation, 2018, p. 2).

Both general and specific competences are presented in rather abstract terms—they are not filled with content and are not developed. However, they are aligned with the aspects of *the Good School Concept*. Their development should be linked to the features noted in The Good School Concept (2015) and the other content presented therein. Otherwise it is not possible to create such a good school "that aspires to the foundation of basic humanistic values, the goal of understanding the meaning, discovery and success of a person's education, which follows school community agreements and learning." (The Good School Concept, 2015, p. 2). This basically depends on teachers. It is understandable that the creation of such a school requires the definition of teacher competences and their development.

4.3 The Teacher Training Centers

The last main transformation in initial teacher education is related to the government's decision in 2018 to establish three National Teacher Training Centres, respectively in Vilnius (Vilnius University), Kaunas (Vytautas Magnus University) and Siauliai (Siauliai University). The 2018 Teachers Training Regulation state that Teacher

Training Centres and other HE institutions that have cooperation treaties with Centres provide initial teacher education. Other higher education institutions which traditionally had teacher education in their departments were forced either to stop their study programmes or to find collaborative models with one of the three centres. The main task of this reform was to regulate the number of teacher training programs (before the reform, more than 14 higher education institutions offered various pedagogical study programs), as well as to establish quality criteria related to studies and educational research. In 2021 Siauliai University was merged with Vilnius University. Three Teacher training centers are continuing with challenges in teacher training.

The Centre is essentially a university that meets the requirements set by the Minister for Education and Science. It has to concentrate the national or regional educational potential and cooperate with other HE institutions that provide initial teacher education programs. All three centers follows such strategic documents as the *Good School Concept* and *the Teacher Training Regulation* as well as *The Specifications on the Education and Training Studies Course Group,* the latter states which subjects have to be covered in teacher education programs of all forms:

- Education science theory, historical, philosophical, sociological and intercultural aspects of education and training;
- Knowledge of the teaching subject or chosen educational specialty;
- Personal development and personal maturity;
- Motivational Requirements for a Teacher's Qualification (2014) in accordance with Specifications on the Education and Training Studies Course Group (2015) and teaching theories;
- Group processes and their dynamics in learning environments;
- Planning and management of the learning processes (planning educational content, its purpose and tasks, in accordance with learners' experience and difficulties);
- Application of learning strategies, methods and technologies in education environments
- Methods of assessment and self-assessment of achievements;
- Diversity of learners, taking into account the context of those with special educational needs (inclusive education) and those who are talented;
- Didactics and methodology of the teaching subject;
- Reflective practice, professional development, cooperation inside the institution and with other professionals;
- Healthy living and human safety;
- Sustainable development of a person, society, organization;
- Education management, leadership, implementation of self-governance at the school, community, municipality and national levels;
- Educational policy, its trends and implementation at the institutional, inter-institutional, national and international levels.

Concurrent and so-called adjacent models are used in teacher education. Teachers' Qualification can also be obtained after completion of the professional pedagogical studies in a consecutive way or in alternative ways.

There are no graduates that have fully completed this teacher education model. Additionally, one year after graduation it is obligatory to spend one year at school as the pedagogical traineeship/final "on-the-job" qualifying phase. In 2022 this process should start. Now piloting is under way with volunteers in order to clarify the system, prepare mentors and tutors.

5 Conclusion

The 21st century sees the rises challenges for teachers and teachers' trainers—the rapid technological change, dynamic environment, the globalizing world all demand to think globally, and act locally, taking into account not only the global possibilities of the world but also the context of the nation and future aspirations.

Teachers' situation in Lithuania is affected by socio-demographic as well as economical changes in the country. However, reforms and changes have not affected much funding and workload of teachers in Lithuania. The Good School Concept (2015) is a map for the future, a reference point for educating and training teachers and combining them with the OECD "*The future of education and skills education 2030",* which refers to the "Transformative Competencies" as "creating new value, reconciling tensions and dilemmas and taking responsibilities". These transformative competences in teacher training should capture the contextual content of the country and respond to teacher training and professional growth as an integral and conceptual basis.

As the main changes in teacher funding system as well as in teacher training took place in 2018, it is difficult to measure the impact especially in the COVID-19 context. The policies of Lithuania focus on changing education to respond to the challenges of the 21st century, rethinking of existing educational systems including the components in teacher education and professional growth, percolating the education system.

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Teachers' Status and Capacities: Issues, Trends, and Challenges

Needs-Based and Research-Based Strategic Approach to Teacher Development: Policies and Practices in Qatar's Public Education System

Ahmed Baghdady

1 Background

Qatar is a small peninsula in the northeast coast of the Arabian Gulf region with a total land area of 11,437 square kilometer (Al-Fadala, 2015) and a total population of almost 2.65 million as of March 2021 (PSA, 2021). Historically, Qatar's economy, like that of most other neighboring Gulf States, was based on camel breeding, fishing and pearl diving (Gonzalez et al., 2008). However, in the 1940s oil was discovered in Qatar, which was a British protectorate at the time, resulting in a major shift in the economy and the beginning of the country's modern history characterized by prosperity, welfare, and remarkable social progress (Stasz, Eide, & Martorell, 2007).

Shortly after independence in 1971, Qatar started to attract expatriates from Arab and South-East Asian countries to contribute to the development of the state, establish government organizations, expand the private-sector, and provide education, health, and social services. Oil and gas revenues enabled Qatar to embark on major development projects in many areas at the same time. Therefore, more recently, the country has been attracting foreign labor in large numbers to meet the increasing workforce and labor market needs for both skilled and unskilled labor (Tok, Alkhater, & Pal, 2016). These efforts started shortly after Shaikh Hamad Bin Khalifa Al-Thani took office in 1995 but were more visible starting in 1998 when several new government and semi-government organizations were established to lead aspects of the country's development, such as the Supreme Council for Family Affairs in 1998 and later the Supreme Education Council in 2002.

Qatar's development entered a new stage in 2008 with the launching of Qatar National Vision (QNV) 2030 that set ambitious development goals in four main development pillars: economic, social, human, and environmental (MDPS, 2018a). This vision has been guiding all development efforts in the state since its launch. A

A. Baghdady (✉)
World Innovation Summit for Education (WISE), Doha, Qatar
e-mail: ahmedb@qf.org.qa

more specific 6-year development strategy (National Development Strategy (NDS) 2011–2016) was introduced a few years later encompassing plans of the various sectors in the state including the education and training sector (MDPS, 2018b). The Ministry of Education and Higher Education currently leads the governments' efforts in developing education with a clear strategy for the education and training sector (MOEHE, 2017).

The massive revenues from oil and gas are an obvious benefit, but also pose challenges to the GCC states, and Qatar is no exception. Although income from oil and gas exports enables major developments, the high standard of living it provides for the small population of citizens has a negative impact on student motivation. This is clear in the low motivation of students at the K-12 level as well as, though perhaps less evidently, at the higher education level. The government provides guaranteed employment to citizens in addition to generous benefits including free education, health and social services. A significant portion of male secondary school graduates in Qatar join the labor force after completing secondary education given the availability of jobs that provide reasonable income, mostly in the military and police (Stasz et al., 2007).

2 Qatar's Education System

Formal education started in Qatar in the 1950s with a school for boys in Doha followed by schools in other cities and a school for girls. The Ministry of Education was the first government entity to be established in Qatar in the early 1950s. Since then, the education sector has grown remarkably in Qatar with the expansion of public schools, the introduction of private and community schools that serve the expatriate populations, and the establishment of the College of Education in the early 1970s which later became the first college of Qatar University (Al-Misnad, 2007).

Teaching is not regarded as a prestigious profession in Qatar, especially for male citizens who have many other less demanding and better paying job opportunities in the public sector (Gonzalez et al., 2008). Although a number of female citizens teach in primary and secondary schools, Qatar relies heavily on a large expatriate teaching workforce from other Arab countries. Although this has been the case for almost four decades, it poses several challenges with regards to teacher turnover and the return on investment in teacher training and development on the long run, especially when major changes in the policy are introduced.

As of school year 2017/2018 (the latest year for which data are available), Qatar has 579 private and 323 public schools and pre-schools. There are 190,380 students enrolled in private schools, whereas public schools have 117,926 students. While private schools have a teacher workforce of 11,759 with a student to teacher ratio of 16.2, public schools have a workforce of 13,841 teacher with a student to teacher ratio of 8.5. Only 29 Qatari teachers work in private schools and the vast majority of the teachers come from Arab and non-Arab countries. In public schools, 28.5% of the teachers are Qatari (3,594) and of these only around 6% are male (225). The

vast majority of the Qatari teachers are female and almost all of them (3,729 out of 3,753) work in public schools (MOEHE, 2018).

3   Qatar's Education Reform

The leadership of Qatar have realized that relying heavily on income from natural resources is risky, since these resources will eventually run out. Therefore, it was necessary for Qatar to become a knowledge-based society with a knowledge-based economy that competes globally. This required a complete reform of the education system to improve student learning outcomes and the quality of graduates in terms of knowledge, skills, and competencies (Baghdady, 2016). An early effort at reforming education started in 1995 when Qatar's Emir and his Consort established Qatar Foundation for Education, Science and Community Development (QF) to offer world-class education at both K-12 and university levels. In 1996, the first educational institution established within QF was Qatar Academy, a modern co-educational K-12 school offering the International Baccalaureate (IB) curriculum and adopting English as the medium of instruction.

Over the course of the following two decades, QF has become the host of several more institutions and other entities. A number of branches for Qatar Academy were established to serve people in cities other than the capital city of Doha; an early learning center was established to provide pre-school education; a center for educating children with learning difficulties was established and later transformed into an academy; an academy for children with Autism, and a teacher training institute (the Education Development Institute-EDI) which was set up to provide training and professional development to the teachers and leaders of these schools and centers (QF, 2018; EDI, 2018). It is important to note that the schools and other entities under the QF umbrella are all private, not-for-profit entities. Although all QF activities are funded by the government, the Foundation and its educational institutions are treated as private, not public entities.

In addition to the K-12 schools, QF serves as a host to several branches of world-class universities such as Georgetown University, Texas A&M University, and Carnegie Mellon University. These international branch campuses provide higher education programs to students from Qatar and the region. Like their home universities, these campuses are very competitive and admissions requirements are very high (Altbach, 2010). Although the Qatari government provides full scholarships to Qatari students admitted to these institutions, only a small number of students are able to meet the admissions requirements. Hence, the need for better student learning outcomes and higher quality school graduates (Baghdady, 2016).

In 2001, the leadership of Qatar asked the RAND Corporation, a renowned research and policy analysis institution based in the US, to examine the public education system and provide recommendations for major improvements. A team from RAND examined the education system in Qatar, identified issues with the system at the time, and provided three alternative reform options (Zellman et al., 2009). Qatar's

leadership selected the option that introduced the government-funded, independently operated schools. These schools adopt the Charter School model in the US with a few adaptations to fit the local context in Qatar including a more appealing name, the Independent Schools (Brewer et al., 2007).

RAND then developed a plan to implement the education reform and worked with various local stakeholders and international organizations to introduce these bold changes to the local education system in Qatar. Some aspects of this reform effort included improving the quality of teaching to raise student achievement, introducing curriculum standards, and enhancing teacher and leadership professional development. The main objective of this reform was to help Qatari students succeed along international and particularly Western benchmarks (Nasser, 2017).

To manage the large-scale 'Education for a New Era' reform project, RAND recommended that an independent entity be created outside of the bureaucratic government system and led by a group of promising forward-thinking Qatari citizens who buy-in and support the reform project. The Supreme Education Council (SEC) was established in 2002 by an Amiri Decree and became operational in 2003 with an executive committee that reported to the Board of the Council chaired by the Heir Apparent of the State of Qatar. The mandate of the Council was to develop policies and legislations and monitor the implementation of the education reform in Qatar, thus, acting as the regulatory body in the new education system. The Ministry of Education continued to manage and support public schools until the SEC gradually took over the responsibility of managing these schools under the new Independent School model. However, in 2016, the SEC was abolished, and the Ministry of Education and Higher Education has become the single entity in Qatar responsible for the education sector.

The SEC was first comprised of two entities: the Education Institute which was responsible for developing curriculum standards, identifying school operators, providing professional development to teachers and leaders, and supporting schools in the transition to the new model; and the Evaluation Institute which was responsible for the monitoring and evaluation functions and for assessing school performance and student learning outcomes. Both entities were responsible for implementing the reform, which was based on four main principles: autonomy, accountability, variety and choice. *Autonomy* allowed schools to make decisions about hiring teaching staff, curriculum, professional development, pedagogy and internal policies; *variety* was concerned with what schools should offer in terms of their programs and curricula; *choice* gave parents freedom to choose the school in which their children can be enrolled; and *accountability* meant schools would be accountable for student's outcomes (Zellman et al., 2009).

The concept behind this reform was to transform the education system from a traditional centralized model to a decentralized, results-based, and autonomous one (Brewer et al., 2007). Although in theory this should be a very successful reform, the reality was not as a positive. The Education for New Era reform transformed 12 government schools into Independent Schools in the first cohort in 2004. For every subsequent year, 15–20 schools were transformed into the Independent model. By 2010, all government schools had transitioned into the new school model and later

that year, the Ministry of Education was merged into the SEC to form one entity (Al-Khater, 2016).

This major reform effort received a lot of criticism locally. The magnitude of the reform seems to have been too large to be absorbed by educators in the system and even the community at large. Anxiety was high and several concerns were raised in the media (e.g. Al-Turk, 2008) about the new education system in general and the new responsibilities and duties of teachers in particular (Baghdady, 2016). The resignation of many teachers in the first two years of the reform due to the overwhelming training programs offered after teaching hours caused a major problem for the SEC. This has resulted in hiring many new teachers from other countries who were not familiar with the local context of Qatar.

In response to the several challenges and resistance the new school model faced, several of the reform policies have been reversed later. For example, student admission into schools, hiring of teachers and payment of their salaries have become centralized again. Textbooks for the various subjects have been developed and sent to schools to use instead of relying on materials developed by the schools to achieve the curriculum standards. Overtime, the school system in Qatar returned back to the central model, albeit with some features of the Independent school model retained. Figure 1 outlines the trajectory of the education system in Qatar during this period:

During the transition from a centralized system to a more de-centralized one, then back to the original model, teacher training and development evolved in different stages as outlined in Table 1.
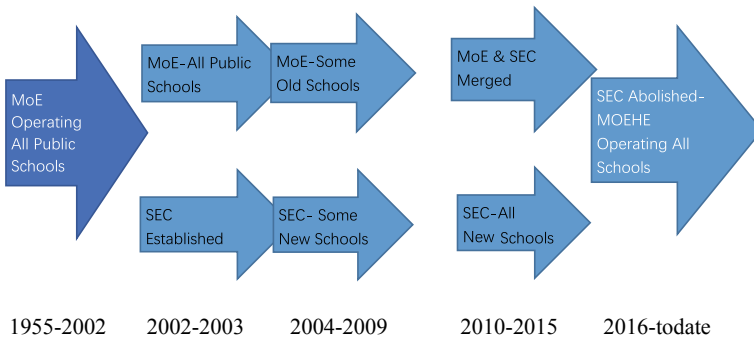
Fig. 1 Qatar's school education system during the education for a New Era reform

Table 1 Evolution of teacher training and development in Qatar's school education system

Inception-2002	Before the education for a New Era reform initiative
2003–2007	Early years of the reform initiative
2007–2011	Later years of the reform initiative
Currently	After the end of the reform initiative

After the restructuring of the education sector and moving all schools under the oversight of the SEC in 2010, teacher training and development in Qatar entered a new stage of evolution. Although the SEC continued to rely on international training providers and consultants, a more national approach was necessary to ensure that expertise is developed and retained locally. The next section provides an overview of teacher training and development in Qatar prior to the beginning of the education reform in 2002, during the early years of the reform (2003–2007), and later when new initiatives were introduced to address challenges encountered in the reform project (2007–2011), and more recently when more strategic efforts and initiatives were undertaken to improve teacher training and sustain development in this field.

4   Teacher Training and Development in Qatar

Prior to the reform, the need for professional development for educators in Qatar was not viewed as an important aspect of the education system. A few teacher training programs were offered by the (then) Ministry of Education mainly as a routine task of the relevant Ministry department, or as part of the duties of Subject Inspectors. There was no master plan for professional development with clear goals, objectives or indicators for effectiveness. There is not much that documents the teacher training and development activities then other than reports of some training programs offered by inspectors of the various subjects taught at schools. For example, the inspector of science would hold a training session for teachers of science in primary schools before the beginning of the school year. The Department of Teacher Training also offered ad-hoc training and development programs that targeted a small number of teachers. These programs were not offered as part of a policy to improve teaching and learning. Instead, they were offered routinely as part of the teacher promotion process. Most of these programs were not followed by any efforts to measure their impact on teacher performance or student learning outcomes. Anecdotal evidence suggests that these programs were not necessarily designed to address weaknesses in teaching and learning, nor were based on research or the actual needs of teachers.

4.1 Teacher Training and Development Early in the Reform Process (2003–2007)

When the Education for a New Era reform started in 2003, there was a major shift in the focus on teacher training and professional development. This was mainly driven by the need to enable teachers to transition from traditional teaching approaches to more advanced student-centered approaches that are aligned with the newly introduced curriculum standards. The SEC's Education Institute had an office dedicated to teacher and school leadership training, the Office of Professional Development

(OPD). This office was led by an expert in teacher training and development and worked closely with other offices in the Education Institute, such as the Curriculum Standards Office (CSO), the Independent Schools Office (ISO), and the Finance Office (FO).

Given that the education reform project introduced several new changes to the education system, there were several challenges associated with the implementation of this reform effort, especially in the first few years. As per the design of the education reform project, Independent School operators had the authority to manage school budgets, part of which was dedicated to professional development. According to three interviewees (a professor in the College of Education-Qatar University, a senior leader in the Ministry of Education, and a senior director in the Ministry's teacher training center), Independent Schools provided professional development programs to their teachers, however, the quality and impact of these programs varied widely. In some schools, the programs addressed specific development needs of the teachers, but in many others, the effort was merely a routine task to be completed for reporting purposes as required by the SEC. Training quality and relevance, and the capabilities of the trainers were questionable in many cases.

On the other hand, the training provided by the SEC's PDO was viewed as relevant and effective for the most part but overwhelming for many teachers who were already busy teaching their classes, developing materials and tests, performing some administrative tasks, and completing several reports during the day. As the training was conducted after the school day, teachers had to commute to the training venue and spend two to three hours in intensive training after a long school day. Teachers not only attended the training sessions but had to work on assignments and do projects as well. This workload on teachers led to the resignation of many in the first two years of the reform. Although the SEC and the schools were able to hire expatriate teachers to fill the vacant teaching positions, it was challenging to retain teachers for a long time and have a return on the investment in training and development.

4.2 Teacher Training and Development Later in the Reform (2007–2011)

In order to ensure successful implementation of the reform the SEC played an integral part in ensuring that teachers are performing according to high standards to improve student outcomes. After establishing the Qatar Office of Registration, Licensing and Accreditation (QORLA) for the Independent School staff in 2007, the SEC launched the Qatar National Professional Standards for Teachers and School Leaders (QNPSTSL), to ensure minimum standards are met with regards to the skills, knowledge, and quality of teaching and leadership practice in Independent schools (Nasser, 2017). This office was responsible for drafting the licensing and accreditation standards; receiving and reviewing applications from teachers, leaders, and schools; and granting licenses to teachers and school leaders, and accrediting schools.

In 2008, the SEC, in collaboration with Education Queensland International (EQI) of Australia, drafted standards for teachers and developed the Qatar Registration and Licensing Policy Framework which later became the Teacher and School Leader Licensing Policy. This policy clearly outlines the requirements and expectations from teachers and school leaders to obtain and retain the license to operate in Qatar's schools. As a result, the SEC started to require that teachers obtain professional licenses in order to have a system that ensures the quality of teaching in the country. In 2009, "portfolios" were introduced as a tool for teachers to validate their skills in the QNPSTSL and to obtain licenses (Nasser, 2017). This was a major step forward in the education sector but had what seemed to be unintended consequences. Many teachers struggled to understand the licensing system. Additionally, it was overwhelming for some teachers to collect evidence, create portfolios, and systematically document their activities to meet the licensing requirements.

5 The Impact of Merging the SEC and the Ministry of Education on Teacher Training

In 2009, Emiri Decree number 14 was issued to reorganize the Supreme Education Council. This was mainly intended to merge the (then) Ministry of Education into the SEC to form a single entity responsible for the education sector in Qatar (Al-Khater, 2016). Since the inception of the education reform in Qatar, having two parallel education systems led by two entities created several tensions. Both the SEC and the MoE encountered several challenges related to integrating their policies and oversight of the education sector. According to Tok et al. (2016), this merger was in fact an effort to phase out the MoE and enable the SEC to lead the education sector and spread the reform agenda across the government education system.

Although teacher training and development were not the most challenging areas during this transition period, the SEC faced a major hurdle in absorbing the large number of teachers who used to work at the schools overseen by the Ministry. Many of these teachers were considered low performing as they had been using traditional teacher-centered methods based on memorization and were accustomed to old assessment and evaluation approaches. However, leadership of the SEC had to consider the social and political environment when dealing with this challenge. The new Independent Schools were asked to hire as many of these teachers and leaders as possible. This required intensive teacher training and development at schools and by the SEC (Abu Tineh, 2016).

6 Recent Efforts to Improve Teacher Training and Development in Qatar

Since 2011, several efforts have been made to improve teacher education and training in Qatar both as a response to challenges encountered during the previous decade and in an attempt to further enhance teacher capacities and improve the teaching and learning process at schools. Below is an overview of these efforts and a reflection on how effective they are in achieving these goals.

6.1 Creating the National Center for Educator Development (NCED)

In response to the teacher training and development challenges the education system faced after the SEC became responsible for all schools and the need for more qualified and well-trained teachers, the College of Education at Qatar University (the largest university in Qatar) established the National Center for Educator Development (NCED) in 2011 with a mandate to meet the teacher and leadership training needs of the country's public school system. "*NCED works with the Ministry of Education and Higher Education, public schools, and national and international partners to develop and implement Qatar-based comprehensive national educational development programs*" (NCED,). The Center has a clear mission statement. Its mission is to "*make a positive difference in the performance of educators in the state of Qatar through various professional development opportunities and research projects designed to inspire them to reach their greatest potential as highly capable and competent in-service educators*" (NCED, 2017).

The Center's main goal is to increase Qatar's internal capacity to prepare educators and to conduct research and evaluation on educator development initiatives. The importance of research for informing the design and delivery of professional development programs and evaluation of the impact of training provided by NCED is clearly underscored. NCED "*… prepare current and future educators by informed decision-making based on research-based best practice.*" (NCED, 2017). The Center has four main objectives that clearly outline its key focus areas. These are:

- Develop high quality professional development programs built on best research practices
- Conduct continuous evaluation and needs assessments to determine professional development needs
- Build local capacity to provide professional development
- Disseminate information on the NCED's professional development initiatives and their impact on student performance through publications and conferences

The Center has been serving as the main teacher and school leadership training provider in Qatar since its inception and has grown over a few years by offering a

variety of in-service training programs both in-house, by its training specialists and faculty members of the College of Education, and in partnership with international training providers. The center currently works in close partnership with the Ministry of Education and Higher Education's Training and Educational Development Center (TEDC)—another effort which will be discussed below—to meet the training needs of educators in public schools in Qatar. The NCED has adopted a new approach for educator training that primarily focuses on actual needs and underscores the impact of training on educator performance in the short and long terms. This new approach comes in response to major concerns about the impact of training programs previously offered by the Independent Schools and the SEC during the Education for a New Era reform effort.

6.2 Offering Programs of Teacher and Leadership Training

NCED provides a variety of teacher and leadership training programs that are based on research. The move from routine to research and evidence-based training is a major characteristic of NCED's training programs. Among these programs are:

6.2.1 School-Based Support Program

This program targets teachers, administrators and leaders at low performing schools identified by the Ministry of Education and Higher Education. This NCED's flagship program is the main reason behind establishing the center. The program is based on the vision of NCED and the findings of a number of research studies of the professional development needs of educators in Qatar. The program provides training in several areas including planning, teaching and assessment; classroom management and student behavior; meeting the needs of students with special needs; utilizing technology in teaching, learning, planning, and school leadership; action research and problem-solving skills; utilizing data to manage student achievement; and professional learning communities in schools.

In this program, NCED specialists work closely with teachers, administrators and leaders during school hours to improve their practices and transform the school within two to three years into an outstanding school. This training does not affect the staff abilities to perform their daily tasks. The program aims at providing practical professional development with ongoing monitoring, enabling expatriate teachers who have served previously in other education systems to adjust to the education system of Qatar, creating communities of learning, providing training anchored in research and proven best practices, and operationalizing the role of academic and administrative leadership in the schools.

Assessment is a key component of this program. Throughout the program, training specialists monitor improvements in a number of indicators including student

achievements, student behavior, teacher and supervisor performance, leader performance, participation in education projects and action research, and parental engagement. The assessment results of these indicators provide insights into the impact of training on teacher and staff at the school. The program has a number of features that seem to make it effective and supportive for teachers and leaders. It is embedded in the daily work of the participants, so they do not have to work after school hours or on weekends.

Data collection is conducted on an on-going basis throughout the program to provide evidence for improvement. The program is provided in a variety of formats including workshops, modelling, mentoring sessions, discussion forums, and feedback sessions. One of the most important features of this program is that it underscores the importance of development and improvement over evaluation so that teachers, administrators and leaders are encouraged to continue the program and not worry only about evaluation outcomes. A school leader whose teaches participated in this program states "*This is a very effective program. I'm seeing tangible results in teacher performance and learning outcomes. I was so concerned in the beginning about the reaction of my teachers to this program but the design and the focus on the training, not the evaluation, helped reduce teacher anxiety and stress. I'm impressed with the quality of this training.*"

6.2.2 Teachers Basic Training Program

This program was launched in 2015 in partnership with the SEC to provide extended professional development programs by NCED training specialists and faculty of the College of Education that meet the needs of all teachers in Qatar. The program is designed according to the National Professional Standards for Teachers in Qatar, the 21st Century skills, job descriptions of teachers, and the vision of NCED. The program consists of 60 credit hours divided over three units of 20 h each, and aims to provide high quality professional development that enhances teacher performance in the classroom. The program takes five weeks to complete and is offered in three levels according to teachers' expertise and performance.

This program combines theory and practice and features pre-assessment, workshops, individual and group work, presentations, and post-assessment. The impact of the program is further assessed in schools where teachers are observed and improvement of their practice is documented. Three reports are provided for each trainee, and an annual report on the effectiveness of the program as a whole is produced including opportunities and recommendations for improvement. A thousand teachers from 175 public schools participate in weekly workshops provided by 49 faculty members of the College of Education as part of this program.

6.2.3   Qatar University Exxon-Mobil Teachers Academy (QUEMTA)

In addition to the main professional development programs, NCED established a teacher-training academy for teachers of science and maths in partnership with the energy company Exxon-Mobil Qatar. This academy follows the highly successful model of the Exxon-Mobil Teachers Academy (MEMTA) in the US (EMTA, 2018). The Academy offers an intensive one-week training program for primary and middle school science and maths teachers to enhance their understanding of the content of these subjects and the linkages between them, improve teachers' experiences with these subjects, and provide them with the interactive tools that enable them to ignite the students' spark of passion for science and maths.

This program provides training to 40–50 teachers every year and culminates with a forum of all teachers to demonstrate their projects, showcase their work, and assess the impact of the program on their performance. Like most other NCED programs, research-based professional development and impact assessment are integral parts of this academy. A research chair funded by Exxon-Mobil Qatar was established at the College of Education of Qatar University to fund research that focuses on assessing the impact of the training provided by the Academy on the performance of teachers and student learning outcomes, as well as to document the activities of the Academy.

6.2.4   Bridging the Gap Between High Schools and Higher Education

NCED officials realized that there is a wide gap between the skills and competencies of secondary school graduates in Qatar and the requirements of higher education. This has led to many secondary school graduates joining the labor force and not pursuing higher education degrees. NCED designed a program to train teachers on how to help their students bridge this gap. The program is based on the research of Conley (2007–2010), and the framework of the program is based on the ConnectEd Model (2012) adapted to fit the local context of Qatar.

In this program, students and teachers start by responding to a college readiness questionnaire. Then, lessons are developed to improve specific college-readiness skills with the supporting materials and assessment modules needed. Teachers are then trained in teaching these lessons, and classroom observations are held when they teach the lessons in class. Assessment of teacher performance and student achievement are held at the end of the program to assess its impact.

In addition to these programs, NCED provides a number of other programs that address specific development areas in collaboration with local and international partners such as the Project-Based Learning Program (in collaboration with Reach Out To Asia), Assistive Technology Foundation Program (in collaboration with Assistive Technology Center-Mada), Future Scientists Academy (in collaboration with Exxon-Mobil Qatar Company), and Project International Math-teacher Professionalization Using Lesson Study (IMPULS) in collaboration with Tokyo Gakugei University and Qatar Petrochemical Company (Qapco).

6.3 Creating the Training and Educational Development Center (TEDC)

Another major milestone in teacher training policies in Qatar is the establishment of the Training and Educational Development Center (TEDC) within the Ministry of Education and Higher Education. Emiri Decree number 9 issued in January 2016 restructured the Ministry and created TEDC to be responsible for identifying the training needs of teachers and school leaders, organizing and providing training programs that meet these needs, ensuring quality of training provision, and assessing the impact of the training and development programs. This comes as a response to calls for the Ministry to increase its oversight and responsibility for teacher training and to become the focal point for improving teaching and learning in the country.

TEDC began its training activities in the academic year 2015–2016 and adopted a strategic approach to training and educational development that is comprehensive and independent. It contributes to the sustainable growth of the skills and knowledge of educators and is linked to their career advancement and thus obtaining professional licenses. Additionally the center aims at building national expertise and competencies in the field of educational training to be a leading center in providing high quality training programs regionally and internationally (TEDC, 2018).

TEDC's responsibilities focus on spearheading teacher and administrator training and development in the public schools in Qatar as clearly outlined in the Emiri Decree:

1. Identify training needs of educators in collaboration with schools and relevant entities
2. Formulate annual training plans in collaboration with relevant entities
3. Propose and carry out plans and programs to train and qualify teachers and school staff
4. Develop standards to ensure the quality of training programs
5. Develop training programs according to international standards that meet the training needs of teachers and administrators
6. Develop plans to link training to career paths of teachers and administrators
7. Evaluate programs and plans against the set objectives and key performance areas
8. Develop appropriate tools to assess the training programs' impact on trainee performance
9. Carry out pre-service training programs for new teachers and administrators

Like NCED, TEDC places great emphasis on the sustainability of the impact of its training, addressing the actual needs of teachers and school leaders, and ensuring good return on the investment made in training and development. This is clearly reflected in the center's vision and mission. TEDC's vision is "*sustainable professional development characterized by creativity in developing educators in the State of Qatar*". Its mission is "*providing distinguished professional development programs for teachers, school leaders, and other relevant educators that meet their professional needs in line with the international best practices to achieve quality education and to ensure the availability of highly-qualified teachers and school leaders who contribute*

effectively in improving student learning outcomes and enhancing students desire to contribute to building their societies" (TEDC, 2018).

6.4 Establishing Teach for Qatar (A Local Chapter of Teach for All)

In 2014, Teach for Qatar (TFQ) was established as a chapter of the Teach For All network. The main goal of TFQ is to improve the quality of teaching and learning in the public schools. It aims to improve students' learning outcomes and their attitudes toward education and learning by recruiting promising fresh university graduates to teach in public schools after receiving an intensive teacher training program. TFQ adopts innovative, student-centered pedagogy based on the Teach For All model. This approach aims to depart from the traditional teaching model and transform the culture of teaching in Qatar and the wider region.

Teach For All's teacher training and development approach emphasizes student-centered strategies that promote student leadership and ownership of the learning experience and empowers teachers to facilitate students' active role in the learning process. In addition to the intensive pre-service training that TFQ teachers receive, they are offered ongoing professional development in areas such as use of inquiry-based and project-based learning in the classroom.

The teacher training and development philosophy and approach of TFQ are comprised of six elements: (1) orientation to student vision; (2) ongoing reflection to improve practice; (3) setting high expectations for students; (4) ensuring content rigor and mastery in students; (5) fostering positive culture and learning environment, and (6) building positive relationships with students. Although the Ministry of Education and Higher Education in Qatar provides training on student-centered pedagogical methods in accordance with the national teacher professional standards (Nasser, 2017), much of the teaching practices in Qatar's public schools rely on traditional methods such as memorization and repetition.

Additionally, some studies examining effectiveness of teacher training on student-centered pedagogical methods indicate that "improvements in teacher training related to student-centered instruction in Qatar are unlikely to foster student self-regulation or productive disciplinary engagement" (Knight, Parker, Zimmerman, & Ikhlief, 2014, pg. 42). The main reason cited for ineffectiveness of teacher training on student-centered pedagogy is the lack of additional, ongoing and targeted coaching and feedback (ibid). What distinguishes TFQ teachers in Qatar's public schools is that they receive ongoing professional development during the summer months and the academic year in addition to the pre-service training.

7 Challenges for Teacher and Leadership Training Provision in Qatar

According to interviews with senior officials at the MOEHE and NCED, there are several challenges for teacher and leadership training provision in Qatar. Some of these challenges can be attributed to the fact that most of the teaching workforce in Qatar is comprised of expatriates who come from different Arab countries in the region. Although the ability to speak Arabic is an important factor for hiring teachers, the fact that teachers come from different education systems poses challenges in teaching and professional competence.

Some teaches have been trained in their countries during their service whereas others have received little to no training. Education systems in the Middle East have a lot in common, however, the focus on teacher training and development can vary widely among these systems. Another aspect to this problem is that some of these expatriate teachers are allowed by their countries to work abroad for a limited number of years after which they have to return home. Others decide to return home for personal or professional reasons. This results in low return on the investment in teacher training and development.

Although the Education for a New Era reform has provided several opportunities for improvement in the system as a whole, the following challenges persist in the area of teacher and leadership training and development in Qatar.

7.1 Acknowledging the Need for Training

It is difficult to acknowledge weaknesses in performance and the need for training to improve practices in schools in Qatar. As per the interview with a senior official at NCED, school leaders rejected the idea that their schools are underperforming even though evaluation reports clearly indicated this. It seemed culturally unacceptable to admit that a school needs improvement. Officials at NCED and TEDC invested time and effort to convince school leaders that training and development of their teachers were necessary to improve performance and student outcomes. Despite some evidence of success, this issue still represents a challenge for training providers.

7.2 Establishing Trust Between the Training Provider and the Schools

Another major challenge is the fact that teachers and leaders at schools lacked trust in training providers. The main concern of teachers and leaders was that trainers or training providers would report weak performance to Ministry officials, thus impacting their image in the system and the society as a whole. Establishing trust and

a positive relationship with NCED and TEDC officials was necessary to successful implementation of development programs. Discussing challenges openly and positively can enable schools and training providers to work together to achieve the targeted objectives.

7.3 Addressing Misconceptions About the Impact of In-Service Training

Understanding the impact of continuing professional development on teaching and leadership practices and student learning outcomes required explanation and discussion. Several teachers and school leaders had misconceptions about the positive value and impact of teacher training on their daily practices in the classrooms and on the academic achievements of their students. Some teachers could not establish this connection and, therefore, did not see the value of attending such training programs. There is some evidence of school-university partnerships in Qatar, however, most of these partnerships focus on student preparation for college admissions at local universities.

7.4 Assessing the Impact of Training Provided

During the Education for a New Era reform and shortly after, the focus of teacher and leadership training was on provision of training. When the teaching and leadership licensing system was established, the focus shifted to providing the training that meets the licensing requirements. However, according to a senior official in the Ministry of Education and Higher Education, NCED, TEDC and the MOEHE are now determined to expand the focus to include impact assessment of the training provided to ensure that training provides added value in the classroom and translates into improved student outcomes. This requires conducting pre and post assessments of teaching via classroom observations and other tools to see whether the training received resulted in improved teaching practices and student learning outcomes. This represents a paradigm shift for many teachers and school leaders in the education system and has created tensions between schools and the training providers.

7.5 Creating a Culture of Continuing Professional Development at Schools

Teacher training and professional development should be an on-going process that takes place throughout teachers' careers. After pre-service training, teachers should

continue to learn new teaching methods and strategies and improve their teaching practices as long as they stay in the teaching profession. As more research is conducted in teaching and learning and more evidence emerges from this research, teachers should be kept abreast of developments in their field through continuing training and development. However, many teachers and school leaders in Qatar think that training is required only when performance is weak or when new curricula are introduced. This makes it difficult for NCED, TEDC and the MOEHE to convince school leaders of the need for and importance of continuous training of teachers.

8 Conclusion

Teacher training and development in Qatar has gone through various developments since the implementation of the Education for a New Era reform in 2002. The transition from the stage before the reform when training was provided as a routine function of a department in the Ministry of Education without addressing the needs of teachers and with no follow up on the impact of the training, to the early years of the reform when intensive training was offered both at the school and central levels with varying degrees of relevance and quality, to a stage before the end of the reform when it was necessary to address the specific needs of teachers and ensure the quality and relevance of the training provided. Currently, teacher training and development in Qatar follows a more strategic approach that deliberately ensures that every program offered is needs-based as well as research-based. Having a clear link between the actual needs of teachers and the design and provision of training is starting to bear fruit in Qatar.

School teachers and leaders are now more aware of the importance of training and development and clearly see the value of quality training. The strong evidence and research bases of training and development ensure that funds and efforts pay off at the end when the impact of training is assessed and clear indicators show significant improvements in teaching and student outcomes. However, teacher training and development in Qatar should be further improved to keep up with the latest developments in this field and encourage the creation of a culture of continuous professional development. Hopefully, soon we can see professional learning communities established in Qatar with support from the Ministry of Education and Higher Education, Qatar University, other relevant stakeholders, and more importantly, with the buy-in and initiative of the community of teachers and school leaders in the state.

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Creating Pathways and Developing Incentives: Transforming Teaching into the Profession of Choice in Malaysia

Aini Neesa' Salim

1 Introduction

In Malaysia, the official statistics indicates that 417,280 teachers teach in 10,230 schools with a total enrolment of 5,073,357 students (Ministry of Education Malaysia, 02 September 2022, Maklumat Asas Pendidikan, retrieved from emisonline.moe.gov.my/risalahmap). These numbers include preschools as well as primary and secondary schools under the Ministry of Education Malaysia (MOEM). Teachers in Malaysia constitutes more than half of government employees. To make sure their welfares are well taken care of, Malaysian Government has planned comprehensive strategies for their career.

Changes are required to achieve sustainable development in the country and teachers are the main actors in this process. Teacher education is the key to develop the capacities in teachers. Teacher trainees should be at the centre of a forward-looking academic learning atmosphere. Thus, the recruitment of teacher trainees, the duration of training, and the content and methods of training must vary with the changing needs of the educational system. This will ensure the continuation of investment to improve the quality of teaching and teacher training throughout Malaysia (UNESCO, 2013).

In 2007, the MOEM raised the minimum grade requirements for pre-service teacher training qualification from a diploma to a bachelor's degree for primary school teachers coupled with incentives for existing teachers to further their education, which resulted in very promising outcomes. As of 2019, 87% of schoolteachers had at least a Bachelor's degree (Malaysia Educational Statistics, 2019).

The Malaysian Education Policy Review (MEPR) (UNESCO, 2013) shows how important it is for a country to have top quality and proficient teaching professionals. Not only do teachers' qualifications have an impact on the quality of instruction and

A. N. Salim (✉)
Teacher Professionalism Division, Ministry of Education Malaysia, Putrajaya, Malaysia
e-mail: ainineesa.salim@moe.gov.my

consequently on students' performance, a high qualification level (most often related to a selective recruitment process) can help attract high achievers to join the teaching profession.

Their creativity, willingness to innovate and commitment will benefit the educational system as a whole. Furthermore, it is in the interest of MOEM to invest in teachers in the long term through effective and efficient in-service training programs to fill the gaps in teachers' knowledge and skills and to enhance their capacity to be innovative and creative. Likewise, it is also important to recognize the mission of teachers by creating a professional environment in which they can concentrate on their duties: reducing their administrative tasks is a key prerogative.

Finally, when it comes to ensuring the quality of instruction and to optimize teachers' talents, the review has shown how critical it is to encourage leadership among teachers and to provide professional autonomy in which they can optimize instruction measures based on student-centred approaches. Indeed, in the twenty-first century, teachers' development must be based on an educational model in which teachers, more than mere transmitters of information, are able to adapt to individual needs with adequate instruction methods.

2 Shared Responsibilities of Teacher Training

There are three main agencies responsible for teacher education and teacher training in Malaysia, namely, Teacher Professionalism Division, Institute of Teacher Education and Institute Aminuddin Baki.

2.1 Teacher Professionalism Division

The Teacher Professionalism Division (TPD) is a department within the MOEM. It aims to provide quality teachers who will be able to meet the aspiration of the country and plans the implementation for teacher training (In-Service Teachers). TPD is also responsible in planning and coordinating on-going staff development programmes at the ministry as well as the state and district education departments (Jamil et al., 2011).

MOEM trains Education Service Officers (ESOs) to fulfil the National Human Resource Training Policy (Service Circular No. 6/2005) which stipulates, "Every teacher is required to undergo training at least 7 days per year". The percentage of ESOs that attend such training is announced in the Staff Development Committee Meeting every quarter.

2.2 Institute of Teacher Education

The Institute of Teacher Education (ITE) are responsible for the training of prospective (Pre-Service Teachers) primary school teachers. They take in teacher trainees upon completion of Form 5, for an undergraduate degree. Before 2008, there were 27 campuses, managed independently and offered diploma programmes and post-graduate certificate programmes. In 2008, all 27 ITE campuses were brought under one central management which is the Institute of Teacher Education Malaysia (ITE) in order to standardise the quality of programs offered in the institution. The curricular and qualifications were upgraded to offer five-and-a-half-year foundation and degree programmes as well as a post-graduate diploma programmes. ITE has aspired to transform itself into a world-class teacher education and training university ever after (Malaysia Education Blueprint, 2013–2025).

The MOEM has enhanced the selection criteria for ITE lecturers to a master's degree or PhD. New and existing lecturers will be upskilled through a lecturer induction-training programme. ITE lecturers, similar to their counterparts in tertiary universities, will be encouraged to specialise further to improve their subject matter expertise and to divide their time between teaching, research, and publication.

2.3 Institute Aminuddin Baki

The Institut Aminuddin Baki (IAB) has oversight of the training of school leaders. Head teachers also need adequate training prior to appointment and throughout their service, particularly on the key dimension of instructional leadership and for that IAB is in charge of providing leadership trainings for this group of ESO. This is particularly true for the first three years, a period which international research has shown to be critical for the formation of a principal's leadership style and skills. Participation in ongoing professional development activities is much higher compared to induction courses.

In 1987, the MOEM introduced an induction programme, the Educational Management and Leadership Course (EMLC) to equip head teachers with the skills required for their critical first three years of principalship. Besides, for aspiring and highly potential candidates for principalship, the Ministry introduced a preparatory training programme called the National Professional Qualification for Educational Leaders (NPQEL) (formerly known as the National Professional Qualification for Headship, NPQH). NQPEL is designed with the purpose of 'training high-performing principals to help schools and take them to levels of excellence in all aspects' (Ng, 2017a, b). Below are some of the attributes of skills intended to be developed when principals completed the program (Table 1):

- NQPEL provides necessary theoretical knowledge and skills to equip aspiring principals for running schools;

Table 1 Program structure of the national professional qualification for educational leaders

Mode of learning	Phase 1	Phase 2	Phase 3
Face-to-face	3 Weeks at IAB	2 Weeks at IAB (including Phase 1 Exam)	1 Week at IAB • Phase 2 Exam • Submission of portfolios • Fitness assessment • Counselling module
E-learning	6 Weeks • At own school/office (2 weeks) • Benchmarking program at a selected school (2 weeks) • At own school/office (2 weeks)	8 Weeks • Attachment program at own school (8 weeks)	

Source adapted from *Institut Aminuddin Baki* (IAB) and Ministry of Education (Ng, 2017a, b)

- NQPEL provides principals with the ability to collect, analyse and use data in ways to inform decision-making and build further progress;
- NQPEL prepares principals with skills to work with twenty-first century teachers; and
- NQPEL prepares principals with leadership skills.

    (Ng, 2017a, b, p.1013)

Upon their appointment as head teachers, graduates of the NPQEL programme are exempted from attending EMLC as the curricula of the two training programmes are quite similar. Reviews indicate that these training programmes are effective. For instance, a research conducted by Singh (2017) presented that the "NQPEL programme with its new blended learning mode seems to be the answer for the future of school leadership in Malaysia". Meanwhile, another research by Adams et al. (2020) also presented evidence that NPQEL prepared school principals towards instructional leadership in line with the country's aspiration of allocating high-performing school leaders in every school.

3 Pre-service & In-service Teacher Training

Teacher training in Malaysia encompasses pre-service training and continuous professional development.

3.1 ITE Curriculum of Teacher Training

Top-performing education systems in countries such as Finland, United Kingdom and New Zealand have increased the quantity and quality of practical experience of teachers before entering the system. In comparison, Malaysia's pre-service programmes appear to have a limited practical component in which trainees are able to practice their skills in schools under the guidance and supervision of an experienced teacher (Goh & Blake, 2015; Zainol et al., 2020). Hence the MOEM has increased the percentage of time spent by teacher trainees on practicum training to 40%. Experienced teachers, who are qualified mentors, supervise the trainees in the classroom environment to enhance consistency and quality of the practicum.

The ITE pre-service teacher training curriculum has been reviewed to ensure that teachers are being adequately prepared to teach the higher-order thinking skills desired of Malaysians students. Teachers are also educated on alternative teaching approaches and assessments such as project-based learning and ICT-based assessments (Ismail & Othman, 2018).

Science teachers have also received additional training on utilising 'hands-on' science lessons to effectively communicate abstract concepts and to build the higher-order thinking skills. The MOEM ensures that the ITE curriculum is better adapted to the needs of different school contexts, such as rural–urban settings. It will also enhance cooperation with State Education Departments (SED) to identify a variety of schools across geographies and socioeconomic backgrounds where teacher trainees can serve their practicum (Ang & Ong, 2018).

3.2 Plans and Policies for Teacher Professional Development

In October 2011, MOEM launched a comprehensive review of the education system with a purpose of developing a new National Education Blueprint. The Malaysia Education Blueprint outlined three main objectives:

1. Understanding the current performance and challenges of the Malaysian education system, with a focus on improving access to education, raising standards (quality), closing achievement gaps (equity), fostering unity amongst students, and maximising system efficiency;
2. Establishing a clear vision and aspirations for individual students and the education system as a whole over the next 13 years; and
3. Outlining a comprehensive transformation programmed for the system, including key changes to the Ministry which will allow it to meet new demands and rising expectations, and to ignite and support overall civil service transformation (Malaysia Education Blueprint, 2013–2025, p. E-1).

The Blueprint was developed by referring to several education systems of recognised countries like Singapore, Finland, South Korea and Australia that have shown

outstanding results in international test examinations. With a vision of transforming the Malaysian education to be at par with these countries, 11 areas of transformation and operational shifts have been outlined in the Malaysia Education Blueprint. Shift four specifically emphasises transforming teaching into the profession of choice, to provide teachers with the support they need in order to achieve their full potential. To this end, the Blueprint aims to provide teachers with "CPD (Continuous Professional Development) program that includes common training requirements expected of all teachers, as well as electives that teachers can pursue based on their developmental needs" (Malaysia Education Blueprint, p. E-14).

In relation to that, MOEM then launched a master plan to address the professional development of "in-service" education service officers (ESO). The master plan is outlined in a document entitled "Preliminary Document: Teaching Professional Development Master Plan" (TPDMP). TPDMP aims at assisting ESOs in designing their own career paths via the various continuous professional development (CPD) activities (MOEM, 2014). The master plan is flexible in order to meet the needs of individual competencies, organizational requirements and current standards. It provides guidance to motivate ESOs to improve their self-competence so that their teaching could reach or surpass the level of other neighbouring countries. This master plan is also MOEM's strategy to ensure that ESOs continue to be of quality throughout their service, enhancing the teaching profession as well as promoting it to become a professional career of top choice (MOEM, 2016). TPDMP outlines five main areas to be addressed, namely Teaching Professionalism, Training Road Map, Competency Development, Continuous Professional Development and Governance of Professional Development Implementation.

Service Circular No. 6/2005 (outlining the National Human Resource Training Policy) stipulates that each member of the public service needs to equip themselves with attitude, skills and appropriate knowledge through the human resource development program planned, based on the development of competence and continuous learning. The circular also stipulates that "every teacher is required to undergo training at least 7 days per year". To support the policy, ESO Training Operation Plan (TOP) is systematically prepared to ensure ESOs at all levels attend courses at least seven days a year. It is also worth noting that TOP is created based on the training needs analysis.

4   Teaching Professionalism

MOEM implement various initiatives to improve teaching profession such as streamlining career path of ESOs, developing Malaysian Teachers Concept and Integrated Assessment of ESO, as well as promoting CPD. Teaching professionalism implies teaching profession as a professional career that emphasizes the expertise ESOs in

terms of knowledge, skills, and professional values. In the process of career development, ESOs in Malaysia will be given support for self-development and have tremendous opportunities to choose their own career paths based on their performance and competencies.

4.1 Teachers' Career Development Stages

The Teachers' Professional Development Framework (Fig. 1), adapted from the Model of Educator Talent Management Framework (Sherratt et al., 2013) is used as a basis for developing Teaching Professional Development Master Plan. This framework explains MOEM's teachers' professional development stages starting from the ESO's pre-service to career enhancement.

As shown in Fig. 1, Pre-service Stage begins with the selection of candidates that meet the criteria for training at the tertiary level. Selected candidates must pass the program of study and obtain a professional qualification. The candidates also need to meet the criteria and conditions set by the MOEM. However, if a candidate fails in the assessment, he or she will not be eligible for entry into the ESO service.

In the Initial Service Stage, if an ESO is appointed to a permanent position (DG 41 is the appointed starting grade for each ESO), she or he will be automatically
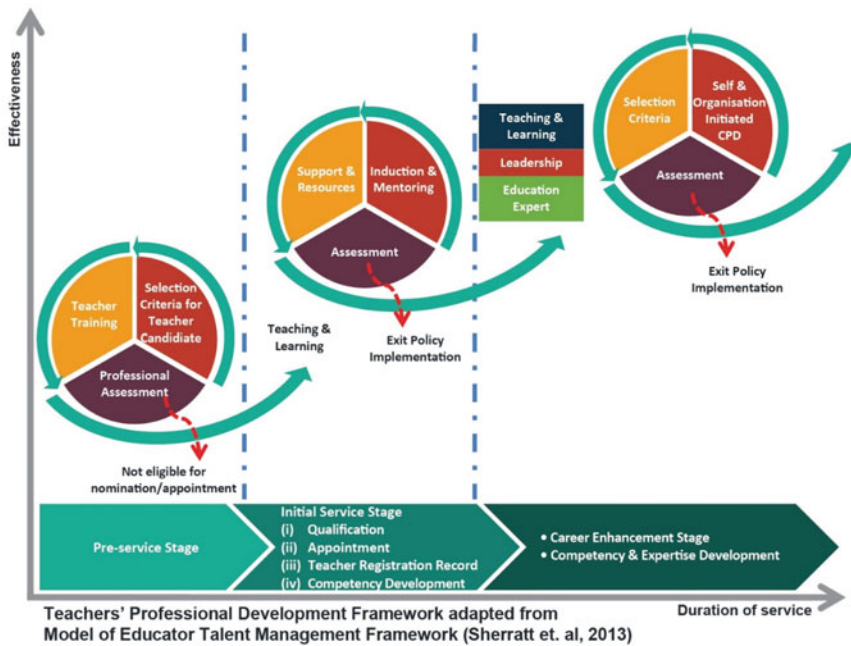
Fig. 1 Teachers' professional development framework

registered as a 'Guru Malaysia' (Malaysian Teacher). ESO implements Teaching and Learning (T&L) in the initial period of service and undergo induction programs, as well as mentoring with organizational resources support. During this period, an ESO's professional development needs to be improved to meet the competence and performance criteria of the Integrated Assessment.

In the Career Enhancement Stage, a competent ESO who achieves the specified performance level may choose between three career paths namely T&L, Leadership or Educational Expertise. Progress and career enhancement of an ESO is supported through competency development by undergoing CPD activities independently or by the organization.

Also, in order to maintain the quality of ESO at an optimal level, an Exit Policy had been introduced. A circular distributed in 2015 explained that the Exit Policy is a basis for termination of service in the interest of the public and retirement for pensionable class officers or officers who chose the Employees Provident Fund scheme (Service Circular No. 7, 2015). An ESO that gets below a certain score based on the UI (Unified Instrument) will go through an observation period for a year. In consequence, if the ESO's performance is still below that score after the performance observation period, the ESO's service can be terminated based on Regulation 49, Public Official Regulations (Conduct and Discipline) [P.U. (A) 395/1993], subject to the facts of each case. ESOs need to ensure their performance is always above minimum level by participating in various CPD activities for work quality and competence to achieve the Key Performance Indicator.

Additionally, MOEM intends to enhance the career progression of excellent or expert teachers. The Excellent Teacher Scheme was first introduced in 1994 (Ariffin et al., 2018). At the moment, MOEM have more than 1500 expert teachers that ranges from Art, STEM to Management. These teachers had been carefully selected and are considered the crème de la crème of teachers. To identify expert teachers, MOEM have listed several criteria that they need to possess including personal characteristics, knowledge and skill of their field, communication skills and many more.

4.2 Teacher Career Pathways

In the Malaysia Education Blueprint 2013–2025, MOEM has planned to enhance the career pathways of ESOs through three different tracks as follows:

- A teaching track for teachers who wish to stay focused on teaching students;
- A leadership and management track for teachers who wish to take up leadership positions, whether at school, district, state or the ministerial level; and
- A subject matter expert track for teachers who wish to become teacher coaches and trainers, lecturers of IAB and ITE colleges, or curriculum and assessment developers.

(Malaysia Education Blueprint, 2013–2025, p. 5–12)

The training road map displays the training that each ESO has to undertake at each stage of their career path and grade (Fig. 2).

1. First, the teaching and learning (T&L) route is suitable for those who aspire to become teachers or lecturers at the Institute of Teacher Education (ITE). ESOs start their career as academic teachers and will be considered as beginner teachers with DG 41 as their grade. At this stage, they are required to undertake basic, specific/policy and competency development of CPD in order to be deemed fit as competent teachers. As beginner teachers, ESOs are also required to undertake the teaching and learning in schools with guidance from other experienced ESO. It is expected that as work experience increases, an ESO needs to play a more challenging role and to have strategic thinking to solve various problems in the teaching field.
2. Also, the T&L career path offers teachers opportunity to apply for promotion to higher grade without leaving the teaching and learning line. Additionally, if they wish to further their career to different pathways such as leadership or
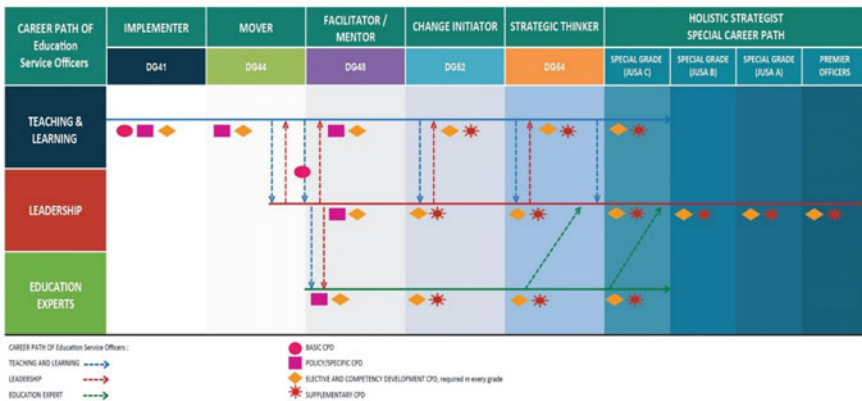
Fig. 2 Training road map

Fig. 3 Primary domain of professional development

subject expert, they could do so provided they are able to fulfill the necessary requirements of MOEM.

3. The second path that is being offered is the leadership path. Leadership path is created for ESOs who are inclined, interested and competent in the field of management and will be holding leadership posts at either District Education Office, State Education Office or the Ministerial level. This path starts when the ESO is in DG 44 grade.

4. Last is the path of education expert for those who are knowledgeable and highly skilled in any field of education (Figs. 3 and 4).

4.3 Continous Professional Development

As shown in the Growth Oriented Training and Development Model (Fig. 5), the training roadmap has built in a set of CPD for the teacher to move to a grade or switch to another career path. *Continuous professional development* (CPD) is a process to acquire learning experience by ESO's formal and informal engagement throughout their career so that knowledge, skills, expertise and professional values can be continuously upgraded. There are three approaches to the implementation of CPD: face-to-face, online and blended. The implementation of CPD is divided into several stages, namely planning, implementing, recording and awarding CPD credit points.

Fig. 4 Projection of types of CPD initiatives 2013–2025

Fig. 5 Growth oriented training and development (GOTD) model

Implementation of CPD activities is grouped into three types of initiatives namely Ministry, Organization and Self (Table 2).

By the third wave of the Implementation of the Malaysian Education Blueprint 2013–2025, CPD activity approaches are expected to give priority to self-driven initiatives (60%) rather than organization-based and MOEM-based initiatives (Fig. 4). CPD practice transformation requires ESOs to plan and develop their potential ability parallel with competency and performance standards.

Table 2 Types of CPD initiative

CPD initiative	Details
Ministry	• CPD activities planned and executed by MOE/SED/DEO for basic and specific requirements are intended to disseminate new policies • CPD initiatives by MOE also refer to the implementation of CPD by MOE/SED/DEO carried out collaboratively with other organisations
Organisation	• CPD activities planned and implemented by the organisation for human resource development within the organisation itself • Head of department is given the autonomy and is accountable for the CPD activities undertaken • Head of department is also can determine the needs for staffs to attend CPD activities related to professional development organised by other parties
Self	The practice of cultivating self-directed learning and providing an autonomous professional development that is driven by self-planning, self-regulating, self-assessment and self-improvement

ESOs are encouraged to participate in various CPD activities in order to enhance their competencies. There are a variety of CPD activities that ESOs can take part in and they are categorized as follows: Basic, Competency Development, Policy/Specific Requirements, Supplementary and Elective (Table 3).

Basic CPD is compulsory to a newly appointed grade DG 41 ESOs. Basic CPD is also mandatory for a DG 48 ESO on T&L route to change to the leadership route. For example, the National Professional Qualification for Education Leaders (NPQEL) program is a course in Basic CPD category, which must be attended by ESOs to qualify them to hold the posts of Principal or Headmaster.

Competency Development CPD involves CPD programs or activities that need to be followed continuously for the improvement of ESOs' competence in their field of work.

Additionally, ESOs also need to know and understand policies as well as national education regulations. As such, ESOs are required to follow the **Policy/Specific Requirements CPD** to keep up with current national education changes. Meanwhile, in order to increase their expertise, ESOs are encouraged to follow the relevant **Elective CPD** field of work. **Supplementary CPD** is an exclusive program offered to the highest performing ESOs for all career paths.

Interestingly, the results from Malaysia's participation in the Teaching and Learning International Survey (TALIS) suggests that ESOs' participation in professional activities in Malaysia has been very good—over 90% of the teachers report they spend approximately 10 days each year on professional development (Malaysia Education Blueprint, 2013–2025). Nevertheless, MOEM believes that this number should be maintained or increased, which has been clearly shown in a guideline introduced to all ESOs in 2018 entitled *Continous Professional Development Guideline for Teachers.*

The objectives of the guideline are: (a) To recognize and acknowledge the participation of ESOs by awarding credit points for activities that they participated or performed; and (b) To encourage ESOs to find a variety of platforms that are relevant

Table 3 Continuing professional development categories

CPD category	Definition	Examples of activities
Basic	Activities before the begining of an education officer's career path to master basic competencies and job orientation	• New Teacher Development Program (PPGB) • Mind Transformation Program (PTM) • Creer path changes CPD activities: NPQEL (Leadership) - Induction course for new Inspectors
Competency development	CPD activities to improve generic and functional competencies according to areas and job descriptions, career paths and grade	• Academic development • Training for specific career path • Book review
Policy/specific	Programme to improve competency of education officers to understand, appreciate and implement programmes that support the implementation of current policy or specific requirements of MOE	• Changes in curriculum • School-based assessment • Twenty-first century learning • Higher order thinking skills • Literacy and numeracy (LINUS)
Elective	Self-selected program or according to organisational needs related to job areas for enrichment and strenghening of cmpetencies towards improving the quality of service delivery	• Seminar/conference • Public sector E-learning (E-Pembelajaran Sektor Awam—EPSA) • Research/action research
Supplementary	Programmes offered exclusively to selected supreme/premier leadership of high-achieving teachers and school leaders for enrichment and strenghening of expertise and towering personality development	• Advance leadership management executive enhancement course programme • Course for high-performing teachers for officers of Super C (Gred Khas C)

to their profession and their personal competence so that they could improve their teaching.

With the purpose of encouraging ESOs to practise CPD independently, the guideline provides them with specific allocation of credit points for each and every activity that they undertook. The initiative also enables ESOs to monitor their CPDs independently according to the requirements stated by the MOEM. The main principle is to give credit points for any CPD activity that directly contributes to the increment of an ESO's competencies and professionalism. Credit points are automatically given via the recording of CPD activities in the MTMS (Ministry Training Management System).

ESOs are also required to obtain 42 credit points each year through several CPD activities such as courses, seminars, dialogue sessions, benchmarking visits, mentoring, e-learning, reading, academic improvement program, attachment schemes, involvement in professional learning communities, inovation, research and writing.

5   Evaluation of Competency Development

Competency development explains the need for all ESOs to be competent in their areas of work as listed in their job description and to ensure that performance standards are met (Fig. 3). Each and every ESO is required to follow CPD activities to enhance competence so that tasks and responsibilities can be effectively implemented. The shift of a career pathway from one route to another is determined by the level of performance measured through the Integrated Assessment (IA) (Fig. 3).

Integrated Assessment (IA) measures the performance of ESOs. *Integrated Assessment* (IA) is an individual performance standards stage based on prescribed tasks and responsibilities towards the targeted achievement. The goal of IA is to evaluate ESOs thoroughly by joining competence, potential and success to improve efficiency and commitment in delivering high performing ESOs. The results of this assessment have been the cornerstones in identifying the CPD that ESOs need to follow for their career development and competence.

Competence refers to one's ability in mastering and cultivating knowledge, professional skills and values to perform duties and responsibilities effectively. The basic principle of competence is improvement in the performance of an ESO who masters the competency required to implement roles and responsibilities efficiently based on the task and place of duty (job-based and workplace). Competency standards are used as a basis in evaluating achievement success.

Job description is a written statement that explains the duties and responsibilities based on the key areas of posts held by ESOs in accordance to their grade. Job description becomes the ESO reference to manage tasks and designations in an organization either at schools, district or state education offices or even at the ministerial level.

Performance standards are standard documents for results, as well as core and professional competence which ESOs need to achieve, based on the job description and benchmark set. The standards, which can guide the internal evaluator to assess performance objectively, fairly, and transparently, show the performance level of ESOs and the current performance is judged on goal setting. In addition, the standards can help the evaluated ESO to identify the desired level of achievement and strive to improve his/her competence through various CPD methods. Compliance to the performance standards is expected to ensure the quality of work and ESOs' professionalism.

ESOs are evaluated each year through a system called "Unified Assessment for Education Service Officers, UAESO" (Initial Document: Teaching Profession Development Master Plan, p. 27). Three important components are taken into consideration for the assessment to be fully implemented: Generic Component, Functional Component and Outcome Component. Generic Component consists of engagement and professionalism, Functional Component consists of skills and ability and Outcome Component consists of achievement, improvement and effort respectively. All ESOs' **generic** components are rated based on the same dimensions, elements and aspects. **Functional** components are rated by dimensions, elements and aspects according to each ESO's field of work. Outcome components are rated based on improvement, achievement and work-based efforts. For each of these components, various dimensions are measured including dimensions of professionalism, assignment, engagement and skills.

CPD framework (Fig. 5) which had been adopted from the Growth Oriented Training and Development (GOTD) model (Khair, 2007), serves as a guideline to enable ESOs to evaluate the work and skills expected from them. GOTD is defined as training and development that focuses on a clear career pathway, sustainable and growing throughout the process and this processes centre around talent (which in this case is the ESOs) management; (Khair, 2007). This framework sets ESO at all grades, starting from grade 41 to JUSA (Public Sector Superscale) with performance profile and field of training. Grade 41 is the starting grade post for a designated ESO. The higher grade they are in the teaching pipeline, the larger responsibility and roles they have to play. Therefore, it could be seen that suggested CPD for each grade is different in accordance to their roles and responsibility. For instance, ESOs in the lower grades like DG 41 and DG 44 are encouraged to choose CPD that will increase their knowledge and understanding of their job specification.

CPD Credit Point System had been developed to acknowledge the participation of ESOs in every CPD activity and as value added in ESOs' services for career development.

6 Governance of Professional Development Implementation

The governance of professional development implementation is run through the establishment of several committees. Each of the terms used by the committee is set by the Public Sector Training Council at the central level chaired by the Director General of Public Service Department. The committees responsible at the MOEM are as follows:

1. **Human Resource Development Panel** (Training) is chaired by the Secretary General of the MOEM. This panel plays the role of a body that identifies and designs staff training requirements, monitor the implementation of training and other tasks.

2. **Staff Development Committee is** chaired by the Director General of Education. This committee is the highest level body in the context of training and development of ESOs, responsible to discuss, support and regulate policy implementation and training, effectiveness of training, and issues related to professionalism development and teachers' welfare.
3. **Teaching Professionalism Development Training Committee** is chaired by the Deputy Director General of Education Malaysia (Teaching Professionalism Development). This committee is responsible for development training for teachers.
4. **Education Leadership Development Training Committee** is chaired by the Deputy Director General of Education (Teaching Professionalism Development). This committee is responsible for coordinating, monitoring and bidding for the provision of specific training to ESOs in the leadership group.

These committees were set up with the idea of providing suitable CPD as well as bidding enough budget for it to be implemented successfully. Each of the committees is guarded by its own jurisdiction and therefore overlapping will not occur between each committee. For instance, the Education Leadership Development Training is only focussing on providing CPD to leaders of educational institutions like the Headmasters and Principals. Meanwhile, the Staff Development Training Committee and Teaching Professional Development Training Committee are in charge of ESOs all over Malaysia. These committees are also responsible for making sure that CPD budgets allocated to each state's department in Malaysia are well spent in accordance to their plan.

CPD implementation mechanism involves planning and approval from the Staff Development Committee.

7 Conclusion

Malaysia is committed to producing holistic and well-balanced teachers. In accordance with the current changes and challenges that teachers are facing in educating future generations, they have to be fully equipped with knowledge, skills and values physically, spiritually, emotionally or mentally. Taking into consideration all of these aspects, MOEM had steadfastly created a comprehensive professional development master plan for the whole spectrum of the teacher's professional career. In the end, Malaysian teachers are optimistic of the benefits and knowledge to be acquired from such a big national agenda.

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Improving Quality in Education: Issues and Challenges for Teacher Education in India

Jandhyala B. G. Tilak and Madhumita Bandyopadhyay

1 Introduction

India has witnessed tremendous expansion in education during the post-independence period—in terms of number of schools, which increased from 230 thousand in 1950–51, i.e., at the inception of planning in the country to 1.5 million in 2020–21. These numbers include primary, upper primary, secondary and higher secondary schools. The number of universities increased during this period from 28 to 1,043 and the number of colleges from 578 to about 42 thousand. There is an explosion in student numbers during this period from 24 to nealry 300 million (Table 1). Elementary education—primary and upper primary education together comprising 8 years of schooling, universalisation of which has been one of the Directive Principles of the Constitution of India (1950), and comes under the reformulated Free and Compulsory Education Act (2009), familiarly known as the Right to Education Act 2009 (MHRD, 2010), is nearly universal with a gross enrolment ratio of 97% and a net enrolment ratio of 92.1%.

The enrolment ratios in secondary and higher secondary level are respectively 79.8% and 53.8% in 2020–21, while in higher education, the ratio was 27.1% in 2019–20. As a result of the massive expansion of education, the system of teacher preparation has come under considerable pressure (Rajput & Walia, 2001). Public expenditure on education also increased over the years; and it accounts for about 4% of gross domestic product in 2019–20, against the goal of 6% which has been promised first in the National Policy on Education 1968 (GoI, 1968), based on the recommendation of the National Education Commission (Education Commission,

J. B. G. Tilak (✉)
Council for Social Development, New Delhi, India
e-mail: jtilak2017@gmail.com; jtilak@csdindia.org

M. Bandyopadhyay
National University of Educational Planning and Administration, New Delhi, India

Table 1 Growth of education in India

	1950–51	1960–61	1970–71	1980–81	1990–91	2000–01	2010–11	2015–16	2020–21
Number of schools									
Primary (in thousands)	209.7	330.4	408.4	494.5	561.0	638.4	748.5	840.1	774.7
Upper primary (thousands)	13.6	49.7	90.6	118.5	151.5	206.3	447.6	429.6	442.9
Secondary* (thousands)	7.3	17.3	36.7	51.6	79.8	126	200.1	252.1	291.8
Universities	28	45	93	123	184	256	544	7,990	1,043**
Colleges	578	1,819	3,277	4,577	6,627	10,152	31,324	39,071	42,343**
Enrolments (in million)									
Primary (grades I–V)	19.2	35.0	57.0	72.7	97.4	113.8	135.3	129.1	122.0
Upper primary	3.1	6.7	13.3	20.7	34.0	42.8	62.1	67.6	68.5
Secondary*	1.5	3.5	7.2	11.3	19.1	27.6	51.2	63.8	66.0
Higher education	0.2	0.6	2.0	2.8	4.9	8.6	21.8	34.6	38.5**
Gross enrolment ratio (%)									
Primary	42.6	62.4	76.4	83.1	100.1	95.7	115.5	99.2	103.3
Upper primary	12.7	22.5	34.2	40.9	62.1	59.6	81.5	92.8	92.2
Elementary	32.1	48.7	61.9	67.5	86.0	81.6	102.5	96.9	99.1
Secondary	5.3	11.4	14.5	17.3	19.3	33.3	52.1	68.1	79.8/53.8+
Higher education	1.0	2.0	5.4	5.4	4.3	7.9	19.4	24.5	27.1
Public expenditure on education % GDP	0.6	1.5	2.1	3.0	3.8	4.1	4.1	4.2	4.4**

Note * Secondary includes higher secondary; + secondary and higher secondary separately; ** 2019–20

Source UDISE + MHRD, New Delhi http://dashboard.seshagun.gov.in/mhrdreports/#home; AISHE: 2019–20, MOE, New Delhi

Education in India and *Selected Educational Statistics* for years until 2000–01 and 2010–11 and after: Flash Statistics (NUEPA, 2015; NUEPA, 2015–16); DISE/UDISE (MOE, 2020–21); Secondary *Source* until 200–01: Tilak (1990); Public Expenditure: *Educational Statistics at a Glance 2015–16*

1966). The goal is often reiterated later, *inter alia*, in the National Education Policy 1986 and 2000 (GoI, 1986, 1992, 2020).

The picture of impressive performance of Indian education noted above with respect to quantitative expansion, falls apart when we examine the quality of education. A sizeable number of children drop out before completing the given level of education. Out of every 100 children enrolled in grade I, only four-fifth complete primary education of five years; two-thirds complete upper primary education; and only about one-third of the children finally reach grade XII. Though over the years, there has been a remarkable improvement in the reduction of dropout rates, the improvement during the last five years, as shown in Fig. 1, is neither consistent nor significant, and the current situation is still not satisfactory.

Dropout rates or their obverse are considered as reflective of internal efficiency of education, or more clearly the quality of education. But a better indicator of quality is the level of learning by the children in schools. India scored poorly in PISA test in 2009, when it for the first time participated in it. The results related only to two states, viz., Tamil Nadu and Himachal Pradesh and cannot be generalized. But nation-wide surveys have also revealed that the levels of learning of the children in the school system are not satisfactory. According to a 2016 survey in rural India (Pratham Foundation, 2016), only 48% of the children in grade V were able to read a grade II level text book; and 27% of the children in grade VIII could not read the same. More than half the children in grade VIII could not perform a small division in elementary mathematics (Table 2). The trends show that the reading abilities of children have further deteriorated by 2018. More representative national surveys (NCERT, 2014,
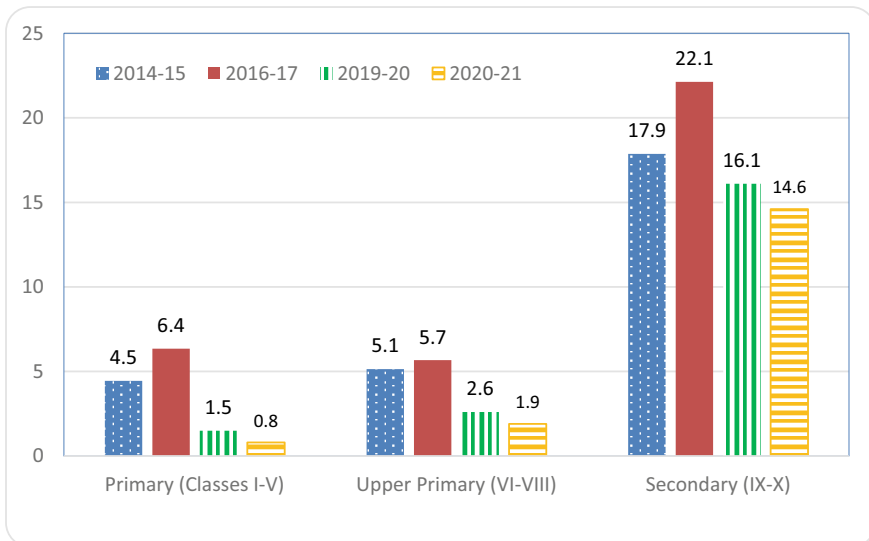
Fig. 1 Rate of annual dropout in school education in India (%). *Source* UDISE + MHRD, New Delhi. http://dashboard.seshagun.gov.in/mhrdreports/#/reportDashboard/sReport

Table 2 Levels of learning in schools in India

(a) Levels of Learning of Children in School Education in Rural India, 2016

	Grade III	Grade V	Grade VIII
% of Children who can read grade II level text	25.1	47.8	73.0
% of Children who can do at least subtraction*/division**	27.6	25.9	43.2
% of Children who can read grade II level text (2018)	20.9	44.2	69.0

(b) Levels of Learning of Children in School Education in India, 2017

(% of Children who have answered questions correctly)

Subject	Grade III	Grade V	Grade VIII
Mathematics	71	48	39
Language	75	56	55
Environmental Sciences	71	54	
Science			41
Social Sciences			38

Note * in grade IIII; ** in grade VIII
Source (for a): Pratham Foundation (2016); ASER Centre (2020): *Learning Trends 2012–18*
Source (for b): NCERT (2017): National Achievement Survey http://www.ncert.nic.in/programmes/NAS/SRC.html

2017) give slightly better, nevertheless not very satisfactory results. Even though we do not have data on similar aspects in secondary and higher education, issues such as unemployment and deficit in values and character of the graduates warn about the deteriorating levels of quality and standards in education. It is increasingly being realised that the quality of education is one of the key challenges that the Indian education system needs to address on a priority basis to arrest deteriorating quality in education which will have an effect on the society.

Among several factors that account for poor quality of education outcomes, teachers are found to be accounting for the most (Tilak, 2011). Many children were found to be dropping out or failing to transit to the next level of education because of school and teacher related issues (Govinda & Bandyopadhyay, 2019). Teachers are the main academic resource in the school system across the world. They are also ideal role model for students. Though teachers are responsible mainly for transfer of knowledge, they do influence students in various ways shaping their minds and lives. They contribute to the overall character building of the young students and thereby in the making of future citizens with character and universal human values. They occupy a key position in ensuring efficient functioning of schools. In fact, the teacher is the single most important person for the efficient functioning of a school. Hence, it is widely held that the quality of schooling or quality of students cannot exceed the quality of teachers. Teachers are responsible for effective teaching learning process in classroom that in turn, will improve learning outcomes of students, by creating a strong positive learning environment, by adopting appropriate pedagogic methods, teaching techniques and evaluation process, etc. In brief, teachers are the architects

of the society. Hence, teaching has been recognised for long as a noble profession. Traditionally teachers have been highly respected and placed at a high unique place in Indian society for centuries. But the situation has been rapidly changing. While the expectations from the teachers and school systems have been rising, teaching profession faces new challenges with inadequate numbers of teachers and declining teacher quality on the one side, and inadequate school infrastructure and facilities and entry of new generations of students with varying aspirations and changing school and socio economic environment (Govinda & Bandyopadhyay, 2019; Govinda & Mathew, 2018) on the other.

Drawing essentially from secondary data, this chapter attempts to discuss the present status of teaching profession in India, the availability of teachers, the supply of trained and qualified teachers in schools, the system of teacher education/training in India and other complex issues. The chapter concentrates on school education, though some of the issues examined and the problems identified here are applicable to higher education as well. Some aspects relating to teaching profession in higher education in India were discussed, *inter alia*, by the author elsewhere (Tilak & Mathew, 2017). Scholars and policy makers in other countries may find the Indian experience analysed here useful in their efforts towards reforming their teacher education systems.

2 Teachers in School Education

The education system in India engages about 14 million teachers, one of the largest teaching professional groups in the world. The school system (primary, upper primary, secondary and higher secondary schools) itself accounts for nearly 10 million teachers in 2019–20 who are teaching across 1.5 million government, government-aided private and private unaided schools[1] (MOE, 2020, 2021). However, it may be easily noted that the growth in the number of teachers is not proportionate to the growth in the number of students and schools. As a result, the pupil-teacher ratio, i.e., number of pupils per teacher—a crude indicator of adequacy of teachers, has increased over the years. The ratio increased from 24 in primary schools in 1950–51 to 42 in 2010–11; the same in upper primary schools increased from 20 to 34, and in secondary schools from 21 to 31. It is only in the present decade, after the implementation of the Right to Education Act, that one notices significant improvement in the ratio—the ratio coming down to 26 by 2020–21 at primary level, to 19 at upper primary level (Table 3). There was marginal improvement in case of secondary schools. Note that the Right to Education Act does not cover secondary

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[1] Government-aided schools are private schools, managed by private trusts/bodies, but are substantially (near about 95% of the total recurring expenditure) financed by the government. Private unaided schools—started either on philanthropic basis, or operating on commercial considerations, essentially depend upon student fees and other contributions. The latter category (working on commercial principles and even de facto for profit) is overshadowing the former category (of philanthropy-based schools).

education; as of now, it covers only primary (grades I to V) and upper primary levels (grades VI–VIII), even though there has been some thinking on extending the right to education to secondary education. In elementary education, though the teacher shortages are high, number of teachers per one thousand population in India, which works out to be 4.7, is fairly comparable with the numbers in other advanced and developing countries. To cite a few cases, the corresponding numbers are 8.2 in Malaysia, 6.4 in Sweden, 5.8 in USA, 4.6 in Finland, 4.5 in China, 4.1 in UK, 3.2 in South Korea, 3.3 in Hong Kong, 3.1 in Japan and Germany 3.0 (around 2010) (Nation Master, n.d.). But these international comparisons do not make much meaning, as the felt shortages in India are acute.

The estimates of number of teachers per one thousand population and pupil-teacher ratios in India given in Table 3 are national averages; they vary widely among several states, and within states between different districts, villages, and between schools. For example, among the various states, the highest ratios at primary level are 55 in the state of Bihar in 2019–20, an educationally backward state, 33 in Uttar Pradesh, and 31 in Jharkhand, another educationally backward state. At secondary level, the ratio is 52 in Bihar and 34 Jharkhand and 29 in Uttar Pradesh. The corresponding figure is further high in higher secondary schools, 66 in Odisha, 55 in Jharkhand, 59 in Bihar and as high as 41 in Uttar Pradesh (Fig. 2).

As per the norms of the Right to Education Act, a primary school should maintain a pupil-teacher ratio of 30 per teacher, and an upper primary school 35 students per teacher. But we notice that a large number of schools exist, which are single teacher schools and schools with ratios above the norms, though their numbers and relative proportions are declining. Still around one fourth of total primary schools are having a ratio above 1:30 at primary level and around 14% schools at upper primary level have more than 1:35 (Table 4). Further, nearly 111 thousand schools are functioning with just one teacher, of which 89% are located in rural areas. At the national level 7% of schools are single teacher schools in 2019–20; and it is as high as 10–15% in several states, and even above 15% in states like Telangana, Goa and Arunachal Pradesh (UNESCO, 2021). The phenomenon of singleteacher schools, a strange feature of school system in India, is not confined to primary level only, as we note in Table 4. These schools expose the hollowness of the education process. One can obviously note that the teaching–learning process in these schools gets severely affected.

Based on the accepted norms regarding pupil-teacher ratios and other aspects, it has been found that there is a huge shortage of teachers—gap between supply of teachers and the requirement of teachers at every level of education. For example, estimates prepared by the Ministry of Human Resource development (MHRD), Government of India (GoI) for implementation of the provisions mentioned in the Right to Education Act regarding pupil-teacher ratios, show that the nation would require recruitment of more than half a million additional teachers over and above the then existing vacant positions of about 523 thousand, i.e., in all 1.33 million (GoI, 2011, p. 15). The gap does not seem to have significantly declined during the last few years. In 2017, 17.5% of teaching positions in government elementary schools and 15% in secondary schools were vacant. Presently, the number of vacant positions is estimated

Table 3 Number of teachers and pupil-teacher ratio in schools in India

	1950–51	1960–61	1970–71	1980–81	1990–91	2000–01	2010–11	2015–16	2020–21
Teachers (in ten thousands)									
Primary	53.8	74.2	107.0	136.3	161.6	189.6	210.0	260.6	249.4
Upper Primary	8.6	34.5	63.8	83.1	107.3	132.6	188.8	261.2	248.6
Secondary*	12.7	29.6	62.9	90.1	133.4	176.2	250.9	247.4	255.7
Pupil-teacher ratio									
Primary	24	36	39	38	43	43	42	23	26
Upper Primary	20	31	32	33	37	38	34	17	19
Secondary*	21	25	25	27	31	32	22	31	18/26[+]

Note * includes higher secondary; [+] PTR for 2019–20 secondary and higher secondary are separately given
Source Selected Educational Statistics and Educational Statistics at a Glance (various years)
UDISE+, 2020–21, MOE (2021) http://dashboard.seshagun.gov.in/mhrdreports/#/reportDashboard/tDashboard
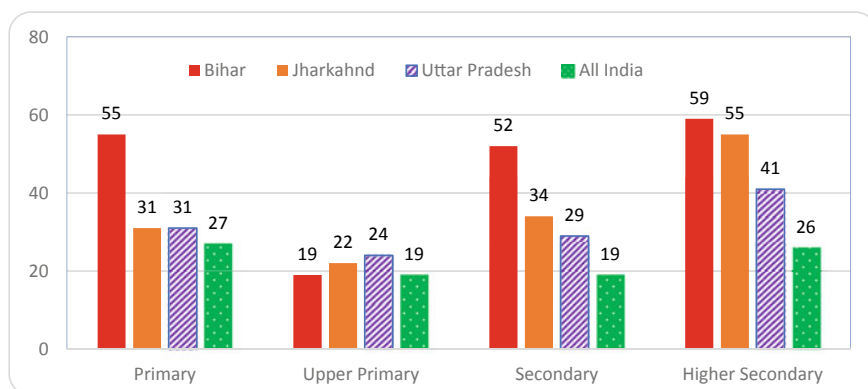
Fig. 2 Number of pupils per teacher in school education in select educationally backward states in India, 2019–20. *Source* UDISE+, 2019–20, MOE (2021). http://dashboard.seshagun.gov.in/mhr dreports/#/reportDashboard/sReport

Table 4 Single-teacher schools and schools with pupil-teacher ratio above norms

	Percentage of schools with pupil-teacher ratio above norms		Percentage of single-teacher schools		
	Primary PTR > 30	Upper primary PTR > 35	Elementary	Secondary	Higher secondary
2010–11	42.4	31.3	8.9	2.7	0.6
2014–15	27.1	14.1	8.3	4.3	3.8
2016–17	22.6	12.1	7.2	4.9	4.2
2017–18	22.8	16.0			

Source NUEPA (2012–2016a, b); UDISE Flash Statistics (relevant years). NUEPA, New Delhi

to be 1.1 million, 69% of which are in rural schools (GoI, 2019; UNESCO, 2021). Even schools run by the Union government—the *Kendriya Vidyalayas* also suffer from a severe degree of sortage of teachers. Obviously schools without sufficient number of teachers cannot meaningfully serve the purpose. The vacancies may be due to several factors, including non-availability of qualified teachers, recruitment policies, hurdles in recruitment posed by judicial interventions and others. The shortage is also partly due to emigration of several teachers to other professions and to other countries.[2]

Apart from serious overall shortage of teachers, the teaching profession in India is also associated with quite a few serious problems that affect the quality and functioning of the schools.

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[2] 55% of school teachers and 62% of college teachers look for jobs abroad! https://www.edarabia.com/why-67-percent-of-teachers-in-india-seek-jobs-abroad/.

3   Quality of Teachers

3.1   Teachers' Qualifications

The issue of teacher supply in India is not only of numbers of teachers; more importantly, it is also about the quality of teachers. An important aspect of quality of teachers refers to teacher's qualification and training, though qualified teachers do not necessarily mean quality teachers. Availability of trained qualified teachers in schools is one of the foremost prerequisites for efficient functioning of schools and an effective teaching learning process. Studies have shown that "better" teachers produce better effects on students' learning and the cognitive and non-cognitive effects last for a long time (e.g., Crawfurd & Rolleston, 2020).

Out of the total teachers working in schools, around 10% possess the qualification of mere higher secondary level education and a majority of them are teaching in primary schools; 41% teachers are graduates (Bachelor's or first degree holders) and 38% are post-graduates (Masters and above degree holders) who mainly teach in higher grades. Substantial numbers of graduate teachers are also found teaching primary and upper primary grades but around three-fourth of all teachers teaching in higher secondary schools possess master's degree. It is also to be noted that around 6% teachers teaching at this level are further educated with research (M.Phil. and Ph.D.) degrees indicating that a considerable proportion of teachers who are presently teaching in Indian schools are highly educated (Table 5).

Table 5 Percentage of teachers in schools, by academic qualification (2018–19)

Academic qualification	Pre-primary	Primary	Upper primary	Secondary	Higher secondary	Total (n = 100)
Higher secondary	13.17	22.73	0.00	0.00	0.00	9.50
Graduate	45.20	44.45	45.57	38.91	14.96	41.43
Post graduate	37.10	24.13	36.16	53.56	76.34	37.57
M. Phil.	0.64	0.39	1.28	2.19	4.02	1.29
PhD	0.27	0.20	0.36	0.75	1.79	0.48
Post-Doctoral	0.06	0.04	0.06	0.09	0.20	0.07
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total (in thousands)	124.7	4,339.5	3,365.6	1,860.4	862.1	10,552.2

Source UDISE+, 2018–19, MOE (2020)
http://dashboard.seshagun.gov.in/mhrdreports/#/reportDashboard/sReport

3.2 *Trained Teachers*

Training—pre-service and in-service professional training is generally considered as an important aspect in school education and it is also considered as a basic requirement for one to become a teacher. Though all trained teachers are not necessarily teachers of high quality, training is an essential, but not a sufficient condition for ensuring quality education. Trained teachers can be expected to perform better than untrained teachers; they are expected to have better knowledge of the subject and knowledge of better methods of teaching and pedagogy; and they could be expected to be innovative in teaching and management of the classrooms and school development as a whole. Accordingly, teacher education and training have been emphasised in India for a long time and generally only formally trained teachers are recruited in schools. As per the existing policy, a person can be eligible for teaching in an elementary school either after 12 years of schooling plus 2 years of pre-service teacher education or 12 years of schooling and a four-year bachelor's degree programme in education[3] (offered by very few institutions in the country). Thus, the 'trained' teachers are those who have successfully completed a formal teacher training programme of two to four-year duration. Until mid-1980s, only trained teachers were recruited and hence they used to account for 95–99% of all school teachers in India. But due to adoption of cost-saving measures in recent years and somewhat flawed teacher recruitment policies after the economic reform policies were introduced in the early 1990s (Tilak, 2009), non-availability of trained teachers, and for many other reasons, untrained teachers have been recruited in large numbers. Recruitment of untrained and under-qualified teachers has subsequently become a widely acceptable practice in many states in India. Accordingly we note the system suffering from increasing proportion of untrained teachers over the years. In 2015–16, 82% of teachers in elementary (primary plus upper primary) schools, 87% in secondary schools and 82% in higher secondary schools were professionally trained. In other words, 18% of teachers in elementary level were untrained; 13% in secondary and 18% at higher secondary level were also untrained. But there are wide variations across the states in India. Note that education is a 'concurrent subject' as per the Constitution of India, but school education is largely a state (provincial) subject, though Union government also plays an important role in it. The proportion of trained teachers in primary schools had turned to be distressingly low in states like Madhya Pradesh, and Chhattisgarh where only about 65% of the teachers were trained, compared to nearly 90% at all-India level in 2018–19. In most of the North Eastern states the corresponding proportion is much less, though this represents an improvement essentially in primary and upper primary levels, only after the adoption of the Right to Education Act. According to the 8th All-India Survey of Education (NCERT, 2009), about 15% of teachers in all levels of school education were untrained teachers. As per 2018–19 data, 17% of teachers in primary, 16% in upper primary levels, and around 10–11%

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[3] The bachelor's (first) degree in education, B. Ed. studies used to be of only 9-month duration, which was increased to two years, and very recently it is proposed to be of four years. This is discussed later in this chapter.

Table 6 Percentage of professionally trained teachers

	Primary	Upper primary	Secondary	Higher secondary
2002 (7th AIES)	78.6	80.8	87.2	83.3
2009 (8th AIES)	84	83.7	86	84.1
2012–13	78.6		87	85.9
2015–16	82.4		87	81.7

Source All-India Educational Surveys. NCERT. UDISE: Flash Statistics. NIEPA

of those in secondary/higher secondary schools were found untrained, that is, they do not possess the prescribed qualifications in training (Tables 6 and 7).

Table 6 also shows that there was an increase in the proportion of untrained teachers in elementary education between 2002 and 2012–13, and between 2009 and 2015–16. There was an increase of the same in higher secondary education also. The

Table 7 Teachers by professional qualification, 2018–19 (%)

Name of professional qualifications	Grades which are taught by teachers					Total
	Pre primary	Primary	Upper primary	Secondary	Higher secondary	
B. Ed. or equivalent	34.43	26.87	47.41	69.92	69.63	44.59
Bachelor of Elementary Education (B. El. Ed.)	8.05	3.91	3.84	2.95	2.03	3.61
Diploma/certificate in basic teachers' training of not less than two years duration	17.65	39.91	18.02	5.53	3.26	23.61
Diploma/degree in special education	2.10	1.24	1.36	1.17	1.13	1.27
M. Ed. or equivalent	4.06	1.18	2.52	4.22	7.20	2.67
None	18.86	17.08	16.15	10.24	10.66	15.07
Others	12.66	7.91	5.70	5.31	5.71	6.62
Pursuing any relevant professional course	2.20	1.92	1.38	0.65	0.39	1.40
Total	100	100	100	100	100	100
Total number of teachers (in thousands)	124.7	4,339.5	3,365.6	1,860.4	862.1	10,552.2

Source UDISE+, 2018–19, MHRD, New Delhi
http://dashboard.seshagun.gov.in/mhrdreports/#/reportDashboard/sReport

Table 8 Trained teachers as percent of Total, by type of school

Year	Government	Government-aided	Private unaided	Others	Total
2013–14	81.41	89.79	74.39	40.31	79.03
2015–16	83.82	90.09	74.28	40.56	80.31
2016–17	85.39	90.23	74.62	41.29	81.13

Source Panda (2019)

Table 9 Teachers with varied teacher training qualifications, 2016–17 (percent)

Qualification	Government	Government-aided	Private unaided	Others	Total
No qualification	14.56	9.76	25.35	58.69	18.83
Diploma	31.62	20.70	12.25	7.30	23.77
BE & Ed	4.46	4.99	5.73	4.01	4.89
Bed	37.65	56.38	46.77	20.61	41.77
Med	2.51	3.82	2.60	1.41	2.63

Source Panda (2019)

situation in case of secondary education has also worsened, though the fall is only very marginal.

The distribution of teachers across different types of schools is also an important issue. Government and government-aided schools are in a better situation in terms of proportion of trained teachers, than private unaided schools. There is also marginal improvement in case of government schools, as one can note in Table 8.

It is also interesting to examine the qualifications of the teachers in various kinds of schools. In terms of bachelor's and master's degree in education, government-aided schools and private unaided schools have more trained teachers. But paradoxically private unaided schools also have the largest proportion of untrained teachers. In 2016–17, out of the 2.8 million teachers in private unaided schools, 710 thousand were untrained. In terms of teachers with diploma/certificate course in teacher training, government schools and government-aided schools are in a better situation (Table 9).

As per latest estimates, 41% of teachers at primary level, 54% at upper primary level, 52% in secondary and 65% in higher secondary levels in private unaided schools are under qualified teachers; and the corresponding proportions are much less in government and governed-aided schools (UNESCO, 2021).

3.3 Barefoot Teachers

Apart from recruiting regular teachers who are untrained, part-time teachers, contract teachers, voluntary teachers, *para* teachers, guest teachers, and ad-hoc teachers, are

recruited, in many states in large numbers, particularly during the 1990s, after the economic reform policies were introduced (Tilak, 2009). Over the years, there has been a significant growth of such unsuitable—under qualified and under-trained teachers, under different names, largely known as para teachers. They are known under different nomenclature in different states, e.g., *Shiksha Karmis* in Rajasthan and Madhya Pradesh, *Shiksha Mitras* in Uttar Pradesh, and *Vidya Sahayaks* in Gujarat, *Gurujis, Sahayaks, Vidya* volunteers in other places, etc. There were about 200 thousand such para teachers in primary and upper primary schools in 2002, constituting 6% of full time teachers in primary and 10% in upper primary schools. Many of these teachers are not necessarily formally trained. This may be partly due to serious budgetary constraints on the one hand, and partly to avoid problems relating to teacher management on the other. In some cases this is also felt necessary as enough fully qualified trained teachers are not available for recruitment on a full-time basis and at the same time as many unemployed and untrained youth are available. The recruitment of such teachers also happens through ad-hoc and non-standardised processes compromising the quality of recruitment, also involving corruption and favoritism.

Part-time teachers in rural primary schools have been growing in large numbers. There were 1,300 part-time teachers in primary schools in 1986 and the number has increased by three times by 1993, and by another 4.5 times by 2002. About 18,000 teachers were working as part-time teachers in 2002. As per the recent data, there are total 7,942 para-teachers at primary only schools while, and 18,815 such teachers at upper primary only schools. Similar is the growth in part-time teachers in upper primary schools. More interestingly, the phenomenon of voluntary/contractual teachers is a new one. Probably there were no teachers of this kind in 1986. As many as 25 thousand teachers in primary schools and another 10 thousand teachers in upper primary schools in rural areas in 1993 belonged to such a category of teachers. In 2015–16 still about 13% of teachers in primary and upper primary levels were contractual teachers and two-thirds of them untrained. In all, by 2018–19, there were 895 thousand contractual teachers and 69 thousand part-time teachers in school education in India and the latter have grown fast (Table 10). A majority of the para teachers are untrained teachers: among the contractual teachers in primary and upper primary levels, one third are untrained; the proportion was higher above 50% in 2010–11. After the promulgation of the Right to Education Act, the numbers relating to such teachers were expected to come down to negligible levels, in fact to zero level, but the phenomenon continues. Between 2011–12 and 2017–18, contract teachers in government elementary and secondary schools increased from 316 to 632 thousand (Ramachandran et al., 2020), and if part time teachers are included, the number increased to 895 thousand in 2018–19, as the figures in Table 10. As UNESCO (2021) observes, 28% of teachers in primary and upper primary government schools and 68% in private schools work without any job contract. They are like wage earners in unorganised informal sector.

All this obviously has already produced serious adverse impacts on the quality of instruction. After all, a well-trained teacher is generally believed to be able to make very significant contribution to students' performance including in the labour market

Table 10 Growth in number of contractual and part time teachers in rural areas

	Contractual teachers			Part-time teachers		
	2015–16	2018–19	Growth*	2015–16	2018–19	Growth*
Category of School						
Primary	3,37,994	3,85,024	4.6	4,419	7,942	26.6
Primary with Upper Primary	1,80,976	1,80,657	-0.1	10,443	14,369	12.5
Primary with Upper Primary, Secondary and Higher Secondary	59,979	85,358	14.1	2,310	7,532	75.4
Primary, Upper Primary and Secondary Only	60,111	81,499	11.9	2,464	5,803	45.2
Upper Primary only	48,641	49,141	0.3	20,883	18,815	-3.3
Upper Primary and Secondary	34,809	34,437	-0.4	5,232	5,866	4.0
Up Primary, Secondary and Higher Secondary	50,750	51,452	0.5	5,873	7,193	7.5
Secondary Only	9,979	10,919	3.1	228	383	22.7
Secondary with Higher Secondary	11,392	7,535	-11.3	263	480	27.5
Higher Secondary only/Jr. College	7,684	9,149	6.4	665	675	0.5
Total	802,315	895,171	3.9	52,780	69,058	10.3

Source UDISE+, 2018–19, MHRD, New Delhi
Note * average annual growth per annum (%)
http://dashboard.seshagun.gov.in/mhrdreports/#/reportDashboard/sReport

in terms of higher earnings (Kingdon, 2006; Tilak, 2011; Burgess, 2019; Bressoux, 1996). In fact, the phenomenon of increasing numbers of untrained and under qualified teachers was argued to be leading to "rapid weakening and general dismantling of the structure of primary education" (Kumar et al., 2001, p. 565). But the idea of not having full time qualified and trained teachers, and rather having para-, contractual, part-time teachers and teachers with no contract whatsoever, has gathered some fashion, and is based on the belief and also some research evidence (Muralidharan & Sundararaman, 2013) that job insecurity and low wages bring greater efficiency. This is also broadly in conformity with the new pro-market economic policies, adopted by the government since 1990s that favour down-sizing of the public system and its privatisation. More and more state governments favoured the scheme of *para* teachers, as they help in huge saving of public resources on the one hand, and in avoiding of managerial problems of teachers on the other; and at the same time, governments could claim to have marched a long way on fulfilling the Constitutional Directive on universal elementary education. But the effects of such practices on quality of education are now being feared to be too serious to bear in the long run, or

even in the short run. Such practices damage the morale of the teachers, and demotivate the entire teaching profession. As Ramachandran et al. (2020, p. 9) observed, harming the image of the teaching profession, they lead to "dysfunctional dynamics in schools and affects school culture, thereby, directly affecting student learning". The underlying view that school education does not require a fully qualified and trained teacher is a dangerous assumption (Tilak, 2009), having serious long term implications on the quality of education, though it cannot be said that all trained teachers are necessarily of high quality, having a higher level of knowledge of the subject and other aspects.

3.4 The Academic Quality of Teachers

After the Right to Education Act was made operational in 2010, Teacher Eligibility Test (TET) for teachers and Principal Eligibility Test (PET) for principals/head teachers were introduced, as a part of minimum qualifications for an individual to be appointed as a teacher and principal respectively, to ensure that after they obtained professional qualifications, they have requisite knowledge to join the teaching profession. Central Teacher Eligibility Test (CTET) is conducted by Central Board of Secondary Education (CBSE), and this is necessary for all aspiring teachers who wish to join as teachers in Union (central) government schools. States also conduct similar state level teacher eligibility test and the states which do not wish to conduct TET might consider the central test score for recruitment of teachers. University Grants Commission (UGC) conducts National Eligibility Test (NET) for teacher educators, i.e., for teachers in teacher education institutions.[4] Mostly the state public service commission is the authorised agency for recruitment of teachers but in some states Teacher Recruitment Boards have also been established for this purpose. Most states conduct a test for selection of the suitable candidates for teaching profession. As noted by the Central Advisory Board of Education (CABE) committee in 2016, "Almost all [states] include an annual test held by the education authority, the Public Service Commission or an appointed agency for government recruitments" (GoI, 2016). Some states have used the TET as a recruitment test, some have given it weightage in recruitment and a few others have kept it out of recruitment process completely.

The results of the tests conducted are reflective of the teacher's knowledge of the subject, as the TET mainly assesses the subject knowledge of the candidates (Dalal, 2017). The results of the CTET conducted by the union (central) government agency, were shocking. Kremer et al. (2005) reported that only 4% of teachers in the country were qualified in the TET; in Uttar Pradesh and Bihar, three-fourths of the teacher-applicants could not do simple percentage sums of grade V level. Since 2011, the

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[4] In fact, UGC conducts NET—national eligibility test in all subjects, which is a requirement for the appointment as teachers in colleges and universities. This is also required for UGC fellowship for studeis leading to research degrees (Ph.D.).

Table 11 Results of the central eligibility test conducted for teachers

	Number appeared	Number passed	Pass percentage
January 2021	23,47,217	11,04,454	27.65
February 2015	6,77,554	80,187	11.83
February 2014	7,50,000	13,425	1.70
July 2013	7,76,000	77,000	9.96
November 2012	7,95,000	4,850	0.61
January 2012	9,00,000	55,422	6.10
June 2011	7,60,000	97,919	9.00

Source https://career.aglasem.com/ctet-2018-result/

pass percentage in the central test has been below 10%, except in 2013 when it was 11%. In 2012 over 99% of the aspirants failed to clear the test. In 2013 only 11% of nearly one million candidates qualified in the test (Gohain, 2015), while just 13,428 of 0.8 million aspirants passed the test, conducted in January 2014. That is, only 10% of those who took the test were found to have above minimum level of knowledge of the subject. The results of the tests conducted in December 2012 and March 2014 revealed more distressingly that less than one percent and only 2% were successful in the tests, respectively. The results of central test conducted in 2015 show that 13.5% of 0.7 million candidates who took the test were successful in obtaining above the minimum level of scores. The pass percentage has improved in recent years; but still only around 28% candidates could pass this examination in 2021. In 2020–21, a total of 23.5 lakh[5] candidates appeared in the central test conducted by CBSE in January, 2021. These candidates included 12.4 lakhs for paper-1 (for teaching in grades I to V in primary school), and 11 lakhs for paper-2 (for teaching in grades VI to VIII in upper primary school). Out of these 23.5 lakh candidates, 6.5 lakhs successfully cleared the exam (4.14 lakh candidates cleared the paper 1 examination and 2.39 lakh candidates cleared the paper-2). Table 11 gives the results of the central test conducted from 2011 onwards.

Examining some of these results, Tilak (2017, p. 160) has summed up, "A very high proportion of teachers fail in national/state level teacher eligibility tests; there is lack of interest in teaching; and above all, lack of accountability, with poor supervision and monitoring mechanisms in place." The test is not too tough to pass; rather the aspirants lack even the basic knowledge with reference to child development, teaching skill and languages. The poor performance of teachers is not a very good commentary on the quality of teachers, and also the performance of the teacher education institutions (and programmes) in the country. All this shows that improvements in the pay structure of teachers made over the last two decades do not seem to have any effect in attracting talented techers to the profession; but have attracted greedy persons to apply for teaching jobs.

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[5] One lakh means 100,000 and 10 lakhs make one million.

While most states conduct tests for recruitment but the content of the test often falls short of providing a reliable means of identifying committed and able teachers for recruitment. The TET, which has been only recently made mandatory for appointment of teachers in schools, is still in early stages, and there has been little investigation of the format and content of the test to determine their validity and reliability; yet this served as a wakeup call on the alarming problems being caused by poor and distressing quality of teacher education system in India.

3.5   Teacher Absenteeism

An additional problem the school education in India faces is teacher absenteeism, or absence of teachers without formal permission for leave of absence, which causes lower level of teacher attendance. This is a problem that many schools face in India and the problem is indeed serious in several states. Quite a few surveys (e.g., PROBE 1999; Kremer et al., 2005; Bhattacharjea et al., 2011; Muralidharan et al., 2017) have reported that teachers do not attend schools on all working days. The reasons cited are many, including their involvement in other official/non-official activities, such as collection of data during the decennial census, conducting of national, state and local elections, and other local political, social, cultural and administrative activities. Kremer et al. (2005) found that in general, one in four government primary school teachers remained absent on a given day; and only one of the two were found to be actually teaching in schools. According to Devarajan and Shah (2004), on average the absentee rate among school teachers was around 25% at the national level and it varied between 14.5% in Maharashtra and 16.5% in Madhya Pradesh on one side and 38.3% in Bihar and 39.3% in Jharkhand on the other end. In as many as nine out of 18 major states, the absentee rate was above the national level of 25%. A few studies have found a large difference between *teacher absence* and *teacher absenteeism.* For instance, teacher absence was found to be 23.6% in a World Bank Group study (Muralidharan et al., 2017), while teacher absenteeism, i.e., absence without reason was 4.7% only. Azim Premji Foundation (2017) found in a study of six states, that while overall teacher absence was 18.9%, teacher absenteeism, defined as 'absence without reason', was only 2.5%. The reasons for this could be valid or not necessarily be so. These studies do suggest that the problem is not so serious as was projected or feared by some. However, it is important to note that teacher absenteeism, with or without reason, adversely affects the functioning of schools, the teaching schedule, the instructional process and the overall quality of education. All this stresses the need for making alternative arrangements of providing teachers, when the designated teachers are not able to be in the school/classroom. Interestingly, however, teacher absence does not seem to have statistically significant effect on student's levels of learning (Kumar & Wiseman, 2021).

In addition to teacher absenteeism, several deficiencies relating to teaching–learning process continue to exist severely adversely impacting learning outcomes of students in many developing countries including in India. Many teachers still

follow the traditional teaching methods instead of learner- or child-centered modern approaches as recommended in the National Policy on Education 1986, and the *National Curriculum Framework 2005* (NCERT, 2005; NCTE, 2009). With no strong commitment to teaching profession and no passion for teaching, teachers fail to engage children meaningfully and stimulate independent critical thinking and problem-solving skills of children. They also fail to develop effective communication skills in children and as a result of this, many children, loose interest in teachers and the learning activities and the school itself, resulting in their silent voluntary exclusion from education and eventual dropout from school. It is because of this, one can understand that, dropping out is not a sudden event, it is a process, involving a multitude of push and pull factors (Majumdar & Mukherjee, 2020) stressing the need for schools to take appropriate action concentrating on potential dropouts or the children at the risk of exclusion.

The quality and commitment of the teachers and their competence and performance depend to a great extent upon the quality of teacher education and training they receive in the teacher education/training institutions.

How strong and qualitatively rich is the teacher education system in India?

4   Teacher Education/Training in India

The quality of the education system is directly related to the teacher education system in the country. Accordingly, the need to develop and strengthen the teacher education system in the country was recognised by the Government of India immediately after independence in 1947. Teacher education is broad and comprehensive and the process is ever-evolving and dynamic. Its normally stated objectives include imparting adequate knowledge of the subject, equipping the prospective teachers with necessary pedagogic skills, enabling them to acquire fair understanding of child psychology, developing proper attitudes towards teaching, developing self-confidence, and enabling them to make proper use of traditional and modern instructional facilities. In short, a high quality teacher education programme empowers teachers not only with knowledge and modern teaching methods, but also with ability to handle a multitude of challenges and to work in a team, build teams and lead them and to develop a passion and enthusiasm for the teaching profession (Bandyopadhyay, 2017). This is the written and unwritten mission of teacher education/training system in India. Teacher education programme aims at producing teachers for pre-primary to higher secondary level of education. It aims at developing in prospective teachers excellent teaching skills, good understanding of sound pedagogical theory, and professional skills.

Many efforts were initiated in independent India to expand teacher education facilities, to strengthen them and to ensure and improve quality and standards of teacher education. Both the shortage of trained teachers and their quality have been the dominant concerns of the teacher education programmes. Teacher education in India includes pre-service and in-service training. The current system of teacher

education/training consists of a network of national, provincial and district level resource institutions. Pre-service teacher education is provided in institutions for teacher training for pre-primary/nursery schools, teacher training institutions for primary schools, secondary teacher training schools, Colleges of Education, also known as Colleges of Teacher Education (CTEs), and Institutes of Advanced Study (IASEs) which are a part of university system, besides a few special comprehensive colleges of education for teachers in vocational/special education. The eligibility for primary/elementary school teachers, is a diploma/certificate course in teacher training (D. Ed.,—Diploma in Education or Elementary Education), which is normally of two years duration after senior secondary level education. A bachelor's degree in education (B. Ed.), which used to be of 9-month duration, recently increased to two years, provided by CTEs and IASEs after a Bachelor's degree, or an integrated Bachelor's Degree in Education, is required for one to become a secondary school teacher. Most states in India offer admission in B. Ed., programme to those who completed Bachelor's and Master's degree in any discipline. B. Ed., is the qualification and certification in teacher education. Master's degree in education (M. Ed.) is required to become teacher educators—teachers in teacher education/training institutions. Special education schools provide Diploma in Teacher Education, and Bachelors and Masters' programmes. Some of the familiar programmes of study include B. Ed., integrated programme (e.g., BA/BSc/B. Ed. Integrated Course, Bachelors in Elementary Education (B. El. Ed.), Bachelor's in Physical Education (B. P. Ed.), B. Ed. cum M. Ed. integrated programme, and Diploma/Certificate in Primary Education (DPE). The integrated programmes are of 4–5 year duration. Formal pre-service teacher education/training programmes include below Degree (post-higher secondary education) level Certificate or Diploma level courses of teacher training (used to be normally of one-year duration, but increased to two years), Bachelor's degree level programmes (normally of two-year duration, recently increased from one to two years) and Master's level programmes (normally of two years). Quite a few universities offer nowadays integrated programme (four-year Bachelor's level programme and five-year programmes) in teacher education.

In-service teacher education serves as an indispensable component of teacher education, facilitating mentoring, enhancement, development and updating of knowledge, professional skills and competence of teachers, besides compensating for deficiencies in pre-service training programmes. Apart from enhancement of knowledge of teachers in given subjects, arrival of new devices and approaches of mass media especially electronic devices, virtual classrooms, computer-assisted learning and information and communication technology (ICT), e-learning, etc., has revolutionised and necessitated high quality in-service training of teachers. It is well recognised that teachers need to be made aware of the advances in these areas and be made capable of effectively using them in a rapidly changing learning society. In-services education of teachers, thus becomes essential for bridging the gaps in knowledge and skills particularly in rapidly changing educational scenario. In fact, regular continuous teacher education programmes helping in lifelong learning for teachers, seem to be essential in an emerging knowledge society. In-service education/training providers are State Institutes of Education (SIEs), District Institutes of

Education and Training (DIETs), Secondary Training Education Institutions, and CTEs. DIETs were regarded as a major innovation that would prepare elementary school teachers, provide in-service training/education to teachers, and undertake field-based research.

Both pre-service and in-service training are important inseparable and inter-related components of teacher education programme. While pre-service programmes are offered more or less in a systematic form with a clear focus, the in-service programmes are of varied duration, and seemed to be usually very sporadic, without any clear direction or a purpose (NCTE, 2009).

During the first ten years of development planning, i.e., in the first two five-year plans (1951–56 and 1956–1961), the emphasis was on expansion of teacher education and training facilities. During the third five-year plan (1961–66) the focus was on teacher training for basic education. An important landmark of this period was the setting up of the SIEs in 1964 for providing greater coverage and regional specificity in the programmes of in-service education and training of teachers and other educational personnel concerned with primary education. To widen in-service training programme, during the fourth plan period (1969–74), correspondence courses (distance learning) were developed. National Institute of Open Schooling (NIOS) and Indira Gandhi National Open University (IGNOU) which were established later, offer distance education programmes extensively—both pre-and in-service teacher education programmes. Thus, in-service teacher education is provided under traditional face-to-face mode and also under cascade and distance education modes.

As the recommendations of several committees and commissions started pouring in, reorientation of the curriculum was the task taken up during the fifth plan period (1974–78), which continues to be an important activity. During the sixth (1980–85) and subsequent five-year plans, efforts were made to introduce ICT inputs heavily for strengthening in-service as well as pre-service training programmes, along with upgrading physical infrastructure in the teacher education institutions. After the seventh five-year plan (1985–90), as resolved in the *National Policy on Education 1986*, the DIETs were created for elementary school teachers. In 1998, the National Council of Teacher Education (NCTE) brought out a curriculum framework for quality teacher education, which provided guidelines for the organisation of curriculum for different stages of teacher education. The National Council of Educational Research and Training (NCERT) also brought out teacher education curriculum in 2005, which is based on a much broader vision for the development of curriculum for teacher education, in such a way that it instills the values necessary for peace and social harmony, respect for human rights, peaceful co-existence with nature, concern for quality, need for cooperation and collaboration with the school system and the like. Despite some of the reforms, the curriculum in teacher training programmes is found to be insufficient in coverage of subject knowledge, pedagogic skills, social and emotional skills, and in its linkage to school curriculum; the training is largely theoretical and lecture-based; the mechanisms of assessment of knowledge and skills of teacher education graduates are weak. It has been further noted that the

training institutions do not adopt well defined professional standards, and the norms and standards are not well enforced (Béteille et al., 2020).

Apart from revising and revitalising curricula and promoting research in teacher education, eleventh (2007–12) and twelfth (2012–17) five-year plans have also seen setting up more and more diverse kinds of institutions like the IASEs. While exact recent figures are not available, with the help of twelfth plan proposals, it can be estimated that almost all districts have a DIETs, numbering 646; there are also 211 CTEs, and 39 IASEs, 88 BITEs (MHRD, 2016). Latest figures are not available. The in-service training under the national mission of *Sarva Shiksha Abhiyan* (SSA)—a time-bound programme of universal elementary education, launched by the union government in 2002 (MHRD, 2001) and recently integrated with *Samagra Shiksha Abhiyan*—a mission for the entire school education, includes 20-day in-service training to school teachers, 60-day refresher course for untrained teachers and 30-day orientation for freshly trained recruits. According to current estimates (MHRD, 2020), around 2.25 million or 22.3% teachers were reported to have received in-service training in 2018–19. However there has been considerable variation across the levels of education. For example, while, nearly 30% primary school teachers received in-service training, only 8% teachers teaching in higher secondary schools received such training. The proportion of teachers with in-service training is around 19% at the pre-primary as well as upper primary level, and the corresponding proportion is 17.7% at the secondary level. In addition, 2.1 million or 19% teachers received computer training and teaching through computers. While the proportion of such teachers is zero percent at the pre-primary level, it is around 26% at the secondary and higher secondary levels and 17.2% at the primary and upper primary levels.

4.1 Growth in Teacher Education: Unbridled Private Growth

Presently there are about 16,917 NCTE-approved colleges of education, teacher training institutions, universities, and other similar institutions which are involved in producing trained teachers for the primary, upper primary, secondary and higher secondary schools (NCTE, 2020). The number was a bare 235 at the time of independence in 1947–48. Clearly during the present decade, the growth has been very fast: the number of institutions increased from 11,629 in 2011 (MHRD, 2011, p. 46) to 18,839 in 2015 (MHRD, 2016, p. 50), i.e., in a short period of four years, more than 7,000 new institutions came up. Though the total number came down to below 17,000 in 2019–20, one can note a spectacular growth in the number of teacher education institutions in the country between 1947–48 and 2019–20, as shown in Fig. 3. The number of elementary teacher education institutions increased from 184 in 1947–48 to 1,319 by 1998–99, which jumped to 6,401 by 2013–14. The secondary teacher education institutions increased from 51 in 1947–48 to 818 in 1998–99 and to 9,780 in 2013–14.

Until 1998–99, the focus was on expansion of elementary teacher education institutions; but after 1998–99, higher expansion took place in case of secondary level
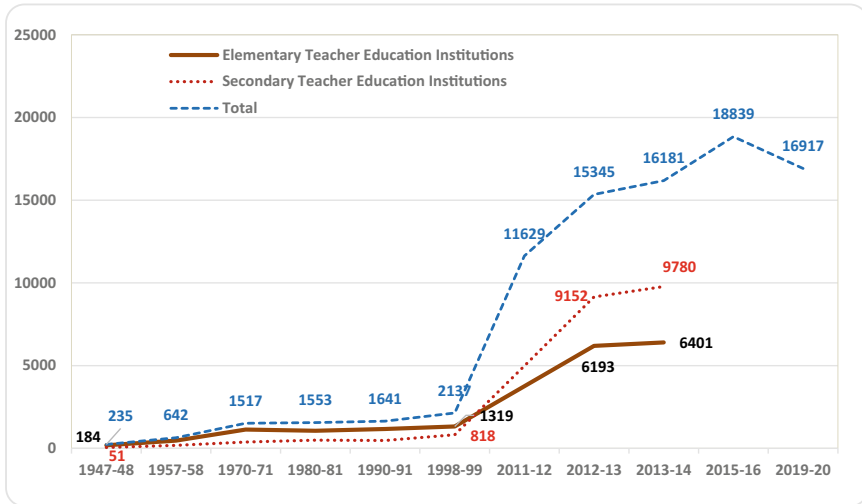
Fig. 3 Growth in the number of teacher education institutions in India. *Source* Samsujjama (2017, p. 6555); GoI (2016); and GoI, NCTE: 2019–20; https://www.ncte.gov.in/website/statewiseTEI.aspx

institutions. On the whole, between 1947–48 and 2018–19, while the elementary teacher education institutions increased by 35 times, the increase was by 192 times in secondary teacher education institutions. Today we have more secondary teacher education institutions than elementary level institutions.

Available data, depicted in Fig. 3, show a rapid, but unplanned and haphazard growth in the number of NCTE-recognised institutions of teacher education. In fact, the growth has been so rapid, essentially with the entry of private sector in a big way. Today a large proportion—nearly 92% of the teacher education institutions are in the private sector in 2019–20.

But as many institutions might not be complying with the regulations of the regulatory body, a good number are closed. As a result, while there were 18,839 institutions in 2015–16, the number declined to 16,614 by 2021, though during this period, new institutions also came up. Many unsustainable private institutions were closed either voluntarily or by the state government or the NCTE, when they were found to be violating the official rules and regulations.

The overall numbers relating to the institutions—particularly colleges of education, are increasing essentially in case of private—private unaided (self-financing/fee-dependent) institutions; unrecognised institutions are also flourishing; but the growth in the government institutions or government-aided private institutions is rather negligible. As mentioned by a sub-committee of Central Advisory Board on Education (CABE), "the teacher education space in India is dominated by private players, offering courses of doubtful quality" (GoI, 2016, p. 50). According to this report, in 2015 the private sector comprised of 91% of the all teacher education institutions in

the country. But according to some other estimates, as high as 97% are private institutions; only the remaining three percent are government institutions (Pritam 2017, p. 94). The private institutions also account for 94% of admissions every year (Table 12). While the government institutions increased from 24 in 1951 to 226 in 2013, i.e., by nine times, during this period the number of private institutions increased by 66 times from 104 to 6,622 (Fig. 4). While pre-service teacher education is mostly offered in private institutions, in-service training of teachers in quite a few states is also being outsourced to private entrepreneurs (Batra, 2022, p. 230).

Third, we also note that the numbers increased mainly in case of the B. Ed. colleges, and to some extent in case of secondary level training in teacher education (D. El. Ed.) institutions. There were 6, 848 B. Ed. colleges, and 7,292 secondary level training institutions in 2013. Institutions that offer M. Ed. were very few: 909. The small number of M. Ed. offering institutions and their intake pose serious problems in producing teacher educators.
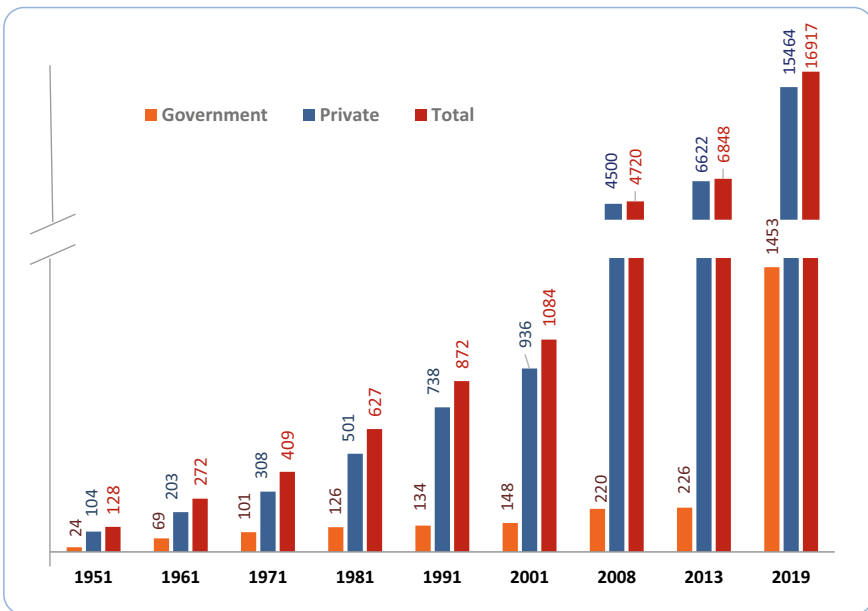
Fig. 4 Growth in government and private teacher education institutions in India (1951–2019). *Source* Pritam (2018), and Batra (2022) based on NCTE website

Table 12 Institutions of teacher education and intake in government and private teacher education institutions, by type of course, 2013

	Institutions			Intake		
	Government	Private	Total	Government	Private	Total
D. El. Ed.	764 (10.5)	6,528 (89.5)	7,292 (100)	45,230 (11.1)	362,114 (88.9)	407,344 (100)
B. Ed.	226 (3.3)	6,622 (96.7)	6,848 (100)	25,831 (3.3)	768,318 (96.7)	794,149 (100)
M. Ed.	72 (7.9)	837 (92.1)	909 (100)	2,660 (9.9)	24,176 (90.1)	26,836 (100)
Total	1,062 (7.1)	13,987 (92.9)	15,049 (100)	73,721 (6.0)	1,154,608 (94.0)	1,228,329 (100)

Source Pritam (2017)

Note Figures in ( ) are percentages

4.2 Uneven Growth in Teacher Education

Further, the growth has also been uneven across different regions in the country. Northern and southern regions of the country have a larger number of institutions than the Eastern and Western regions (Fig. 5).

While in all regions private institutions outnumber public institutions by several times, interestingly, the Eastern and Western regions have more government institutions than in the North and the South (Table 13). This depends upon the state policies relating to teacher education and more importantly to private education. As stated earlier, states have varying policies with respect to education in their respective states, though they also follow central guidelines issued by the Union government and its agencies. There are indeed large variations across different states (see Ramachandran et al., 2018). Comparing with similar data avaialble for 2015–16 (Rishikesh, 2017), one may observe that in all the regions while the number of government institutons has marginally increased, there has been a decline in the number of private institutions.

If we compare the numbers of institutions in public and private sector by region and by course of study they offer, we find sharper inequalities across various regions, as shown in Table 14. In relative terms, western region has more institutions offering M. Ed. programmes and also Diploma programmes than the other regions; but the northern region has more B. Ed. colleges. Intakes are also similarly distributed.

Despite rapid growth in the total number of teacher education institutions in the country, the number is highly inadequate and quality of teachers produced is far from satisfactory. The system has an intake capacity of about 1.98 million students (teacher aspirants), while the requirements are much larger and diverse. The facilities available both for pre- and in-service teacher education are highly inadequate to produce the numbers of the kind that are required. In-service teacher training is an important aspect for professional development of teachers. It has been found that while around 30% of total teachers in the country used to receive in-service training a couple

Fig. 5 Regional Distribution
of Institutions and
Sanctioned Intake
(2018–19). *Note* The legends
include name of the region,
number of institutions/intake
and regional distribution (%).
Source Based on NCTE:
Annual Report 2019–20
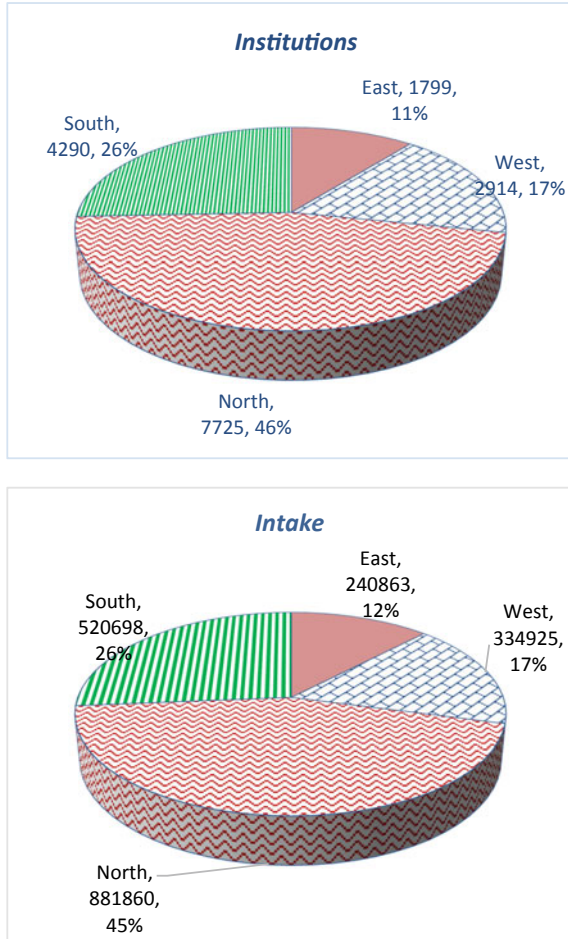
of decades earlier, their proportion came down to 18.4% by 2014–15. Several states
like Kerala, Himachal Pradesh, Madhya Pradesh, Uttarakhand etc., have experienced
substantial decline in proportion of teachers receiving in-service training, due to lack
of adequate facilities. A majority of teachers remain outside the orbit of in-service
training.

Further, teachers for teacher education institutions or teacher educators are very
few in number. All universities do not necessarily have departments of education.
While most recent figures are not available, the Working Group constituted for the
twelfth five- year plan in 2011 (GoI, 2016) noted that there were only 98 departments
of education in universities and 48 government post graduate colleges offering M. Ed.
programme, which is an eligibility qualification to become a teacher educator. These
university departments and government post-graduate colleges had an annual intake
of 4,315, and together with private institutions, they produce about 20,000 teachers

Table 13 Public and private teacher education institutions in India, by region (2019)

Region	Government	Private	Total	Regional distribution of total
East	422	1,377	1,799	[10.6]
	(23.5)	(76.5)	(100.0)	
West	231	2,872	3,103	[18.3]
	(7.4)	(92.6)	(100.0)	
North	333	7,392	7,725	[45.7]
	(4.3)	(95.7)	(100.0)	
South	467	3,823	4,290	[25.4]
	(10.9)	(89.1)	(100.0)	
Total	1,453	15,464	16,917	[100]
%	(8.6)	(91.4)	(100.0)	

Source Based on Batra (2022)
Note Figures in ( ) are % to total in each region; Figures in [ ] refer to % distribution across regions

Table 14 Regional distribution teacher education and intake: public and private institutions and by type of course

Region	D. Ed./D. El. Ed.			B. Ed.			M. Ed.			ALL
	Govt.	Private	Total	Govt.	Private	Total	Govt.	Private	Total	
Institutions										
East	234	174	408	56	482	538	12	19	31	977
West	246	2,388	2,634	37	1,505	1,542	27	298	325	4,501
North	160	1,256	1,416	91	2,774	2,865	15	243	258	4,539
South	124	270	394	42	1,861	1,903	18	277	295	2,592
All-India	764	4,088	4,852	226	6,622	6,848	72	837	909	12,609
Intake (in thousands)										
East	13.7	9.0	22.6	5.5	49.9	55.4	0.42	0.38	0.80	78.8
West	12.2	116.3	128.5	3.7	150.0	153.7	0.92	10.28	11.19	293.4
North	12.2	82.7	95.0	12.8	295.5	308.3	0.71	6.28	6.98	410.2
South	71.1	154.0	225.2	3.8	273.0	276.8	0.62	7.24	7.86	509.8
All-India	109.2	362.1	471.3	25.8	768.3	794.1	2.66	24.18	26.84	1,292.2

Source Pritam (2018)

a year and this number is found to be highly inadequate to meet the requirements of teacher educators. Not only admissions in Diploma and M.Ed. programmes are small, compared ot those in B.Ed. programme, but also admissions in the former two categories are declining over the years (UNESCO, 2021).

Pre-service training programmes are largely funded by state governments. Under the centrally sponsored scheme (funded by union/central government) on teacher education, which was initiated in 1987 after the *National Policy on Education 1986*

was formulated, and revised in 2012 (MHRD, 2012), Union government supports over 650 institutions, including the DIETs, CTEs, and IASEs, apart from central universities. Financial support is largely provided by the Union government under the programme of *Sarva Shiksha Abhiyan,* later restructured into a new scheme called *Samgra Shiksha Abhiynan.* State governments support a few government teacher education institutions set up by the state government and government-aided private institutions; and a large number of private institutions are essentially supported by student fee; the latter are also known as self-financing institutions. The centrally sponsored scheme on teacher education is the core programme that promotes and finances teacher education programmes in the country. It provides funding for setting up of the DIETs, and BITEs, and strengthening of CTEs, IASEs, SCERTs, etc.

It is important to recognise that "in-service education cannot be an event but rather is a process, which includes knowledge development and changes in attitudes skills, disposition and practice through interactions both in workshop settings and in the school" (NCERT, 2005, p. 112). Government also felt that these programmes must be comprehensive, and continuous rather than one-off events or a series of unlinked training programmes. Pre-service and in-service teacher training programmes cannot be seen as two separate systems of training teachers. As stated in the *National Policy on Education 1986*, "teacher education is a continuous process, and its pre-service and in-service components are inseparable" (GoI, 1986). Some institutions do provide both, but many concentrate on either, viewing them as two separate ones with no inter-relation. It is necessary to strengthen both, recognising the inter-relationship between the two.

5   Attempts to Reform Teacher Education

As the *National Education Policy* 2020 has underlined, teachers are "the most important members of our society and the torchbearers of change." Teachers, teacher quality, and quality of teacher education are central to provide quality education for all. Provision of quality teachers has been on the agenda for educational policies, plans and programmes which are being implemented across the country since independence. The NCTE, which was originally set up in 1973, as an advisory body for the Union and state governments on all matters pertaining to teacher education, could not effectively perform its essential regulatory functions to ensure maintenance of standards in teacher education and preventing proliferation of substandard teacher education institutions. As a major structural reform measure, following the *National Policy on Education 1986*—and the revised policy along with the *Programme of Action* in 1992 (MHRD, 1992), the NCTE was accorded statutory status in 1993 through an Act of the national Parliament as a regulatory body in teacher education. Its mandated functions include coordination and monitoring of teaching education, laying down norms and guidelines for courses of study, for starting new course, for starting new institutions, laying down standards for curriculum and syllabi, examinations, setting minimum qualifications for teachers, levy of tuition and other fees,

and above all, take "all necessary steps" to prevent commercialisation of teacher education (NCTE, 2020, p. 4). Thus it is vested with both regulatory and academic roles in teacher education; and it does not have any funding responsibilities. But its performance has been under attack for valid reasons for quite some time from several corners, the main failures being its inability to control growth of commercialisation of teacher education, to develop coordinated plans for the development of teacher education in the country, and to ensure high quality in teacher education programmes. A report in *India Today* (Maheshwari, 2007) gave a 'report card' on NCTE that states: NCTE allowed unchecked proliferation of teaching shops across the country; granted affiliation to colleges irrespective of demand for teachers; offered no standardisation of teachers' qualifications; concentrated more on infrastructure rather than teaching processes and curriculum; gave affiliation to more B. Ed. colleges than necessary and neglected primary education; and processed applications out of order, charging, in the absence of budgetary controls, huge amounts (Rs 40,000) per applicant. Hundreds of private institutions have been established by private actors without a priori formal recognition by the NCTE. As a result, the overall growth has been unregulated and haphazard. Many private institutions, solely depending on student fees, are found to be having poor infrastructure, low quality teacher educators, and to be actually doing bad business in education, producing teachers with low aptitude and poor subject and pedagogic knowledge. As noted by the committees such as Sudip Banerjee Committee (2007–08) (MHRD, 2008) and Justice Verma Commission (GoI, 2012), the rapid growth of private—unrecognised (and also recognised)—institutions is the main source of poor quality of teacher education and thereby poor quality of teachers and the school system. These and several other committees/commissions accordingly recommended strict measures to curb the growth of commercialisation of teacher education by the private institutions. As widely acknowledged, all this— the unregulated growth of teacher education institutions, non-adherence of the institutions to the norms and regulations of the NCTE, and the overall deficit in quality of teacher education institutions and thereby of teachers—reflects weak governance by the NCTE, including prevalence of ineffective and unfair practices in the Council and in the teacher education institutions. The Sudip Banerjee committee (MHRD, 2008) has gone to the extent of recommending altogether scrapping of the NCTE for its poor performance and involvement in high level of corruption and inefficiency.

It is now being proposed by the government to thoroughly overhaul and strengthen the NCTE to enable it to perform its functions effectively, and also to streamline the whole system. It has to be noted that the NCTE is the sole academic authority responsible for prescribing teacher qualifications; it is a statutory body vested with the responsiblity of maintaining quality and standards in all teacher education institutions, to maintain planned and coordinated development of teacher education, regulating establishment of the teacher education institutions, laying down norms and standards for various programmes of study in those institutions, setting minimum qualifications for teacher educators, regulations regarding progammes, their content and duration, and minimum qualifications for admission into various programmes of study; it also grants recognition to the eligible institutions—government, government-aided and private self-financing. Secondly, when institutions are

found to be involved in undesirable practices, and not following the norms and regulations specified by the NCTE, strict actions are being initiated: they are being closed down. It is also resolved now that all institutions must necessarily obtain formal recognition from the NCTE. Further, a large number of institutions and their programmes are not so far accredited. Only a very few institutions are accredited by the National Assessment and Accreditation Council (NAAC). Between 2002 and 2017, only 1,522 teacher education institutions were accredited. NAAC with the help of NCTE develops quality parameters for assessment and accreditation of the programmes/institutions. Now accreditation of teacher education institutions (and all higher education institutions) has been made mandatory. All institutions are now required to regularly revamp the outdated curricula and teaching methods and adopt the *National Curriculum Framework on Teacher Education* 2005 and 2009, which highlighted specific objectives, broad areas of study in terms of theoretical and practical teaching/ learning, and curricular transaction and assessment strategies for the various teacher education programmes, and in all suggested a thorough reform of the curriculum in teacher education programmes. The framework has also suggested quite a few new flexible approaches to teacher education. Further, following the regulations made by the NCTE 2014, many universities and state governments revised the programmes of teacher education. The *National Education Policy 2020* envisages developing a large network of diverse kinds of assessment and accreditation bodies for the entire higher education including teacher education institutions, and restructuring of the NAAC. According to the *Policy*, the NCTE is now mandated to act as professional standards setting body and set national professional standards for teachers, and also to function as a national mission for mentoring the teachers and teacher educators.

In order to address various concerns, including inadequate infrastructure to produce quality trained teachers, a few major measures have been initiated by the Government of India in the recent years. To ensure adequate supply of trained teachers, initiatives are being made to enhance the institutional capacity of the existing institutions. It is necessary that synergy is brought between institutional structures operating at different levels, for example, between institutes of teacher training and colleges. On the recommendation of the Justice J. S. Verma Commission, a massive scheme titled Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) was launched in 2014 to provide extensive facilities for professional development of teachers at all levels, including organising leadership programmes for school heads. Under this Mission, *inter alia*, all central universities are encouraged to set up Schools of Education with Departments of Education/Teacher Education in the universities, which will provide teacher education and training, apart from carrying out research and other activities; two Inter-University Centres for Teacher Education have been set up to promote research in teacher education; a National Resource Centre for Education has been created; and 50 Centres of Excellence for Curriculum and Pedagogy are proposed to be established. A National Centre for School Leadership was established in the National Institute of Educational Planning and Administration to provide training to head

teachers. A few teacher education universities are also being set up, which will exclusively focus on teacher education (e.g., Indian Institute of Teacher Education—a State Public University established by Government of Gujarat, Tamil Nadu Teacher Education University, and Delhi Teachers University). The PMMMNMTT launched in 2014–15, was a major national initiative, which was envisaged to address comprehensively all issues related to teachers, teaching, teacher preparation and professional development. The Mission aims at having a holistic and well-coordinated approach to address current and urgent issues such as supply of qualified teachers, attracting talent into teaching profession and raising the quality of teaching in schools and colleges; and at the same time it intends to pursue a long term goal of building a strong professional cadre of teachers. Its proposed goals include creation and strengthening of institutional mechanisms in teacher education through offering pre- and inservice training, re-training, refresher and orientation programmes in generic skills, pedagogic skills, discipline-specific content upgradation, ICT and other technology enabled training and other appropriate interventions (MHRD, 2015).

Among the other measures taken in the recent past include, discontinuation of the provision of teacher education through open and distance mode and induction of ICT in the teacher education institutions with a view to produce ICT-empowered teacher. A long duration integrated teacher education programme for 4–5 years is felt to be good to develop good teachers. Long ago, the National Commission on Teachers (1983–85) recommended long duration teacher education programmes, including long duration practice teaching sessions. A Review Committee of the National Policy on Education in 1990 (GoI, 1990) has recommend four-year integrated programmes on the pattern followed by Regional Colleges (now known as Regional Institutes) of Education. Accordingly, the duration of the core teacher education programmes was increased to two years, apart from several universities and institutions starting 4–5 year duration integrated teacher education programmes. Four-five year duration programme is becoming the norm, as it was also proposed in the *National Education Policy 2020.*

The Government of India has launched in 2017 a digital platform DIKSHA (Digital infrastructure for knowledge sharing) that offers engaging learning material, relevant to the prescribed school curriculum, to teachers, students and parents. The platform incorporates internet scale technologies and enables several usecases and solutions for teaching and learning in schools. The government has also launched in 2021 another major national programme NISHTHA (National initiative for school heads' and teachers' holistic advancement)—an integrated teacher training programme for building the capacity of elementary stage teachers in the entire country with an inbuilt mechanism of mentoring and monitoring. NISHTHA aims to build capacity of 4.2 million teachers and school heads at the elementary level on learner-centered pedagogies to improve learning outcomes of students, develop social-personal qualities, promoting health-, physical-education- and art-integrated learning, besides ICT integration across subject areas.

Among micro level innovative experiments, over the years, some significant efforts have been made and a few important experiments have been initiated to impart quality teacher education in innovative ways. For example, the Department

of Education of the Banasthali Vidyapeeth tried out a learner-centric curricular programme of teacher education, which the students named *Anweshana* in cognisance of its main feature of self-exploration (Lakshmi & Surana, 2007, p. 20). Another experiment is *Green Teacher* which is a one-year diploma in environmental education for teachers and educators developed and designed by Centre for Environment Education (Ahmedabad) in partnership with the Commonwealth of Learning (Vancouver, Canada). Offered through distance mode, this course is the first of its kind in India. The course is designed with the objective to enable teacher-learners to effectively take up environmental concerns and issues in the classroom, and engage their students in practical, action-oriented environmental education activities and projects. Thus, Green teacher is visualised as a project offering a continuing learning opportunity in environment education to practicing teachers (Jain & Menon, 2007, p. 66). There are indeed quite a few good practices in teacher recruitmemnt, training and management adopted in several states in India (NUEPA, 2014).

6 Reforms on the Anvil

The great respect for learning in ancient, medieval and modern India, often cited by national leaders, tallies poorly with the low social and economic status accorded to the teacher in the modern times in India. Teacher and teacher education system seem to be receiving poor status for a long time. Unfortunately teachers have lost faith in their own profession before the society has lost faith in them. Many experts, committees and commissions have recommended some major reforms; but they could not be sufficiently acted upon. For example, the Education Commission (1966) has argued, teacher education has to be "brought into the mainstream of academic life of the universities on the one hand and of school life and educational developments on the other." The Commission also recommended that all institutions, including teacher education institutions have to be comprehensive units, horizontally and vertically linked to other education institutions. Rather the teacher education institutions should not function in isolation. After all, teacher education is a multi-disciplinary process, and needs experts in various areas, who would be available in multi-disciplinary universities and institutions and not in stand-alone mono-faculty institutions. As Myrdal (1968) noted, the transdisciplinary approach requires the specialist to go beyond the boundaries of her/his own area of expertise, and become involved in the total aspect of an issue. Interdisciplinary study/research is a team approach, with the various specialists pooling their resources. Even if we adopt a transdisciplinary approach to research and education, for practical reasons there will, of course, always remain the necessity for a certain amount of specialisation (see O'Toole, 1972). So specialists come together to produce interdisciplinary work. As Yashpal Committee (GoI, 1999) noted, comprehensive universities provide platforms and mechanisms which enable teachers to interact among themselves as professionals, and also with other professionals such as scientists, scholars and college teachers. Unfortunately

teacher education institutions in India have been isolated institutions with no horizontal or vertical linkages with the rest of the education system. Teacher education needs to be considered and planned as a part of a holistic programme of 'teacher development' and of the national education system, and a holistic policy framework for teacher education is needed.

Having noted that the teacher education institutions are not in the realm of universities and higher education institutions, nor are they linked to larger system of education (Béteille et al., 2020), the *National Education Policy 2020* (GoI, 2020) also emphasised the need for integration of teacher education with the mainstream higher education, and recommended abolition of all stand-alone institutions including teacher education institutions, by closing them or merging them with comprehensive universities as an integral part of the universities. The policy also stresses the need to make all professional and technical higher education, including teacher education, holistic and comprehensive in its approach, by introducing several disciplines along with skills and knowledge in the main course of study. Third, the *Policy* also promises to necessarily make all first degree programmes including teacher education programmes (like Diploma/certificate course in teacher education and B. Ed.) into four-year programmes. The B. Ed. programme will be the only programme in the entire country that will be offering pre-service teacher education programme to produce teachers for foundational level to senior secondary level. The present *Policy* recommends introduction of 4-year integrated B. Ed. as a dual-major holistic Bachelor's degree in Education as well as a specialised subject to be offered in multidisciplinary institutions/universities. The minimum educational qualification for teachers for recruitment would be four-year duration integrated B. Ed. degree. Only candidates with four-year B. Ed. degree and TET certificate will be eligible to apply for teacher recruitment in schools. Long ago, the National Commission on Teachers (1983–85) for school teachers, recommended a 4-year training course after senior secondary, or preferably a 5-year course leading to graduation and training in teacher education. NCTE (2009) has noted that initial training of elementary school teachers continues to suffer from isolation, low profile and poor visibility in view of it being a non-degree programme. The 2020 *Policy* addresses these concerns.

Earlier approaches on teacher development focused on improving teacher attributes, teacher training and skill development; in the recent years the focus has been on recruitment, teacher attendance (absence), supervision, regulation of teacher education institutions etc. In contrast, the present policy adopts a systems approach to quality teaching. Realising that "the status of the teacher reflects the socio-cultural ethos of the society; [and]… that no people can rise above the level of its teachers" (GoI, 1986), the present policy adopts a holistic approach linking the status of the profession, the quality of new teacher recruits, quality of pre-professional development, career prospects, and the work environment, which encompasses the physical and academic environment, and governance systems that ensure accountability, and provide leadership. It has further envisaged for improving the quality of education by recruiting and distributing well qualified and trained teachers. According to the policy, teachers' shortage would be addressed by recruiting adequate subject-wise teachers in schools or school complexes which in turn will be sharing these teachers

among schools within their jurisdiction. The selection of teachers will be based on their classroom demonstration or interview apart from TET or national testing agency (NTA) test scores. The TET will be strengthened to inculcate better test materials, both in terms of content and pedagogy and will also be extended to cover teachers across all stages (foundational, preparatory, middle and secondary) of school education in both public and private schools. For subject teachers, suitable TET or NTA test scores along with a classroom demonstration will be utilised for recruitment. A technology-based comprehensive teacher-requirement planning forecasting exercise will be conducted by each state to assess likely subject-wise teacher vacancies over the next two decades.

The *Policy* has made suggestions for stopping the harmful practice of excessive teacher transfers and recommended that, transfer of teachers will be conducted through an online computerised system that ensures transparency. The Policy also resolves to ensure transparency in the teacher recruitment process by introducing 'new professional standards for teachers' (NPST) along with merit-based promotion of teachers. After all, weak professional norms make teaching a second class profession (Béteille et al., 2020). Finally, according to the Policy, the NCTE may get scrapped, or it may be transformed into a professional standard setting body in teacher education. It will be devoid of regulatory role which will be transferred to the now proposed National Higher Education Regulating Council—the single regulatory body for higher education, under the Higher Education Commission of India the apex body of higher education in India. These policy reforms suggest that teacher education in India is on the brink of a major transformation.

7 Concluding Observations

The University Education Commission (1948–49) observed, "People in this country have been slow to recognise that education is a profession for which intensive preparation is necessary as it is in any other profession". This view seemed to continue to prevail, as the policy makers have rarely attempted to constructively react to growing tendencies of lack of attention to quality education/training of teachers in India. Of late there has been a change in the approach to teacher education. It is being promised to provide teacher education an important place in the educational structure of the country, as it is teacher education that provides teachers at all levels of education and to all institutions of education, and that hence the quality of education critically depends upon the quality of teachers, which, in turn, depends on teacher education system in the country. Teacher education/training institutions are strategically important "power plants" that generate moral and intellectual energy among the students to prepare people for a changing society and for development, as Gunnar Myrdal (1968) stated. They provide teachers with values and methods of resolving value conflicts. Thus, theirs is a unique great contribution to the nation building and to the global society. Hence, "good teacher quality is increasingly being seen as an imperative to meet the changing landscape of social and educational aspirations and the demands

of the global "knowledge economy" (Sharma, 2019). Accordingly, teacher education began getting more attention in the policy space in recent years, and policy makers who are concerned with the quality of schooling pay serious attention to rejuvenate and revitalise the teacher education system.

The key challenge in the education system that is being faced all over, is to ensure that professionally committed as well as academically qualified young talent enters the teaching profession by choice. For this, for the teacher education institutions, and equally importantly the other education institutions should be made attractive, with attractive teaching–learning environment, exciting opportunities for professional development, adequate resources for experimentation and innovation, and a respectable status for the teaching profession.

The second important challenge countries like India face is growing private sector in all levels of education, including specifically teacher education. The private sector has grown in education in India not due to any policy initiative, but due to the absence of any policy on private education, or simply policy inaction or policy vacuum. With commercial motives, private institutions came up in large numbers and they not only posed challenges for maintaining quality and standards in teacher education, but also posed various other problems. Through their variety of undesirable practices in areas of management of the institutions, recruitment of teachers, admissions, fees and even in teaching, such values are imparted in the teachers and students that lead to the erosion of the public good nature of education. While many committees in India have recognised the need to curb the trends towards commercialisation in education, few attempts have been so far successful. A clear long term policy perspective is required on the role of private sector in higher education. The policy 2020 intends to promote participation of philanthropic private sector in education, but not commercially motivated players. Really innovative measures are required to distinguish between the two, as all private players enter education sector under the garb of philanthropy, and to take stern and even politically difficult action against the cheap quality, profit-oriented private institutions.

Lastly, a strong database on teacher education has to be built. The database has to include not only a variety of aspects on teacher education institutions, the programmes, their content, quality and relevance, number of students/trainees, their socioeconomic background, teacher educators, thier quality and qualifications, fees, private and public finances, policies and practices in the institutions, etc., but also on demand and supply of teaching manpower, the rewards in labour markets for the academic profession—employment/unemployment, salaries, etc. This will help in robust and detailed research, sound policy making, planning and informed choices in educational planning and development.

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Innovation and Digitalization in Teacher Development: Approaches & Strategies

Towards a "Well Rounded" Cohesive Teacher Education Program: The Silent Reform of Teacher Education Practices in Israel

Ainat Gubernan and Oded Mcdossi

1 Introduction: Israel's Education System

The State of Israel was established in 1948. At the time, about 290,000 out of the approximately 800,000 residents were less than 14 years old. One of the first laws the country legislated was the introduction of compulsory education, which initially only extended from kindergarten to 8th grade, and currently is compulsory until 10th grade. According to Israel Central Bureau of Statistics (ICBS) the population of Israel stands at 9.3 million residents (ICBS, 2020a), of whom over 3 million are under 18 years old (ICBS, 2020b). Public education is legally free from preschool (age 3) to upper secondary school (12th grade, age 18). Israel's total investment in education is 6.2% of its Gross Domestic Product. This rate is higher than the Organization for Economic Co-operation and Development (OECD) average of 4.9%. Nonetheless, due to Israel's high fertility rate, its expenditure per student is one of the lowest among the OECD countries (Education GPS, OECD, 2020), resulting in overcrowded classes and under funded schools (Ayalon et al., 2019; Education GPS, OECD, 2019). Parents need to supplement the government's expenditure on education: the share of private expenditure for primary, secondary and post-secondary education is one of the largest among OECD countries (27%) and it is even higher for tertiary education (about 46%) (Education GPS, OECD, 2020).

The two most pressing challenges the Israeli education system needs to address are diversity and an unsatisfactory level of students' achievements.

Diversity: Israel's public educational system is divided into three subsystems: Hebrew speaking pluralistic schools (43%), Hebrew speaking religious schools (14%) and Arabic speaking schools (25%). In addition to these, there are non-official ultra-orthodox schools teaching mostly religious studies (18%) (ICBS, 2019).

A. Guberman (✉) · O. Mcdossi
The MOFET Institute, Tel Aviv, Israel
e-mail: ainatgub@gmail.com

The Hebrew speaking systems have absorbed waves of immigrants ever since the state was established. During the 1950s, the number of immigrants Israel absorbed was twice as much as the number of its "veteran" residents, and its student population multiplied by five (Tadmor-Shimony & Reichel, 2013). Immigrants arrived from Europe, consisting of World War II survivors, and refugees from North African and Mid-Eastern countries. Today, Jewish immigrants arrive from Ethiopia, France and the former USSR. There are also foreign workers and asylum-seeking parents who come mostly from the Philippines, Eritrea and Sudan. The Hebrew speaking educational systems have to address the needs of immigrants, in addition to those of "second generation" children born to parents who are non-conversant in Hebrew.

The Arabic speaking educational system has Muslim, Christian, Druze, Bedouin and Circassian students. These diverse ethnic and religious identities are aligned with opposing sides of the Jewish Israeli—Palestinian conflict. Arabic speaking Muslims and Christians are Palestinian, and Druze and Circassians align with the Jewish Israeli side and serve in the Israeli army. Bedouins are devout Muslims originating in Saudi Arabia. Some of them serve in the Israeli army, whereas others identify with the Palestinians. Generally, the Arabic speaking minority is of lower socioeconomic status than the Hebrew speaking majority, and its educational system receives less funding per pupil (Ayalon et al., 2019). Arabic speaking pupils of higher socioeconomic status (Christians as well as Muslims) prefer to study in private institutes, most of which belong to church organizations.

Unsatisfactory level of achievements: Israel's level of achievement in the PISA standardized international test is below the OECD average. Moreover, Israel is rated as one of the most polarized countries in terms of achievement gaps between high and low performing students (Ayalon et al., 2019; Education GPS, OECD, 2019). These achievement gaps are highly correlated with socio-economic differences, as well as with ethnic and religious differences.

Arabic speaking schools' level of achievement is low in comparison to Hebrew speaking official schools (Ayalon et al., 2019). Ultra-orthodox children who study in non-official Hebrew speaking schools do not take part in international tests. Since they study mostly religious studies, it is very likely that their achievements would be much worse than those of the other groups, had they been tested. Since education is a key for economic achievements, this state of affairs may aggravate existing socioeconomic gaps and tensions within Israeli society. It may also harm Israel's future ability to take part and compete in global economic and scientific realms.

The teacher education system was perceived by the public, as well as by policymakers as being responsible for students' unsatisfactory results. Over the years, the teacher education system underwent a series of reforms aiming to improve teacher quality (Hofman & Niederland, 2012). Most of these reforms focused upon raising teachers' academic level, i.e. "knowledge-for-practice" (Cochran-Smith & Lytle, 1999). Currently, however, new initiatives are occurring that are attempting to strengthen teachers' non-cognitive abilities and practical skills and connect them with explicit theoretical knowledge, i.e. "knowledge-of-practice" (Cochran-Smith &

Lytle, 1999). We will describe these initiatives in light of the previous reforms, after a short description of Israeli teachers and the teacher education and professional development system.

2　Being a Teacher in Israel: Teachers' Social Status and Public Image

Teachers' social status and public image have undergone massive changes throughout Israel's turbulent history, from the times of the Zionist struggle to consolidate the national identity, around 1880, until today. In the beginning, teachers (who were mostly men) were among the most highly educated elite of Israel's inhabitants. Teachers were active in re-inventing Hebrew as a spoken language and medium of communication and were admired as national, as well as ideological leaders (Tadmor-Shimony & Reichel, 2013). This situation changed dramatically during the 1950s, when waves of new immigrants arrived. In order to provide public education for all, young female soldiers were recruited and educated through 'crash courses' and sent to teach in new immigrants' settlements. Later, they completed their education in teacher education seminars. (In those days, teacher education programs lasted two years, and ex-soldier teachers were exempt from parts of the programs). In the mid-1950s, 87% of the teachers were female. Teachers were expected to inculcate immigrant children with Western Zionist values, often against their parents' will. By the end of the 1950s, it was clear that there were large achievement gaps between veteran and immigrant populations, for which teachers were blamed (Tadmor-Shimony & Reichel, 2013).

A media survey revealed that news reports from the 1960s onwards, often criticized teachers for working too few hours per week, having too many vacation days per year, and abusing parents as they launched unjustified strikes demanding higher salaries (Turin, 2012). During the 1980s and 1990s, popular media portrayed teachers as ignorant, outdated, emotionally alienated, authoritarian and ridiculous (Turin, 2013). In the early 2000s, as the first international standardized test results were published, public opinion blamed teachers' ignorance and dated pedagogies for Israel's disappointing results (Hofman & Niedeerland, 2012). Teacher education was perceived as one of the causes of the alleged poor level of the teachers' work, and the two powerful teacher unions as obstructing change.

In 2003, the Israeli government convened 'The National Task Force for the Advancement of Education in Israel'. It consisted of educational experts and businesspersons, but excluded teacher education colleges and the teachers' unions, thus expressing distrust in their professional knowledge and further undermining their status. That committee recommended raising teachers' professional status through a multitude of measures (The National Task Force for the Advancement of Education in Israel, 2005). Among the recommendations that were eventually accepted were: better pay and working conditions for teachers; concerted efforts to raise struggling students' achievements; and introducing changes in teacher education.

As for wages, the average monthly salary of teachers in state operated schools in 2018 was 12,486 NIS (about 3,855 USD) which is above the average wage in Israel (9,970 NIS). Family-friendly working conditions attract women to teaching, especially in traditional societies. In 2021, 82% of the teachers were women (ICBS, 2021). The occupational security teachers enjoy attracts candidates of marginalized minority groups. Nonetheless, teachers' salaries lag behind the average monthly wage among government employees with academic degrees (15,648 NIS) (Moshe, 2020), as well as behind the average of teacher salaries in OECD countries (OECD, 2020). Beginning teachers' salaries are particularly low, about 40% of the maximum earnings, and it takes 36 years to progress through the salary scale, much longer than in other countries (Moshe, 2020; OECD, 2020). As a result, it is difficult to recruit high achieving students to teaching: Teaching candidates have on average lower achievements than candidates of other faculties in the Psychometric Entrance Test, which is required by most higher education institutions (ICBS, 2020c). A survey conducted by the Varkey foundation in 2018 found that Israel ranked the second lowest of 35 countries in teachers' status index. The respondents also thought that teachers were under-paid. No wonder then that less than 8% of the respondents would encourage their children to become teachers (Dolton et al., 2018). In sum, teaching in Israel is mostly a female, middle-class (rather than upper-middle) occupation with a medium to low social status.

3 Teacher Education and Professional Development

Generally, teachers are required to hold a bachelor's degree. In 2021, among 153,577 teaching staff, about 6% did not have academic certificates, 55% had a bachelor's degree and slightly more than 38% had a master's degrees or a PhD (ICBS, 2021). It is expected that in the near future all teachers will have a master's degree, in accordance with a new reform that was launched by the Israeli Council for Higher Education in 2021 and which will be gradually implemented from 2023. In the following section, we present pre-service teacher education as it is still practiced, and point out expected changes.

3.1 Pre-service Teacher Education

Teachers are educated in academic teacher education colleges and universities. All programs are publicly financed and supervised, and until the end of the academic year 2021, they all adhered to the same strict guidelines that determined how many credit hours they had to allocate to each subject. The reform that was launched in 2021 has more flexible guidelines that enable academic institutions to devise their own curricula in innovative ways. There are two main routes into teaching: parallel and consecutive: (1) The parallel route is a four-year program, addressing specific age

groups (up to junior high school) and teaching disciplines. It is available at teacher education colleges and graduates are awarded a B.Ed. and a teaching certificate. Typically, the first two years are devoted to acquiring a theoretical basis in education and to disciplinary studies. Students perform supervised fieldwork mainly during the third year, and work as interns in the fourth year. (2) The consecutive route is offered to BA graduates and takes at least two years. This route is compulsory for upper secondary teaching certificates. Students in the consecutive route may opt either for a teaching certificate or for a Masters' degree in teaching, MTeach. University students who choose the teaching certificate option may take one year in parallel to their BA studies. Students of the consecutive route work as interns during their second year of studies.

There are also "alternative" or "accelerated" routes to teaching in Israel, but they all adhere to the same state mandated curriculum in terms of credit hours and contents. Differences are seen mainly in the pace and timing of curriculum delivery, as well as in recruiting criteria.

3.2 Teacher Induction

Beginning teachers receive support over the first three years of their work. During the internship year, beginning teachers must work for at least 33% of a full position. They participate in a workshop provided by a teacher education institute, and have weekly meetings with an experienced mentor teacher at their school. Interns undergo an evaluation process in the middle and at the end of the school year, which is conducted by their mentor teacher and school principal. A teaching certificate is awarded to interns who successfully complete the internship year. Workshop participation and mentoring continue into the second year of beginning teachers' work, but with a reduced number of contact hours. Beginning teachers are entitled to a third year of mentoring, should they so wish. Beginning teachers are eligible for tenure at the end of their third year.

3.3 Career Long Learning, Evaluation and Promotion

The teachers' job remit includes participation in professional learning programs each year throughout their career. The specific programs are chosen by school principals from a large selection of officially approved frameworks, according to school's needs and teachers' roles within the school, as well as their professional needs and individual interests. Teachers' professional competence is acknowledged through promotion ranks and leadership roles. Both tracks involve a salary increase: (1) In order to be promoted, teachers need to gain teaching experience (there are minimum time intervals between promotion ranks), participate in professional learning programs and undergo an evaluation process. The evaluation process consists of teachers'

self-evaluation, collection of data that documents the quality of their work, and the principal's class observations followed by feedback interviews. (2) There are diverse leadership roles that teachers may take with the principal's approval: disciplinary subject coordinator, road safety coordinator, social activities coordinator, etc. In addition to these, teachers are entitled to a salary increase if they are awarded additional academic degrees.

4 Teacher Education Reforms: A Historical Review

Critical public opinion resulted in a series of committees and reforms aiming to improve teacher education and teacher quality. Lidor and his colleagues (Lidor et al., 2013) counted 13 official committees that dealt with reforms in teacher education between 1969 and 2008.

During the early 1970s, teacher education in Israel took place in 'seminars'. These post-secondary institutes offered three-year pre-service programs for preschool, elementary school and special education teachers. Secondary school teachers received their teaching certificates from universities after completing a postgraduate program. Teacher education seminars operated under the auspices of the Ministry of Education, whereas the universities were (and still are) independent institutes whose academic freedom is guaranteed by law. Universities are budgeted by the Council for Higher Education. During the 1970s, a comprehensive reform in education took place that restructured the school system. A three-level school system was introduced: six years of elementary school, followed by three years of junior high school, and then three years of high school. This system replaced a two-level school system: eight years of elementary school followed by four years of secondary school. Compulsory education expanded from nine (K-8) to eleven years (K-10). Junior high school teachers were required to have a bachelor's degree. The seminars went through an 'academization' process that changed them into teacher education colleges. All study programs expanded to four years, awarding a B.Ed to graduates, which is equivalent to a bachelor's degree in education. The Council for Higher Education was responsible for the academic accreditation of teacher education programs. In 1981, it published curricular guidelines for teacher education. These required student teachers to study at least twice as many weekly hours as in any other bachelor degree program. Nevertheless, the colleges remained under the auspices of the Ministry of Education. They were not allowed to teach any other subject except for teaching (disciplinary studies were not accredited as academic courses leading to a bachelor's degree in those areas). Furthermore, teacher education colleges were not entitled to academic freedom (Hofman & Niederland, 2012; Lidor et al., 2013).

In an attempt to raise the quality of teachers, admission tests to teacher education colleges were introduced during the 1980's. These were later replaced by the Psychometric Entrance Test, an equivalent of the SAT (Hofman & Niederland, 2012; Lidor et al., 2013). Over the years, admission requirements became more selective,

and today they are higher than those required by universities' faculties of Humanities and Arts, although they are lower than other faculties. Teaching students with high SAT and matriculation scores are entitled to join special programs for excellent students, where they receive scholarships and graduate after three years instead of four. In return, they commit to work as teachers for at least three years. Following the recommendations of the National Task Force for the Advancement of Education in Israel, the Israeli government arrived at new agreements with Israel's two major teacher unions during the late 2000s. From the perspective of teacher education, the agreements required participation in professional development activities as one of the conditions for salary raise, in addition to gaining teaching experience and participation in the formative and summative evaluation process of their work (Hofman & Niederland, 2012). The internship year was introduced during the late 1990s, and was later expanded into three years of mentoring (of which two are mandatory and one is optional). It was decided that mentor teachers should participate in preparatory courses provided by teacher education institutes and receive financial reward for their work. These changes formed continuity between preservice and in-service teacher education, and emphasized the concept of teaching as a lifelong learning career. Mentor teacher courses strengthened the links between experienced teachers and teacher education institutes.

Meanwhile, the academization process of the teacher education colleges continued. During the 1990s, promotion ranks for teacher educators were introduced. The highest degree is a full professor, which is awarded by the Council for Higher Education, based mainly upon refereed publications in international journals. During the late 1990s and early 2000s, teacher education colleges were allowed to open Master's degree programs in education. In 2006, a special Council for Higher Education appointed committee published new guidelines for teacher education programs. These guidelines applied equally to colleges and to universities, thus acknowledging their equivalent status (Hofman & Niederland, 2012; Lidor et al., 2013). The committee's decisions resulted in additional contact hours devoted to practical experience among university students, whereas the colleges of education had to reduce teaching time in all of their programs' components (Lidor et al., 2013).

The culmination of the academization process is expected to be the transitioning of all colleges of education from the auspices of the Ministry of Education to that of the Council for Higher Education. The decision about the transition was made in 2011, but the process is still ongoing. Until now, only five of Israel's 21 academic colleges have moved under the auspices of Council for Higher Education. In order to be accepted, colleges of education need to comply with difficult demands such as merging with other academic institutes to reach a minimum number of students.

The new reform that the Council for Higher Education decided to launch in 2023 has flexible guidelines that leave more room for teacher education institutes to devise their own curricula. Nonetheless, those new curricula are expected to be cohesive—integrating theory, practice and digital technologies. Inclusion, civic education and multilingual literacy are among the areas that the new curricula should deal with. The reform expands student teachers' practical experience significantly, and encourages the partnership between schools and academic teacher education institutions. All

teaching graduates would have to acquire a masters' degree. To conclude, the Israeli teacher education system underwent a series of reforms, most of which attempted to raise its academic status. However, the last reform expands practical experience and emphasizes that higher academic standards should be integrated with practical experience and address educational and moral issues.

5   Current Initiatives to Reform Israel's Teacher Education

This section describes current initiatives to improve teacher education quality in Israel. They all adhere to the conviction that practical skills and clinical knowledge of student teachers and teachers need to be the focus of teacher education. Therefore, these initiatives attempt to link theory with practice to improve teaching/learning processes. Some of these initiatives originated from policymakers, whereas others developed from "bottom-up", but they are all strongly supported by policymakers. At this stage, they are all defined as pilots. The initiatives are subject to multiple formative evaluation studies that are conducted to inform further development. They are tried and studied in collaboration with stakeholders, instead of being imposed upon them. They are constantly improved and are growing in scope, although none of them was declared as a compulsory reform. We therefore call these initiatives "the silent reform".

5.1   Recruitment: Introducing Non-cognitive Selection Criteria for Teaching Student Candidates

Obviously, teaching requires high-level cognitive skills. However, non-cognitive characteristics, such as empathy and motivation are no less essential. Currently, student teacher candidate selection is based upon prior academic achievements. These measures are effective in predicting student teachers' academic achievements, but they cannot predict their level of success in practical work or their perseverance. Therefore, the teacher education department at the Ministry of Education decided to develop a comprehensive selection battery, named MESILA,[1] which includes measures of non-cognitive dimensions, in addition to cognitive abilities. Furthermore, in order to maximize its effectiveness, the selection criteria MESILA employs are similar to those used by the education system to identify high quality teachers who deserve to be promoted (Goldenberg, 2018).

   MESILA is based upon a multi-trait multi-method matrix: each desired trait is evaluated by a multitude of measures, and each measure supplies relevant data for a multitude of traits. For example, the group-performing task measures the

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[1] The name MESILA is an acronym for "screening tests for teaching candidates". It means "track" in Hebrew.

following traits: teamwork, tolerance, initiative and responsibility. The trait 'teamwork' is measured by three measures: the performance task, as well as by biographical and personality questionnaires. Teacher education candidates are evaluated during 'candidate evaluation' days by experienced teacher educators who receive special training prior to evaluation. Inter-judge reliability is continually monitored (Goldenberg, 2018).

A pilot study performed in 2016 and 2017 followed 97 first year students over two years. It found that current (cognitive) admission criteria, as well as the MESILA battery predicted students' second year grade average, and also their pedagogical advisors' evaluations concerning their 'suitability for teaching'. However, only the MESILA battery predicted students' supervised practical work grades (in both years), as well as student attrition. Students, as well as assessors, reported they felt the battery was fair and relevant to teaching. During 2020 and 2021, the battery had to revised and adapted for online dissemination, due to the Covid-19 pandemic. The MESILA battery will be further developed, tried and validated until it is eventually comprehensively applied (Goldenberg, 2018).

5.2 Pre-service Education: The Academy-Classroom Program

The Academy-Classroom program is based on partnerships between academic institutions of teacher education and schools, similar to the Professional Development Schools model (Darling-Hammond, 1994). In the Academy-Classroom program, third year student teachers join experienced mentor teachers and teach together. They may observe each other teaching, help each other teach or teach simultaneously. Student teachers spend two or three days at school, thus experiencing school-life and taking part in diverse activities, including field trips, celebrations and meetings with parents. Theoretical courses are designed to support students' practical work, providing them with the knowledge and skills they require at the time the need arises, rather than supporting theory construction through practical "examples" (Greenfeld, 2015). Higher education- based teacher educators hold weekly study sessions with their student teachers and their mentor teachers to discuss issues raised during work.

Following the success of Professional Development Schools programs operated at nine teacher education colleges, the Ministry of Education launched the Academy-Classroom program as an experimental program. In 2018, 1,800 students from all of Israel's academic teacher education institutes participated in the program which was practiced in 350 schools. Currently, student and mentor teachers are remunerated for their participation. In some of the teacher education institutions participation is optional, whereas in others it is compulsory to all student teachers who enroll in certain programs.

There were many expectations for the Academy-Classroom program: (1) It was hoped that the program would result in better prepared and more effective beginning

teachers, thus preventing the 'reality shock' they experience, and reducing attrition. (2) Lower student–teacher ratio may enable students to receive more individual attention and help, and result in improved achievements. (3) By introducing young and motivated student teachers who are able to help, mentor teachers would be convinced to try to implement innovative teaching methods. (4) Mentor teachers would experience professional learning because of experimenting with updated teaching methods, and participation in study sessions together with their mentees and their teacher educators. (5) Teacher educators would provide professional learning to school staff, and teacher education programs would change to better accommodate student teachers and schools' needs.

A large evaluation survey conducted by Israel's National Authority for Measurement and Evaluation in Education (RAMA, 2017) revealed that the Academy-Classroom program was well received by all parties involved: student teachers, mentor teachers, teacher educators and school principals all believe that the program improves teacher education quality and pupils' achievements. Nevertheless, most mentor teachers did not view the program as a professional learning framework designed for their own professional development. Higher education-based teacher educators did not report that institutional changes took place because of the program. In most cases, principals did not ask teacher educators to provide professional learning to their staff or consult them on educational matters.

There are other challenges that need to be addressed. During 2020 and 2021, student teachers' practical experience and co-teaching with mentor teachers occurred online. It remains to be seen whether or not this experience contributed to the future use of digital tools in teaching, and how student teachers' teaching skills were affected. There are possible contradictions between mentor teachers' commitment to student teachers' preparation and their obligation to support their own classroom students' learning. Student teachers' theoretical courses need to be adapted to the unpredictable events that occur in schools. Finally, higher education based teacher educators' roles need to be redefined, and teacher educators may need professional preparation for those new roles.

5.3   Job Entry and Integration: Multiplayer Induction Teams for Beginning Teachers

Multiplayer Induction Teams are learning frameworks aimed at improving beginning teachers' induction into schools. The teams consist of interns, beginning teachers, their mentor teachers, higher education based teacher educators, and other school staff. In some of the meetings, representatives of the school district, local authorities and school principals also participate.

The initial motivation to establish Multiplayer Induction Teams was the desire to reduce the high dropout rate of beginning teachers. Previous research found that

beginning teachers' attrition during the first five years might be as high as 50% (Ingersoll & Smith, 2003), and that good mentoring and support may help retain beginning teachers. Mentors can help beginning teachers overcome the difficulties they face, and reduce the gap between their expectations and the realities of educational institutions. Institutional support and reduced workload are also helpful (cf., Darling-Hammond, 2003; Odell & Ferraro, 1992; Ronfeldt & McQueen, 2017). Multiplayer Induction Teams attempt to promote institutional support and improve initial teacher education and mentoring by empowering beginning teachers and listening to their voice. During the team meetings, beginning teachers share their experiences and needs with those who are responsible for their induction. Group support makes it easier for individual teachers to share difficulties. It is hoped that mentor teachers and other staff members will change their behavior to accommodate beginning teachers' needs. Higher education based teacher educators may learn from beginning teachers what changes are needed in their programs and practices in order to better prepare student teachers in the future. Policymakers can use other participants' perspectives to form policies that do not exist at present, or change existing ones. In addition to helping beginning teachers' induction into schools, Multiplayer Induction Teams aim to support beginning teachers' own initiatives, enabling them to become change agents within schools. The frequent and regular dialog between participants set the ground for the development of learning communities that discuss key educational issues in local contexts and work collaboratively to improve current situations.

Multiplayer Induction Teams were first initiated by one teacher education college. It was strongly supported by from the head of the internship and induction department at the Ministry of Education and the European Community's Erasmus[+] program. There are currently 56 Multiplayer Induction Teams in 10 teacher education colleges, with over 1,200 beginning teachers who participate (about 8.9% of the total population of beginning teachers). Each college has its own model, adapted to the needs and local contexts in which they operate. The two leading models are the institutional model that operates within schools, and the regional model that operates within local authorities. In the institutional model, school administrators and college representatives determine the team's specific goals and work plan. This model is best adapted to school needs, and most closely monitors beginning teachers' experiences. However, this model can operate only within schools that are large enough to recruit sufficient numbers of beginning teachers each year. In the regional model, several educational institutions join an academic teacher education college and form a regional community of learners. This model is especially prevalent in early childhood education, since preschools are usually very small and geographically dispersed. The regional model enables local authorities to formulate policies that meet the needs of multiple institutions and try them beyond the scope of a single school.[2] During 2021, all of the meetings of the Multiplayer Induction Teams were conducted online, and initial results indicate that the medium hindered the development of intimacy and mutual

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[2] The European Community supported the Multiplayer Induction Teams and is currently supporting mentor teachers' courses that are associated with Multiplayer Induction Teams through its Erasmus + program.

trust that are so important for communities (Stoll et al., 2006; Wenger-Trayner et al., 2015).

5.4   Teachers' Professional Development: Professional Learning Communities

Teachers' Professional Learning Communities consist of teachers who meet regularly to examine their professional knowledge and practices, in an attempt to improve them. Compared with other forms of professional meetings, participants of learning communities join them out of their commitment to improve their students' learning, and view themselves as accountable for the communities' actions and success. They engage in open, reflective and critical examination of their current practices, experiment with new forms of teaching and collect data about their students' learning. These data, combined with extensive reading of the professional literature, serve as a basis for critical examination and future attempts to improve practice. Thus, Professional Learning Communities are sites in which local professional knowledge is collaboratively created, rather than imported from elsewhere (Wenger-Trayner et al., 2015).

During the last two decades, Professional Learning Communities have become a preferred model for professional development in education (Stoll et al., 2006). Research studies found that such communities improve teachers' knowledge, skills and sense of professional self-efficacy (Andrews & Lewis, 2007; Riveros et al., 2012), and enhance teamwork and willingness to change (Huffman & Jacobson, 2003; Lewis & Andrews, 2004). Achievements of students whose teachers participate in Professional Learning Communities seem to be higher than those of students whose teachers work in isolation (McLaughlin & Talbert, 2006).

Although Professional Learning Communities are prevalent in education, teachers' professional development in Israel was confined until recently to traditional forms. PLCs operated mainly in science education, supported by philanthropic organizations. In 2016, the department of teachers' professional development at the Ministry of Education launched a national program to develop Professional Learning Communities as frameworks for teachers' professional development The communities are facilitated by 'Leading teachers', who are experienced and respected teachers, who receive professional support before, as well as while they work.

There are three types of Professional Learning Communities:

(i)   Communities that deal with "general" educational issues, such as students' motivation or assessment. They consist of teachers and leader teachers who work at the same school, allowing them to deal with their school's core issues and change their curriculum and practices collaboratively (DuFour & Eaker, 1998, p. 152). Currently, general Professional Learning Communities are operating all over the country and each district has aligned with an academic teacher education institute. Together, they provide academic and practical support to

leading teachers and monitor communities' activities. In 2021, about 9,000 teachers participated in Professional Learning Communities that operated in 620 schools.

(ii) Professional Learning Communities of elementary school homeroom teachers who try to define their unique educational roles. This new initiative started in 2021, and there are currently 14 school-based communities and 10 regional communities.

(iii) Professional Learning Communities that deal with disciplinary studies. These communities consist of teachers who teach the same disciplinary subject. If there are not enough subject teachers to support a school-based community, teachers may join a regional community that operates outside of their school. In 2021, there were over 300 disciplinary Professional Learning Communities. In the short time that they have existed, two main types of disciplinary communities have evolved: network and individual communities. In network communities, leading teachers have their own communities, facilitated by science education researchers. In these communities, leading teachers are exposed to best teaching practices, try them out in their classes and in the communities they lead, and share their experiences. In individual communities, leading teachers do not have disciplinary professionals to support them. Instead, they form heterogeneous communities and receive 'general' support, for example, how to overcome resistance to change (Berglas-Shapiro, 2018).

During the Covid-19 pandemic, all the communities had to work online. Initial results indicate that the medium did not impede their activities. On the contrary, it made it easier for teachers to participate, since they did not have to commute. In future studies we will try to understand why the online medium was so welcome among teachers' Professional Learning communities, whereas it was experienced as a difficult challenge by Multiplayer Induction Teams' participants.

6 A Powerhouse of Teacher Development: The MOFET Institute

The MOFET[3] Institute was established by the Israeli Ministry of Education in 1983, with the belief that teacher education is a unique profession and that teacher educators need opportunities for professional development. Currently, it is a Ministry of Education funded non-profit organization. The MOFET Institutes provides teacher educators with learning programs in research and teacher education, research grants that support applied research projects they conduct in education and teacher education, and hosts Communities of Practice for senior teacher educators who hold similar educational leadership positions in academic teacher-educating institutions. In some of these communities, policymakers, as well as other stakeholders such

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[3] The name MOFET is an acronym for "research and program development". It means "best model" in Hebrew.

as representatives of non-governmental organizations and school principals also participate (Golan & Reichenberg, 2015; Guberman et al., 2021). Positioned at the nexus between academia, the educational system and the Ministry of Education, the MOFET Institute conducts research that informs policies and develops innovative programs in teacher education in collaboration with policymakers and academic teacher-educating institutions. The need for open dialogue between policymakers, researchers, and practitioners is a long-recognized need (Edwards et al., 2007), yet there are very few examples of frameworks addressing that need. The MOFET Institute is one of them.

The MOFET Institute has had a role in developing and evaluating all of the above-mentioned initiatives: (1) The MESILA admission test for student teacher candidates is being developed at MOFET. The Institute conducts the tests and validates them against external criteria of success, such as the evaluations that former candidates receive as students and as beginning teachers, and their perseverance in teaching. During 2020 and 2021, the Institute focused on developing online tasks to replace those that require face-to-face interactions. (2) The origins of the Academy-Classroom program stem from a professional Community of Practice that was established at the MOFET Institute more than fifteen years ago by teacher educators from different colleges that applied the Professional Development School partnership model. When the Ministry of Education decided to launch the Academy-Classroom program, it acknowledged the community's contribution (Guberman et al., 2021) and placed the program R&D unit at MOFET. Currently, the unit intends to provide incentives to teacher education institutes that agree to conduct a substantial part of the theoretical studies at school and perform evaluation studies of this initiative. (3) The MOFET Institute coordinated the evaluation of the Multiplayer Induction Teams and is currently responsible for the evaluation of the mentor teachers' courses that are associated with Multiplayer Induction Teams. MOFET's inter-collegiate position enables better coordination and collaboration between different teacher education colleges, policymakers, and other stakeholders such as the European Community. (4) Finally, the MOFET Institute is responsible for the development of the Professional Learning Communities' initiatives. It offers teacher educators accessible theoretical knowledge and practical tools related to communities' facilitation and learning from practice, organizes facilitators' preparation courses and supervision as well as evaluation studies and learning days for decision makers.

7   Conclusion: The Silent Reform—New Conceptualization of Teacher Education

The chapter has presented four new initiatives in Israel's teacher education: non-cognitive selection process for student teacher candidates; the Academy-Classroom residency program for student teachers; Multiplayer Induction Teams for beginning teachers; and Professional Learning Communities for experienced teachers.

All these programs emphasize theory-informed practical expertise and collaboration between schools, academic teacher education institutions and the Ministry of Education. In contrast with previous reforms that assumed that better teacher education could be achieved just by raising the academic status of teacher education programs, the initiatives we described above express a holistic, integrative conceptualization of teacher education. The MESILA admission test examines cognitive as well as social-emotional skills that will also be relevant later, for evaluating teachers. Professional gatherings at the Academy-Classroom project, Multiplayer Induction Teams for beginning teachers and Professional Learning Communities for experienced teachers deal with complex, real issues and dilemmas. With regard to theory, higher education based teacher educators are responsible for mediating theories and professional literature to student teachers and teachers, but these have to be relevant to the issues at hand. Furthermore, these resources need to be critically examined by all participants, in light of their practical experience within their local contexts.

Learning is viewed as a career long process (Beck & Kosnik, 2017). The initiatives we described deal with teachers' learning throughout their career pathways. Moreover, learning is multi-directional: students, teachers, teacher educators and policymakers learn from each other. Student and beginning teachers are expected to be change agents within their schools. Teacher educators and policymakers are expected to learn from student teachers and teachers about changes they need to make. Collaboration between students, teachers, schools, academic institutes and policymakers are strongly emphasized. Taken as a whole, the diverse initiatives constitute a step forward towards a "well rounded" cohesive teacher education program, instead of the "fragmentation" that is typical of teacher education programs around the world (Kitchen & Petrarca, 2016). The Covid-19 outbreak moved the activities online. Although this removed geographical and commuting barriers, Multiplayer Induction Teams struggled to gain the attention and time of the over-worked stakeholders and establish the intimacy and mutual trust that are so important for communities (Stoll et al., 2006; Wenger-Trayner et al., 2015). Future studies should try to understand how best to use the online environment and avoid its disadvantages.

The initiatives we described were initiated long before the new reform was devised by the Council for Higher Education, and are already voluntarily implemented in several teacher education institutions. Since they are not compulsory and were never declared as a reform, we called them "the silent reform". The four initiatives express similar conceptualizations of teacher education and to a large extent, they are in alignment with the new reform. We hope that those two lines of development merge, and produce holistic, cohesive and comprehensive programs that will address the challenges confronting Israeli society and its education system.

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A Promising Model of Postgraduate Teacher Education: Teacher Professional Development in Russia

Diana Koroleva, Oleg Fedorov, and Elena Chernobay

1 Introduction

In the ongoing transformation of education in Russia, the teaching profession, and how teachers develop their competencies and careers have been accompanied by the growing concerns of various stakeholders. There has been an increased need for an up-to-date, cohesive understanding of relevant issues such as motivations to take up or stay in the teaching profession, the roles and models of evaluation and compensation systems, the system of teacher professional development, highlighting the mastery of modern information and communication technologies (ICT).

Teaching careers in Russia are influenced by a number of factors. The career paths of Russian teachers can be attributed to the nation's largely uneven socio-economic landscape coupled with the progressive changes in the skill and competence requirements for the teaching force, which also reflect fast-paced changes in the global economic, technological, and social realms.

Over the past 10 years, the government has repeatedly made attempts to bring the teacher training programs and the qualification requirements for secondary school teachers in line. The introduction of the national Professional Standards for Teachers (PST) in 2013 has heralded a turnaround in the Russian teaching profession. While

D. Koroleva (✉) · E. Chernobay
Institute of Education, National Research University Higher School of Economics, Moscow, Russia
e-mail: dkoroleva@hse.ru

E. Chernobay
e-mail: echernobaj@hse.ru

O. Fedorov
Siberian Institute of Management, Krasnoyarsk, Russia
e-mail: fedorov-od@ranepa.ru

stipulating more of teacher responsibility for students' learning outcomes, PST also unequivocally defines new teacher qualification and job requirements, as well as evaluation and certification criteria. In particular, PST described the responsibilities of Russian teachers, such as to plan and deliver classes properly, analyze their effectiveness (self-analysis), be well versed in modern instructional design and delivery methods, such as laboratory experimentation, field practice, etc. However, the PST is currently considered more as a reference point for the development of the professionalism of the teaching staff and a vector in the modernization of teacher education than a clear-cut set of recommendations.

Among the key objectives that currently confront teacher training and upskilling in Russia, one particular task that has taken on more importance is ensuring that instructors obtain and consistently keep up with adequate ICT proficiency. It is universally acknowledged that ICT has become an indispensable tool of the trade for teachers in every area and at all levels as the modern technological upswing has gained an unprecedented scale. In PST, this high-priority imperative is reflected in a specific 'Teacher Professional ICT Competence' provision, which is based on UNESCO recommendations.

Given the above contexts, there is a pronounced need for rethinking the existing Russian system of teacher professional and career development. It is advisable that deploying such a new framework will be able to address the existing challenges and risks. Global best practices in the field should also be appropriately tailored and factored in, while incorporating the very best of the national pedagogical legacy will be just as important. We argue that the key features of this new system should include, *inter alia*, a more personalized model of career planning and development, fair mechanisms for assessing educational outcomes, and independent performance appraisal and audit frameworks.

2   The Teaching Profession in Russia: A Historical Outline

The history of research on the Russian teaching profession and how their careers unfold can be divided into two periods: the Soviet period (1917–1991) and the Post-Soviet period (1991–present). The 1917 Revolution sparked an upheaval traversing the country's entire political, social and economic realm, including education. The Soviet government started to advance a different schooling paradigm, where appropriate student development under the newly incepted Soviet model was seen as the key priority in accomplishing the goals of building the new Socialist society. However, the teaching corps were not in a position to support these ideas in an environment of eradicated traditions of Russian schooling and monopolist ideology that became more and more entrenched in education.

It was not until the 1920s that research started to address the socio-economic facet of Russian teachers by outlining their professional and life experiences and roles. Studies of that time particularly sought to explore various ideology-centric aspects of teaching and what kind of conceptions the teaching corps developed about the

overthrown and new political regimes, whereas daily teaching contexts proper were largely left out of academic sight.

Soviet leaders realized the pivotal need to ensure a steady supply of the new type of teaching staff as indispensable for developing Soviet intellectual elites. After the revolution of 1917, the government actively popularized the teaching profession, as well as created conditions for urgent replenishment of the teacher corps. In the 1920–1930s, unique programs spearheaded by individual teacher-enthusiasts[1] and experimental schools began to come under criticism as being 'bourgeois'. There was a shift from comprehensive programs to subject programs; creative expression was replaced by conscious discipline.

World War II marked a major turning point for Soviet education. The aftermath of the war has prompted the urgent need for the entire childhood and youth cohorts to be streamed into education, with special emphasis placed on character development and patriotic education. In the post-WWII years, changes took place both across the institutional domain of education and in how learning and teaching were organized. The new educational formats included independent work, individual and group learning, physical training and military schooling. The new types of educational institutions were schools for young workers (in-service lower secondary and secondary education), evening rural youth schools, correspondence schools, male/female schools, etc. The Academy of Pedagogical Sciences of RSFSR (the Russian Soviet Federative Socialist Republic est. 1943) took on special importance in the post-war years, which became an outpost of studies in pedagogy and psychology. This model of the Soviet school had survived until the 1980s.

Against this background, a number of novel trends also started to take shape in Russian education. For example, following the 1960–1970s progressive ideas of Vasyl Sukhomlynsky, a principal at a rural Ukrainian school, called for a revival of humanistic pedagogy where multifaceted development of the child as an active person maturing into a 'thinking individual' was conceived of as the acme value. Ideas of Sh. A. Amonashvili, V. A. Karakovsky and V. F. Shatalov, which favored teaching experimentation and disputed many concepts of formal pedagogy, began to enter educational fieldwork during the 1970–1980s. Also, the new frameworks based on the principles of learner-oriented pedagogy (e.g., by Elkonin–Davydov, L. Zankov) became more widely accepted in Russian education.

For the Russian education system, the last decade of the twentieth century was both resource-limited and fruitful. On the one hand, the country's transition to a market economy and the collapse of the USSR exacerbated the situation with a lack of funding. On the other hand, at this point, quite a few successful pedagogical experiments were conducted, establishing new schools based on unique pedagogical authorship throughout the country. The lack of detailed and thorough regulation of school education and the freedom of the teachers provoked the "renaissance of the Russian school".

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[1] Pedagogical author's unique solutions, for example, L. Tolstoy (famous Russian author) educational method based on children freedom.

The uncontrolled, creative, and free environment for educators has changed at the beginning of the twenty-first century with the introduction of a union state exam (USE), as well as mandatory tests for Russian schoolchildren. Today, the Russian school and the teaching corps are in a situation of striving for standardization and unification having passed through very diverse stages in their development.

3 Teachers in Russia: Qualification, Evaluation, and Compensation

In this section, we will discuss the key aspects of professional development of teachers in Russia. We analyze the competence portrait of a modern teacher and the features of the assessment of professional activity and its effectiveness, as well as the consequences of this assessment for the teacher's remuneration.

3.1 Scale of Career Ranks

The conception that underlies Russia's national system of teacher career development, whose implementation is currently underway, involves a new model of job ranks where particular positions of the teaching career ladder are linked to the nature and scope of their functions in designing, managing and delivering school curricula and administrative activities. More specifically, the following scale of career ranks is envisaged:

(1) **Teacher** (can be assigned Qualification Category I or Higher Qualification Category). A teacher implements educational programs while fulfilling several pedagogical functions; conducts learning and development activities; carries out other educational activities, including in those forms that are aimed at developing students' general cultural competence and understanding of how the subject discipline is related to other disciplinary realms and socio-cultural epistemes. A Teacher chooses appropriate methods of instructions and development by analyzing students' educational needs and activities, applies modern educational technologies (including ICT), and conducts training sessions.

(2) **Senior Teacher** (can be assigned Qualification Category I or Higher Qualification Category). A senior teacher is engaged in the design and implementation of educational and organizational programs, including individual disciplinary programs within the core curriculum, as well as initiatives to create and advance a safe and comfortable learning environment.

(3) **Leading Teacher** (can be assigned Qualification Category I or Higher Qualification Category). A leading teacher manages the design and implementation of organizational programs (including those related to the overall strategy of

an educational organization); organizes the design, implementation and evaluation of educational programs (including individual disciplinary programs within the core curriculum, as well as initiatives to create and advance a safe and comfortable learning environment); and supervises the activities of team members.

A central ingredient in the national teacher development model under discussion is a system of professional and career incentives. According to a survey conducted while drafting the Russian Innovative Development Strategy through 2020, teachers most frequently indicate various salary bonuses and recognition by their immediate peers and the professional community as the most important motivations. Thus, about 60% of the respondents have reported it is specifically monetary perks that they see as the key incentive to pursue improvements in their professional capacity and performance. At the same time, only about 20% of the Russian teachers surveyed have mentioned being promoted to a higher rank as an important motive. This opinion split testifies to the need for a cohesive and balanced approach to professional incentives and bonuses to be devised in transitioning to the new national model of teacher development.

The basic principles of the national system for the professional development of teachers were established in 2020. These principles include activities and measures aimed at providing the availability of quality education in Russian schools, teacher continuous professional development, and encouraging professional growth. The monitoring of regional systems of remuneration of teachers, organizing the exchange of experience and best teaching practices, the development and implementation of a mentoring system for teachers in educational organizations refer to the key activities and measures.

The purpose of the national system for the professional development of teachers is to form and provide a transparent set of tools for assessing professional competencies and encourage teacher's continuous professional growth. Within the framework of the federal project "Teacher of the Future" of the national project "Education", the integration of the national system of professional growth of teachers is envisaged.

3.2 Teacher Professional Evaluation

Since 2011, a new framework for teacher professional evaluation (personnel appraisal) has been in force, after the Russian Education and Science Ministry issued a revised policy for state teacher certification, namely, the new Unified Federal Assessment (UFA) framework, which aims to provide mechanisms for fair and impartial evaluation of teacher competency. Under UFA, teachers, senior teachers and leading teachers will be able to apply for a higher qualification category.

The appraisal process has been divided into mandatory and voluntary parts. A mandatory evaluation is carried out every five years to assure compliance with the teacher's position based on an assessment of his or her professional activity. A voluntary evaluation is carried out at a teacher's request to attest to his or her qualification

Table 1 UFA evaluation framework

Higher category	Testing knowledge of the subject	Defined by the region. Graduates' opinions can add up to 10 points (at the discretion of the region)	The region determines salary incentives as applicable
Category I	Testing knowledge of the subject and methodology	Defined by the region. Graduates' opinions can add up to 10 points (at the discretion of the region)	
Conformity	Testing knowledge of the subject, methodology, child psychophysiology	Defined at the federal level	

level as complying with requirements of Qualification Category 1 or Higher Qualification Category. A qualification category is assigned for a period of five years and can be renewed upon a positive re-evaluation. In case of unsatisfactory results, a teacher is entitled to retake the qualification exam after one year the earliest.

In UFA, a teacher is required to complete a case-study based assignment that is designed at the federal level; the testing results are scored on a 100-point scale. UFA assessments are to be carried out by authorized regional centers and training institutes. Upon testing, alongside a score for each competency being assessed, the teacher will also receive recommendations on further developing his or her professional skills.

Each Russian region has its own teacher certification procedure developed on the basis of the UFA (Table 1).

The main advantages of UFA consist in that this framework will enable a more objective and independent evaluation of teacher proficiency while also minimizing bureaucratic procedures.

Certification results (analyzed by evaluation committees) will primarily benefit the following parties:

- Teachers and senior teachers (when designing professional development programs)
- Vendors of post-degree teacher training
- Universities (to factor in modern-day qualification requirements and standards while designing and delivering educational programs).

Since this framework renders a multifaceted portrayal of the strengths and weaknesses in the current competency profiles of Russian teachers, UFA testing datasets can find an even broader spectrum of application, such as: designing upskilling and career development programs, including more flexible, personalized learning and development (L&D) plans; more accurately analyzing skill quality and supply/demand requirements to enable savvy decision-making at various levels; providing informed grounds for streamlining and advancing the professional communication environments, etc.

3.3 Incentive-Based Compensation Structure

Until 2008, a different proficiency and compensation hierarchy was in effect which linked a teacher's qualification level to a pay scale grade (Grades 7–14). For example, under this system governed by the policy titled "Unified Pay-rate Schedule," Pay Grade 12 was assigned to teachers of Qualification Category 2; Pay Grade 13 corresponded to the teacher rank of Qualification Category 1; and finally teachers of Higher Qualification Category were eligible for the highest compensation rate, Pay Grade 14.

In 2008, a new system was adopted in Russia under which educational institutions shifted to remunerating the teaching corps through salaries consisting of three parts: a fixed (basic) pay, a compensation part, and an incentive part (bonuses). Under the new certification framework, there are two factors that determine the amount of teacher pay in Russia, i.e., the job position and the qualification category. The regulatory core consists of the Standard Wage-Rates and Skills Reference Book and the Unified Skills Guide for executive and other non-manual employees. These two documents set out overall requirements for labor conditions, qualifications, and job duties, etc.

Russian educational legislation provides for a number of incentive measures to support the teachers, with priority given to newly recruited and early-career professionals. Eligibility criteria include, among others employment as a teacher immediately upon completion of a relevant degree, an employment contract of at least three years, previous teaching background, etc. The incentive measures envisaged by the national education policy are as follows:

- One-time payment at initial employment (RUB 20–100 thousand depending on the region)
- House purchase allowance (for young teachers in rural schools; teachers of all categories, as well as students of higher educational institutions that are completing their education and will enter into the teaching profession)
- Top-up payments to bring monthly salary on par with the average monthly pay in a given region
- Top-ups upon completed professional development courses (for teachers with 3–5 years in the profession)
- Preferential mortgage (a loan can be obtained at a reduced interest rate or is co-funded by the regional budget).

In 2007–2009, a transition to normative per capita financing and a new system of teachers' remuneration took place during the implementation of the Complex Project for the Modernization of Secondary Education. Normative per capita financing stands for the amount of money received by schools based on the number of students. There are standards at the federal and regional levels, which identify the cost of education per one student. It includes equipment, building maintenance, and other household expenses, textbooks, salaries of employees, the cost of training children with special

needs, and the cost of additional teacher training. The more students a school teaches, the more money is allocated to it.

Currently, the teacher's salary is formed at the expense of the basic and incentive parts (70 + 30%), in accordance with the normative per capita financing. Schools can independently determine the criteria for calculating teachers' allowances and their amount. It is recommended to consider the opinion of students' parents and representatives of regional authorities.

As the system developers state, the new wage payment system aims at economic stimulation of the growth of professionalism, productivity and quality of pedagogical work, and the development of innovative teaching methods at school by:

– Changing the contingent of teachers, involving new, active, and professionally competent people interested in teaching;
– Providing a mechanism for remuneration and rewarding active and promising teachers;
– Creating economic incentives to improve the quality of teacher work (Andrushchak, G. V. and other, 2010).

4 New Challenges in the Teaching Profession

The current educational reform in Russia has brought to the fore a new learning paradigm where the student's comprehensive social and creative development is perceived as the paramount goal. Today's innovation-driven economy has prompted fast-paced societal changes that have catalyzed competition in virtually every domain of human life. To achieve effective social integration and personal success, modern students are supposed to acquire diverse academic and cultural capital that is embedded not only in sound disciplinary knowledge, but also, and increasingly, a set of top-tier meta-subject competencies and socio-emotional faculties, which require to place more emphasis on bolstering personalized learning and developmental paths aligned with an individual's needs and aptitudes. Therefore, the Federal State Educational Standards in General Education (both, II generation—issued in 2013 and III generation scheduled to be launched in 2021) demand that modern educational systems shift from invariant teaching (transmitting the same information to everyone) to activity-based frameworks where children can best unleash their developmental potentials in transitioning to adolescence and beyond. This has come to pinpoint the teacher's new role as a multifaceted professional who is capable of effectively identifying and facilitating the learning and development needs of his or her students.

4.1 Divergent Age Structure of Russian Teachers

Nevertheless, as research has consistently shown, some teachers are not yet prepared to embrace such changes, nor do they realize how these new trends and imperatives

are implicated in the future of education and their prospective career paths. The fact that educators are often deterred from innovation and lack an inner capacity for continuous self-improvement can be attributed to both age and related psychological factors.

According to the Teaching and Learning International Survey (TALIS), Russian school teachers' average age is 46 years, which is higher than the average age of teachers in the OECD countries (44 years) (OECD, 2019). 42% of teachers in the Russian education system are over 50 years old (the OECD average is 34%). This means that the Russian education system will have to replace about two out of five members of the teaching staff in the next decade.

In the cohort of young teaching professionals, the following important trends can be observed. The proportion of teachers under 30 years of age was reported at 11% in Russia, which is close to national average. This indicator remained largely flat over the ten-year period since 2009 (TALIS 2009, (11%), TALIS 2013 (12%)).

There is a decrease in the rejuvenation rate of teachers relative to the previous period. The goals to attract young teachers to schools and increase the value of the teaching profession in society are particularly relevant for the Russian education system. Special measures are provided within the framework of the national project "Education" and one of its components, the federal project "Teacher of the Future".

4.2 Negative Sentiments to Professional Upskilling

Statistics published on the "Netologia" educational website[2] suggest there are currently more than a million active schoolteachers in Russia, of whom about 350 thousand annually engage in various professional development opportunities. Among training courses that have been the most popular with Russian teachers are: New ICT in Education (68%); Best Practices in Complex Teaching Topics (53%); Developing Students' Meta-subject Learning Competences Under the Federal State Educational Standards (33%); Implementing a Professional-Standard Oriented Working Environment (31%); etc. (see Fig. 1).

A major challenge to note when discussing teacher professional development in Russia consists in the fact that only less than half (42%) of all educators who sign up for training manage to complete their coursework (20% quit after the first lesson, and 38% do not even reach the middle). Furthermore, 6.5% of those who are admitted to the final examination ultimately score substantially below the established passing threshold.

This situation where a substantial mismatch has existed between the amount of continuing learning & development formally attempted by the national teacher corps and the net payoff these endeavors generate may be largely attributed to the Russians' overall negative sentiment to professional upskilling and poor intrinsic motivation for lifelong learning as a whole. Thus, according to a 2013 survey by the Public

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[2] https://netology.ru.
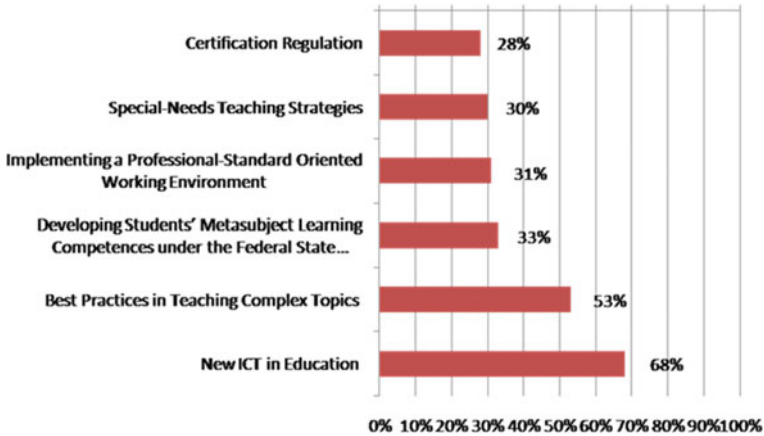
Fig. 1 Professional development courses that are the most popular among Russian teachers

Opinion Foundation, about 40% of working Russians have reported they are unlikely to engage in any professional development opportunities in the future. Another 40% of the respondents, who have been found to be more likely to enroll in extra training, have voiced securing a promotion or getting a pay-rise as the key considerations for seeking skill upgrades.

4.3 Resistance Against Going Digital

Recent policy and public discourses have increasingly accentuated the need for ICT to be more actively and systemically deployed in Russian education. The 2013 Russian Professional Standards for Teachers have a large number of provisions with respect to the ICT competences and skills that the instructors should possess. According to the Standard, the key competences are as follows:

- General user of ICT competence
- General teaching ICT competence
- Specialist teaching ICT competence, which is the ICT proficiency in one's individual area or areas of training expertise (based on recommendations of UNESCO ICT Competency Framework for Teachers, 2011).

The Russian education policy in place requires that teachers upgrade their skills and competences on an ongoing basis by enrolling in professional development programs at least once in three years. Modern upskilling tracks for educators involve ICT training as one of the key components in their curriculum, which covers such areas of proficiency as, for example, interactive and multimedia classroom equipment; web technology and mobile devices; e-courseware and digital learning design;

etc. Today, teacher development programs offer plenty of educational choice and flexibility in course progression thanks to a diverse mix of delivery formats, e.g.:

- Courses at specialized learning & development centers
- Certificates of online courses
- Hybrid learning offerings.

Despite this wide diversity of offerings, the lack of teachers' motivation to go digital and to better align their strategies with ICT choices and expectations of modern learners seriously hinders the reform process (Koroleva & Simpson, 2018). While the Russian Federal State Educational Standards emphasize the active use of digitally assisted teaching techniques as a key component in nurturing adequate ICT literacy and skills in students at various levels, the existing institutional landscape is often unresponsive or implicitly resistant to this important imperative. It turns out that achieving a more sizeable and uniform progress in harnessing ICT-supported best practices of instructions is hindered by the operational environment of patchy institutional policies and procedures where decision-making on whether to go digital, and to encourage others to do so, virtually remains at arbitrary discretion of individual administrators and teachers themselves:

"*Things have been pretty fine in terms of equipment, but teachers' willingness and choices of information resources are crucial. It's not about the absence, for example, of a device, it is actually not a problem at all. We can apply for funding to get it procured, to ask parents for a financial hand after all, but it just doesn't work unless the teacher is willing to engage. As an example, we've got a mobile classroom equipped with laptops, but they're barely ever used at all. At the same time, there are smart boards up in every room, and using them to add vividness and interactivity to daily classroom activity has become an increasingly widespread practice.*" *Principal at a public school in Yekaterinburg* (*city with a population of 1.5 million people*).

It should be noted that the above description only provides a cursory portrayal of the general state of affairs insofar as adopting modern ICT means in Russian education is concerned, with no distinction drawn, for example, between non-specialist versus specialist ICT curriculum (the latter, which includes various tracks in programming and other specific IT areas, is subject to well-defined and comprehensive ICT requirements).

4.4 Challenges of the Covid 19 Pandemic

During the COVID-19 pandemic, educational systems around the world have faced serious challenges, such as the need for a sudden and radical restructuring of education. According to the Russian school authorities' interviews, the innovation processes during the urgent transition were concentrated and succinct. In Russia, the epidemiological situation escalated in March 2020. Schools had one- or two-week vacations, returning in a new format (The Ministry of Education of the Russian Federation, 2020). These weeks were a "breakthrough", "a powerful time". Although

some schools adjusted to distance learning practices after the vacation weeks were over, most of the processes out of reviewed cases had been completed during this time.

Russian teachers claimed that they have done a huge amount of work, which was hard to complete, and which reminded them of a pursuit (Koroleva et al., 2021). Teachers needed to carry out preparatory, deductive, and operational work simultaneously. According to mentioned research, teachers were trained to use digital tools through hands-on experience. Conducted at the first days of the crisis, the research shows the absence of open technophobia among teachers but a huge deficit of real and regular practices of distance learning. Teachers with a low level of technological readiness are characterized by insufficient technological qualifications, poor understanding of their necessity and advantages, and psychological barriers (Khavenson et al., 2020). 57% of teachers did not have any experience working with distant learning technologies before the self-isolation regime, less than a quarter (23%) took lessons online several times, and only 5% did so regularly (Koroleva et al., 2020). The same research demonstrates that teachers of computer science earned the reputation as agents of technological transformation in schools, while Russian language and literature teachers, and music teachers needed special attention and support.

5 An Emerging Model of Teacher Development

At present, a national system of teacher development is still only emerging in Russia, aiming at:

– Improving the quality of K–11 education
– Raising the prestige of the teaching profession
– Developing and implementing mechanisms to promote teacher career opportunities as well as to better align training systems with labor market needs
– Establishing levels of proficiency for teachers' professional competences; validating the results of teacher evaluations, including through polling former school graduates
– Deploying new approaches to supervisory measures
– Establishing a new system of teacher qualification grading, advancing upskilling incentives and opportunities to encourage the teaching corps' motivation for professional and career development
– Developing an effective professional communication environment; creating comprehensive counseling and career support initiatives for teachers
– Ensuring the system of teacher qualification grades is fit with the corresponding international best practices.

The Law titled "On Education in the Russian Federation" requires that learners at various levels possess a specific set of personality traits, attitudes, knowledge and

skills, while instructors, in their turn, should be able to demonstrate particular professional characteristics and other capacities as relevant to an individual educational context.

A part in the national system of teacher development is a standard comprehensive upskilling model, which specifically aims to rectify the performance curve at underachieving schools by fostering best-standard teacher competencies and enhanced learning outcomes. At underprivileged schools, special consideration should be given to socio-economic contexts as well as to ensuring adequate legal, organizational and methodological conditions for improvements.

Effective implementation of the Russian system of teacher development, which primarily seeks to promote 'horizontal' career paths through encouraging ongoing proficiency improvement to demonstrate better performance, will be achieved insofar as all of its constituent parts are appropriately designed and aligned with each other, taking into account both the best of Russian academic legacy and global practice.

Assessment for Development: A Promising Model of Postgraduate Teacher Education

We argue that designing a new Continuing Professional Teacher Development (CPTD) system in Russia should be framed along two interrelated directions. The first direction envisages a CPTD being developed within the framework of continuing education as a pedagogical concept. The second direction focuses on the essential practice-centric component of lifelong self-propelled learning. (Smirnov, 2007). Therefore, it becomes possible to single out the following basic concepts that the new holistic CPTD model should be founded on:

- *Permanent education*, which extends beyond the conventional L&D setting and reflects one's objectively perceived need to refine and expand the knowledge obtained through formal learning.
- *Lifelong learning*, which is about the growth-mindset aspiration to learn and develop over the course of one's entire life
- *Extended education*, which refers to a series of activities that may not be directly related to the learning per se, but which are of great significance for one's socialization (Tatur, 2015).
- *Long-term learning*, which means that an adult professional will occasionally return to education throughout one's career.

An appropriate forecasting and planning framework must form an indissoluble part of the CPTD system as vital for accurately and comprehensively analyzing trends in population's L&D needs, enhancing the learning infrastructure and introducing new L&D approaches and formats to reinvigorate education and to help the largely inert society break out of the crisis loop.

A comprehensive CPTD support system aims to:

- Render a consistent social portrayal of what population cohorts and professional groups will become the main recipients of CPTD.

– Direct both the CPTD system as a whole and its individual elements toward effectively fulfilling an individual's L&D needs and aspirations while also best meeting the interests of society.
– Accurately identify one's specific L&D aptitudes across different intellectual and socio-economic cohorts.
– Deploy a flexible and adaptable L&D model that will stay relevant as the economy and society develop over time.

Another important requirement to effective CPTD design stems from the fact that human skills and qualifications are prone to socio-economic obsolescence, i.e., they gradually lose relevance and utility as social and technological paradigms displace one another. In education, this is reflected in the progressive obsolescence of formal field-specific learning, when such traditional L&D settings can no longer satisfy the ever-expanding needs for effective integration and career development over the course of one's life. In these circumstances, a task that has taken on more importance is to equip the contemplated CPTD system with truly integrative L&D mechanisms while combining the most suitable general and professional education models. This will allow for establishing a training framework as flexible and diverse as to ensure comprehensive, ongoing CPTD support conducive to the fullest social participation as well as productive and fulfilling careers through one's lifetime (Balashov, 2010).

In proceeding under what modern theoretical conceptions in continuing teacher education propose, it would be expedient, in our opinion, for CPTD to embed both the person-centric and problem-centric frameworks.

The *person-centric approach* has adopted an understanding where the professional development of a teacher is conceived of as an organic life process in which one's initial intrinsic learning potencies and an inborn ambition for improvement and self-fulfillment gradually unfold (Sitnik, 2007).

By contrast, in the *problem-centric framework*, it is how a teacher's intellectual realm evolves over time as he or she tackles various professional challenges and tasks which is emphasized.

We believe it is by combining both approaches that modern CPTD will be able to best satisfy the needs of personalized L&D while appropriately considering various professional challenges of the teacher.

At the same time, as the majority of modern teachers have opined, it is advisable that CPTD be primarily directed toward comprehensive personality development as an activity-centric system that is aimed at the effective fulfillment of one's career and life orientations. There is plenty of evidence to confirm it is through consistently developing one's personality traits and qualities that the best CPTD outcomes can be achieved (Elkonin, 1991).

In rounding off what has been discussed above, the design and methodological basis of the CPTD model in question can be encapsulated under the following key principles:

– Deploying an open and flexible L&D system where everyone can take advantage of a personalized learning path that is best tailored to their needs and aspirations
– Emphasizing the systems thinking component in the L&D process

- Ensuring an effective CPTD support infrastructure, including IT and communications, curriculum & instructional support, etc.
- Emphasizing individual exploratory and experiential facets of L&D
- Ensuring the continuity and lifelong learning criteria are best satisfied.

For a CPTD system to accommodate all of the above-mentioned principles, it appears reasonable to design it on a cyclic basis. The key elements of this L&D cycle are as follows:

A school council undertakes a comprehensive analysis of the teacher's performance while taking account of one's own feedback as formulated in the course of self-evaluation and reflection.

- Establishing the goals and the structure of internship
- Entry assessment
- University-based CPTD internship
- Completion assessment
- The teacher reports in what way and how well the established tasks and research questions have been accomplished and answered.

It is important to stress that the content of the L&D internship should be structured around the individual-centric modelling of those types of tasks and activities that hold the greatest relevance and importance to the teacher's current professional and personal context.

In selecting the problematic areas and situations to be addressed in the course of L&D, it is crucial that the teacher be guided not only by their own perceptions of what needs to be improved at this current point, but also by the assessments and feedback they receive from administrators and their immediate colleagues. Thus, opinions of fellow teachers, the counselor, the principal and vice principals should be carefully considered, specifically insofar as one's proposed individual CPTD plan is concerned.

We have attempted to devise a guideline L&D scheme that, in our opinion, can facilitate the teacher's progression toward the desirable personality and competency profile in reliance on relevant research-based activities and creative experimentation. We believe it is through this approach that an L&D context can be modelled which will help best achieve the teacher's individual CPTD goals while also reflecting the overall imperatives of advancing the quality of schooling.

This proposed L&D scheme can be presented as follows:

1. The teacher takes comprehensive testing to identify 3–4 problematic areas and tasks that he or she perceives as holding the greatest relevance.
2. Following consultations with the principal, vice principals and school counselor, this list is narrowed down to feature 1–2 focus areas that appear as relevant for the school itself.
3. Psychometric techniques are next employed to strip off the effects of individual psycho-emotional factors, biased attitudes and conceptions, etc. and to identify the focus core which can be tackled under modern research frameworks by

4. The teacher in liaising with the school principal, vice principals and counselor drafts the final L&D terms of reference that are forwarded to the chosen CPTD vendor (university).

5. A curriculum and instruction associate at the CPTD vendor then processes these terms of reference and proceeds to organizing an L&D internship.

6. An internship contract is next signed between the school principal, the teacher and the CPTD vendor.

7. The teacher and a curriculum and instruction associate at the CPTD vendor design an Individual CPTD Plan which is then signed by the school principal. This Plan details the coursework alongside the formats and schedule of study, including vendor seminars and workshops, ICT lab assignments, lecture hours, individual expert consultations, etc.

8. The teacher then undergoes an entry testing where a personality profile is assessed and modelled on a component basis to plausibly gauge one's qualities and features relevant to successful professional development.

9. A personal tutor (typically an academic in the department that best matches the teacher's disciplinary field) monitors how the teacher is progressing along the CPTD Plan.

10. The teacher proceeds to resolving their L&D tasks in following the established research methodology. The scope of activity also includes individual work, communicating with the university staff, seeking out experimental solutions immediately in the teaching context (both at their school of employment and as part of university internship), etc.

11. The teacher then summarizes and reports the results of their research.

12. Finally, the teacher passes a completion assessment in which the increment in personal-professional qualities and attributes is benchmarked against the entry-stage model.

We believe an L&D scheme similar to what has been outlined above will be able to provide the most effective grounds for enabling a more refined and productive alignment between modern socio-educational requirements and what teachers themselves expect from CPTD in seeking to best fulfill their individual career and life goals.

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Improving Teachers' Skills for Pedagogic Use of Educational Technologies: Turkish Perspective

Cemalettin Maden

1 Introduction

An individual starts to interact with environment on the day he or she is born. The individual perceives the stimulant in environment; interprets it and reacts. Just as the stimulant comes from the environment, it also might come from the inner self of the individual. The reaction to the internal and external stimulants is called behaviour. (Şahin, 2005:3).

The characteristics of an individual are formed by the society he or she is born and raised. Every society transfers the features of its culture to next generations. The process of society effecting and changing the individuals according to its culture is called "enculturation". Enculturation includes the conscious, unconscious individual learning that takes place at home and in the workplace. The intended part of the enculturation is "education". Therefore, education is defined as the process of deliberate enculturation (Fidan ve Erden, 1987:5).

So far, the term education is used in various contexts such as discipline, social service, acquisition, learning, social institutions and the process of deliberate enculturation. The educational courses determine the disciplinary dimension; the educational level determines the acquisition level; the place where the education is completed determines the teaching dimension. On the other hand, education is dependent on the other variables in the society and the society where the individual lives in determines the dimension of deliberate enculturation (Maden, 2008:4).

The most significant definition of education so far is the process of creating permanent change in behaviours by means of experiences. After all education is a process and it continues in a lifelong manner. Education is for the change of the behaviour.

C. Maden (✉)
Directorate General of Innovation and Educational Technologies, The Ministry of National Education, Ankara, Turkey
e-mail: cmaden@meb.gov.tr

It might be developing a positive behaviour, converting a negative behaviour into a positive one or forming a new behaviour. Education is permanent, in other words it is formed by the direction of the cultural norms of the society that the individual lives in. Education is a process that takes place in an individual's experiences. The individual realises the behaviour change in education by joining the educational process proactively. Education is formed through the individual's interaction with his or her environment. Therefore, the environment exists as an element that has an impact on the individual. This environment having an impact on the individual is named as "Learning Environment".

Education is administered in two ways: formal and informal. Informal education is self-induced education that is not planned beforehand and not given within an educational program. For example, it is the kind of education through the interactions with the environment which occurs while travelling, taking the public transportation or at work. Formal education is another kind of education that occurs in specific places within formerly planned programs for a specific reason. The kind of education that takes place in schools is called formal education.

Today, the formal education is administered in two ways; inside and outside school. The education in school is called "Formal Education" while the education outside the school is called "Non-formal Education". Formal Education is given to students according to their age groups with the planned education programs in accordance with the purposes of the Ministry of National Education (MoNE). Non-Formal Education is given to individuals who have not received formal education or has had to stop receiving it.

The two important dimensions of the school education are "Learning" and "Teaching". Learning is a product of experience and a permanent change in the behaviour. On the other hand, teaching is the activity that enables the learning. Teaching and learning represents the views from both sides of the same process. Therefore, it is called "Learning-Teaching Process".

There are two elements of the learning-teaching process—Student and Teacher. Teacher is one of the most important elements of the process in terms of planning, implementing and evaluating the educational activities.

Technology, just as in every field, causes radical changes in education as well. Teachers and students in classrooms use many forms of technology. Information Communication Technology (ICT) develops and creates new areas of implementation for the education sector every day. Many electronic devices such as interactive boards, tablet computers, notebooks or netbooks are widely used in the classrooms. Teacher is the most important factor in integrating technology in the classrooms. Without the participation and leading role of the teachers, it is not possible for students to make effective pedagogic use of the current technology on their own.

When the integration of technology into education and the traditional features of the teaching process are taken into consideration, three knowledge dimensions that the teacher should possess arise, namely Content Knowledge, Pedagogical Knowledge (Pedagogical Formation) and Technology Knowledge. Figure 1 shows the relationship between each of the knowledge dimensions.

Fig. 1 Technological
pedagogical content
knowledge model. *Source*
Eğitimde Yeni Nesil
Öğrenme Teknolojileri, 2018
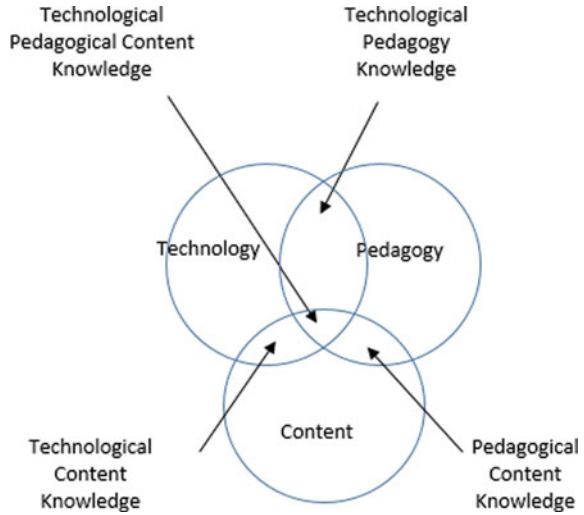
Teachers have important tasks in the integration of ICT into the process of learning and teaching. Teachers should fulfil their roles and responsibilities such as creating environments for the effective pedagogic use of ICT in education as well as helping, directing and leading the students.

2 Government-Led In-Service Training for Teachers on ICT Use

Starting from 2010, with the commencement of the FATIH (The Movement of Increasing Opportunities and Enhancing Technology) project, a paradigm shift can be observed in Turkish education system. From the school ICT laboratories, ICT was started to be installed in each classroom. Furthermore, MoNE distributed 1.5 Million tablet computers to students and teachers to enable time- and place-independent access to safe and reliable information and knowledge. ICT equipments such as interactive boards were installed, broadband VPN internet access was provided in classrooms,[1] and teachers were provided with ICT training in order to increase the number of the people utilizing technology in Turkey, decrease the digital gap, and resolve the challenges of the twenty-first century.

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[1] All the schools in Turkey already have ADSL [Asymmetric Digital Subscriber Line] internet connection, broadband internet access was implemented with the start of the FATIH project.

2.1 FATIH Project

There are five components in the FATIH project:

a. Hardware and software infrastructure: The FATIH Project provides and improves the technological infrastructure of the schools, which enables teachers to use technology in the classrooms in an effective and efficient way. Interactive boards and multi-functional network printers are installed in schools and broadband internet access per school building is built through the project. Besides, teachers and students are provided with the tablet computer sets.
b. Use of ICT in curricula: The policies regarding the use of ICT in the curriculum of each course are developed and the best electronic contents for each course are developed.
c. Educational e-content: Digital educational contents are developed for the courses of each educational level ranging from kindergarten to high school. The contents are presented for the use of teachers and students for free in EBA portal.[2] On the other hand, mobile applications for the tablet computers have been developed as well. The enrichment of the EBA portal with digital contents is a continuous process with the development of updated digital contents.
d. Conscious, secure, manageable and measurable use of ICT: This component is developed for teachers and students to use internet consciously and securely. A platform is available for teachers to create their own electronic content in an easy, fast and quality-assured way. This also works for the effective use of ICT in schools and classrooms.
e. In-service training for teachers to use ICT in classrooms: Approximately 880,114 teachers who work in schools where the hardware of FATIH Project is provided have received face-to-face and distance training; and project trainers are trained to deliver local in-service training. Regularly, trainers are trained with updated knowledge. Meanwhile, seminars are organized to inform the educational administrators who work in the provinces and district schools to support their contributions and facilitation.

To enable teachers to use technology more effectively and efficiently in the educational environments and improve professionally in collaboration with General Directorate of Teacher Training and Improvement, YEGITEK opens the way for teachers' professional developments on ICT use in the classroom with the following in-service training courses:

2.2 Face-To-Face Training

a. FATIH Project—The Use of Technology in Education Course: It is the main training of the project, aiming to increase the digital competency of teachers

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[2] www.eba.gov.tr.

who work in schools where the project hardware excluding tablet sets is provided through FATIH Project, so that they are able to use the interactive board and the board software. The teachers who complete this course successfully are expected to use e-materials properly in the teaching process and create a course plan for the technology-supported teaching. During the 25 h training teachers are informed about the use of technology in education; use of materials in teaching; searching for, selecting and arranging materials; and technology-supported teaching.

b. FATIH Project—Trainers' Training Course on Interactive Classroom Management: It is a course that aims to enable the interactive classroom management module to be used effectively and efficiently in the educational environments. It includes Educational Informatics Network (EBA), EBA course, content development tools and EBA V-Class (board and tablet interaction software). Some of the competencies expected from the teachers who complete this activity are the use of mobile devices in education and the use of EBA application. Teaches are provided with hands-on trainings on the use of mobile devices, content development and evaluation tools in education.

c. FATIH Project—Pardus Basic Training: It is the basic training on the Pardus ETAP (Interactive Board Interface Project) operating system developed for teachers and students to use the interactive board in an easier way especially at class.

d. FATIH Project—Trainers' Training on the Technology-Supported Teaching Process. This component involves Mathematics, Physics, English, Geography, History, Turkish—Literature and Chemistry. It is the field-based training focusing on online/offline software, electronic materials and the Android applications (Each field is carried out as a separate educational activity). The training aims to provide teachers who work in the schools or educational institutions or who have worked as the training representative in the FATIH Project with information and skills on techno-pedagogy. The teachers who successfully complete the training are expected to design the teaching process by using technology. Topics include using educational software, web resources and mobile applications; selecting right e-materials for the acquisition; developing the e-materials needed; and designing and presenting techno-pedagogical course plan. The duration of the training is 34 course hours.

e. Network Training: It is organized to inform the teachers at Vocational and Technical Schools on the network technologies and network security.

f. Administrator Seminars: It is organized for the administrators who are assigned to the Provincial/District Directorates and who are assigned in the Project schools. 3.000 administrators from 3.662 schools and provincial administrators have receive seminars within the 1st phase of the FATIH Project. Provincial/District Directorates and branch directorates responsible from the projects and in-service trainings are also included in the seminar.

2.3 Distance Training

a. FATIH Project—Interactive Classroom Management Training: It covers the Technology Use in Education; the use of EBA V-Class; EBA and EBA course materials in the teaching process. It is aimed to mainstream this method for all teachers through both face-to-face and distance training. When the distance training is planned, the teachers are assigned to the 1st phase schools of the project. The distance training is implemented in hands-on training model involving the training of the beginner teachers.
b. FATIH Project—Seminar on Conscious and Secure Use of IT and Internet: It is a 25 hour training that aims to increase teachers' conscious use of Internet in both daily lives and educational processes. While this training was used to be carried out in face-to-face model, it has been carried out in the way of distance training since 2016. The teachers who successfully complete this training are expected to use computers and Internet in a conscious, secure and ethical way, and lead the other teachers and students accordingly. This training informs teachers of the technical, educational, physical, psycho-social and legal dimensions of the use of ICT and Internet.
c. FATIH Project—Network Infrastructure Seminar: It includes the oversight, application and examination processes of the network infrastructure within the project.
d. Dynamic Mathematics Software Training: This part, called Geogebra, provides teachers of Mathematics with knowledge and skills on use online/offline software, electronic materials and Android applications.

2.4 Local Training

The Trainers of the FATIH Project organize the local training. There are 2.968 Trainers from 81 cities. Teachers who are assigned to the 1st and the 2nd Phase of the Project have completed the face-to-face and distance FATIH Project training. 395.853 teachers working in the schools within the scope of the FATIH Project participated in the training. So far totally 880.114 teachers have benefited from the above-mentioned training. Some teachers took more than one training.

3 International Projects on Teacher Professional Development

3.1 TeachUp Project

TeachUp is a policy experimentation funded by the Erasmus+ Programme of the European Union. It aims to experiment, measure and evaluate the new ways of teaching to meet the challenges associated with the new methods of online learning and assessment. In simple words, the project tries to provide teachers and student teachers with innovative methods, tools and skills that can help them to be well prepared to their new roles in the classroom of the twenty-first century.

3.1.1 Goal and Objectives

TeachUP builds on the work of European Commission Education and Training (ET) 2020 Working Group on Schools. The Working Group has been designed to help Member States address the key challenges of their education and training systems as well as common priorities agreed at European Level. The primary focus of the Working Group is to benefit the Member States in the work of furthering policy development through mutual learning and the identification of good practices, as well as understanding what works in education. One of the gaps identified by the working group was the need for quality teacher education on the new role and competences of teachers throughout their career.

The aims of the TeachUP Project are listed below:

- To develop online courses for teachers in Initial Teacher Education (ITE) and Continuing Professional Development (CPD) on topics that are key elements for the twenty-first century teacher such as formative assessment, personalized learning, collaborative learning, and creative thinking.
- To test and compare two different instructional designs and teaching modes for the aforementioned online courses.
- Create and facilitate national and European Dialogue Labs, i.e. one-day workshops taking place at different stages of the project at country level, which provide opportunities for collaboration, knowledge sharing and co-creation between Initial Teacher Education (ITE) and Continuous Professional Development (CPD) organisations as well as other relevant stakeholders in the field of education such as policy makers, local authorities and more.

3.1.2 Methods

TeachUP was launched in 2017 and concluded in 2020 by the following steps:

- Policy experimentation and preparation (March 2017–December 2017)—the gaps in existing teachers' training were analysed, online course content design and online platform were defined and the analysis approach of the project was determined.
- Sampling and online course production (January 2018–August 2018)—it was planned to produce the online courses on the following topics: teacher collaboration, formative assessment, personalising learning and creative thinking. The national coordinators were trained and teachers and student teachers participated in the courses.
- Running the courses (September 2018–May 2019)—the four courses mentioned above were run and an intermediate evaluation report was generated.
- Evaluation (June 2019–February 2020)—data gathered during the courses were analysed, final event was launched and final report of the project was published with conclusion and recommendations generated through the four cross country and across country dialogue labs that were held at each stage.

It is expected that the competencies of teachers and candidate teachers will be enhanced by online training in TeachUP Project. To this end, two questions are discussed:

- How can the new assessment and evaluation models be designed for the in-service training and initial teacher training?
- Does the designed training delivered by the Massive Open Online Courses— MOOCs have an impact on the learning and retention level?

Questionnaires regarding the educational programs of all participating countries have been administered.

3.1.3 Outcomes

On November 29, 2017 the 1st National Dialogue Lab was organized with the participation of the faculty of the universities, representatives from NGOs, Directorate General of Innovation and Educational Technologies with other 4 Directorates General (General Directorate of Human Resources, Department of Inspection Board, General Directorate of Teacher Training, and General Directorate of Assessment, Evaluation and Examination Services), experts, current teachers and candidate teachers. The participants discussed relevant issues under four themes.

Under Theme 1 "Identify gaps in ITE and CPD provision in relation to the teachers' new roles and key competences", the participants highlighted the importance of quality, content and type of pre-service and in-service training, in particular, blended inservice training and school based professional training in particular. It was suggested to prioritize the ICT usage such as training teachers in every branch about Web 2.0 tools and ICT literacy skills, self-regulated learning skills, twenty-first century skills such as effective communication, collaboration, critical thinking, problem solving, and creative learning, values education. The participants

also suggest to identify innovative approaches, enhance coordination of MoNE and universities, and build an effective supervision system.

Main Points from discussion and feedback of Theme-2 Formative Assessment include: Not only summative assessment but also formative assessment is vital. The aim, methods and techniques of formative assessment should be clarified to teachers. Participants suggest to building a platform where teachers can easily share their formative assessment applications and tools. The methodology, such as observation, feedback, portfolio, peer assessment, self-assessment, rubric, learner autonomy, should be taught to teachers. The participants also emphasized the importance of learning to develop formative assessment tools.

Main Points from discussion and feedback of Theme-3: Personalised Learning and Teaching and Collaboration include: It is important to prepare pre-service and in-service training for personalised learning and collaboration, for example, recognizing students' learning strategies individually. In this regard, it is necessary to allocate time and space in schools for teachers' collaboration. Game-based learning and project-based learning should be promoted. School climate should be democratic and it should support collaboration, and communication. The participants also suggest sharing good examples in a platform where every teacher and student can easily Access such as EBA—Educational Informatics Network.

At the session on Theme-4 Creative Thinking, the participants highlighted cross-curricular approach, project-based activities and such ethos as "creative teacher trains creative students". They suggest to support creativity with flexible school atmosphere, encourage team work, tolerate faults of students, support learner autonomy, ask questions to help students think creatively, and giving prizes for innovative ideas and encouraging social and cultural activities.

3.2 eTwinning Action

The eTwinning aims at knowledge sharing, ICT use and intercultural understanding by enabling teacher and students from different European countries to develop joint online projects on specific topics on eTwinning platform.

3.2.1 Goal and Objectives

Starting from January 2005, eTwinning has become an action which supports the online projects between at least two European countries and between at least two schools. As education becomes more comprehensive every day with the support of the technology, the joint projects are carried out in Europe and around the world and therefore, the boundaries are removed. As a result, ICT is increasingly included and integrated in the education, and education has shifted away from its classical and venue-bound structure to a location where the knowledge increases and spreads faster and new knowledge is delivered to all countries immediately.

Senior management centre of the eTwinning Action is the CSS which is located in Brussels. The project implementation of the countries included in the project are managed and led by the NSS in each country.

The aim of the eTwinning action is to enable teachers to use information technologies effectively in their lessons and to improve themselves professionally.

For this aim, some of the objectives of the eTwinning action are; to develop the project-making skills of teachers and students, to increase the number of eTwinning schools, to identify and disseminate good practices, to improve teachers' technology use competencies, and to expand teacher training for this purpose.

3.2.2   The Operation in Turkey

Turkey joined the eTwinning project for four years after its commencement, on February 18, 2009. For mainstreaming the eTwinning activities in Turkey, eTwinning Province Coordinators have been selected in 81 provinces. The long-term goal of the Turkish NSS is to enable every school in Turkey to carry out an eTwinning project in order to follow closely with the scientific and technological developments taking place at a dizzying pace in the world. Turkish teachers are able to connect to online eTwinning groups of their European peers, and participate in the discussions by sharing their opinions and experiences. The teachers who improve their skills through online learning activities are provided with online sessions that last for 1–2 weeks and activities such as building confidence in the use of ICT and creating international communities. In addition, teachers have the opportunity to communicate face-to-face with European colleagues thanks to the workshops organized.

The Turkish eTwinning NSS works under the authority of the Turkish MoNE and works in YEGITEK. The legal representative is the General Director and the contact person is the NSS Coordinator. The NSS team is selected and set up by the General Directorate. One of the main responsibilities of Turkish NSS is to take an active role in promoting eTwinning action to Turkish teachers, headmasters, local authorities, students and the other beneficiaries participating in eTwinning. Turkish NSS provides both online and face to face pedagogical and technical support for participating schools and teachers to create projects throughout the country, identify the successful projects and award them.

Turkish NSS contributes to the training of target groups as individuals that respect the intercultural differences, believes the value of sharing and provides them with the 21st-century skills by using information and communication technologies. In cooperation with the regional educational authorities, the MoNE aims to ensure sustainability of teachers and coordinators network. The coordinators' status and works are decided by local authorities. Turkish NSS is also responsible to contribute to the management and operation of eTwinning action in Europe by representing Turkey. To maintain this responsibility NSS works with the local education authorities in 81 provinces of Turkey with 83 eTwinning coordinators and schools (principals, teachers and students).

The growth of eTwinning Turkey has continuously increased over years, and the number of new users registering in the platform has increased on average by 50% in recent years, with an acceleration in 2016 and 2017. As of 2018, there are more than 118.000 Turkish teachers registered on the portal and a total of more than 530.000 users registered on the platform, a third of which, even after many years, are still engaged in project-based professional development and community activities. MoNE focused on training rather than promotion. As Turkey composes about 20% of the eTwinning community in numbers, the priority was given to training (online and face to face) and the quality of the project. Because of the limited budget compared to other NSSs, the most cost-effective way to manage the activities was organizing events at national level with the support of the ministries' promotional campaigns, which mostly were done for successful teachers, headmasters and ambassadors.

3.2.3   Main Priorities

Three main priorities had been set for the Turkish NSS in 2017–2018 activity plan: Increasing the number of projects and improving their quality; enhancing teachers' professional and technical development; and adding value to eTwinning by collaborating with all the partners and stakeholders.

Increasing the Number and Improving the Quality

Increasing the number and improving the quality of the eTwinning projects directly contributes to teachers skills on ICT use in their classrooms. An eTwinning project is carried out with online tools and teachers involve their students actively in the project activities. Hence the priority is in line with the priorities of the MoNE, YEGITEK and FATIH Project by improving teachers' skills for pedagogic use of educational technologies.

In order to achieve this priority, Turkish NSS promoted eTwinning school teams in schools and gave support to schools and teachers to improve the quality of eTwinning projects. Apart from monitoring the newly registered members and validating all the registered teachers, the number of the courses and the quality of the contents were increased in 2017.

Face to face activities addressed both the beginner and experienced Turkish coordinators' and teacher's needs. Online learning activities were also organized and followed via the specific MOOC based online Learning Management System (LMS) designed for the teachers and coordinators. This platform had the time schedule of the webinars which were realised with Adobe Connect tool.

Enhancing Teachers' Professional and Technical Development

The schools, headmasters, teachers and students were motivated and encouraged with eTwinning activities. Two Regional and one National face-to-face meeting and five in-service training events (lasting for 5 days) and numerous online training courses were organized in 2017.

Over and above this, there were great efforts to help address issues regarding technical developments. To improve the quality of the eTwinning projects, teachers could get support whenever they need via social media, e-mails and telephone lines. Supporting, monitoring and following up teachers in all platforms in their professional development process is a key and integral element of success.

Within the scope of eTwinning action, Turkish teachers were trained according to their levels and needs. Apart from pedagogy, there were also hands-on practices. A specific MOOC—based Online training Platform[3] was developed by the YEGITEK for teacher professional development with a wide variety of online courses. This is essentially the distance education portal for Turkish teachers which was moderated by Turkish NSS. On this platform, the teachers could find the agendas of their online and offline meetings, pictures and the asynchronous MOOC-based e-courses. They could also comment about the courses and get certificates if they finish with success.

Adding Value to eTwinning by Collaborating with Partners and Stakeholders

Teachers and schools encountering difficulties in setting up eTwinning projects and use of ICT tools were continuously supported. YEGITEK utilised its authoritative role to strengthen the collaboration with all partners and stakeholders. For this purpose, numerous official writings and regulations were done by YEGITEK. The change in the education system usually starts from the teacher level and the direction should be bottom-up, but the Ministry should also support, facilitate and fasten this change with official regulations.

3.3 Scientix Project

The purpose of the Scientix Project which is also coordinated by the European Schoolnet is to mainstream the STEM education in Europe. The project aims to create a community for teachers who develop STEM projects in order to direct their students to careers in science and engineering. The project is expected to enable teachers to identify students who have the skills in inquiry, search, production and invention and who are interested in the related fields and direct them to the university departments on sciences, technology, engineering and mathematics. The projects

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[3] http://etwinningonline.eba.gov.tr.

and the materials of Scientix project are published on a portal,[4] including the STEM education projects, course materials and online training for students and teachers who work in science, mathematics, vocational and technical fields. The YEGITEK has been the representative of the Scientix Project since 2014.

Scientix STEM Education Workshops are organized in various cities within the Scientix Project by YEGITEK. So far, 22 workshops in 20 cities have been organized. The purpose of these workshops is to create an environment for developing and sharing interdisciplinary STEM education projects for students of STEM (Science, Mathematics, Physics, Chemistry and Biology, etc.) as well as teachers who work at high schools and vocational and technical institutions for STEM programs. It aims to enable every school develop a STEM project in Turkey. The workshops usually last for three days. On the first day of these workshops, teachers are informed about the theoretical dimension of STEM and the Scientix portal is introduced. On the second day, the teachers are provided with preparatory training. Teachers are divided into working groups and also in each group teachers for different course fields work together in order to generate suggestions on STEM project based on inter-disciplinary inquiry, research, production and invention. On the third day, each group present the STEM project suggestions to the other groups and each STEM project is evaluated by other participating teachers by using an evaluation form. The projects that are developed by the teachers at Scientix STEM Education Workshops are published on the portal. The STEM projects are expected to improve students' skills in inquiry, research, production and invention. It is desired that the teachers and students who are in the project teams are eager and skilled to work together with other schools and the industry. For this, it is encouraged that the schools create their STEM project teams and a learning environment for these teams to work on STEM.

Some of the projects that are developed by the teachers in the Scientix STEM Education Trainings are given below:

- Touch Screen Voice Map for the Visual Paired People
- Space Park for Children
- Smart Bird House
- Smart Dustbin
- Energy Efficient Street Lamp
- Remote Controlled Agriculture Greenhouse
- Integrated Student Tracking System
- Technological Shed for Street Animals
- Video Microscope Connected to the Smartboards in Classrooms
- Local Transportation Information Station for Visually Impaired People
- Device of Controlling the Human capacity and the Need for Air of the Closed Areas
- Fast Agriculture System Enabling the Sustainability of Photosynthesis.

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[4] http://scientix.eu.

Classification of the Project Subjects of the STEM Education Designed by Teachers
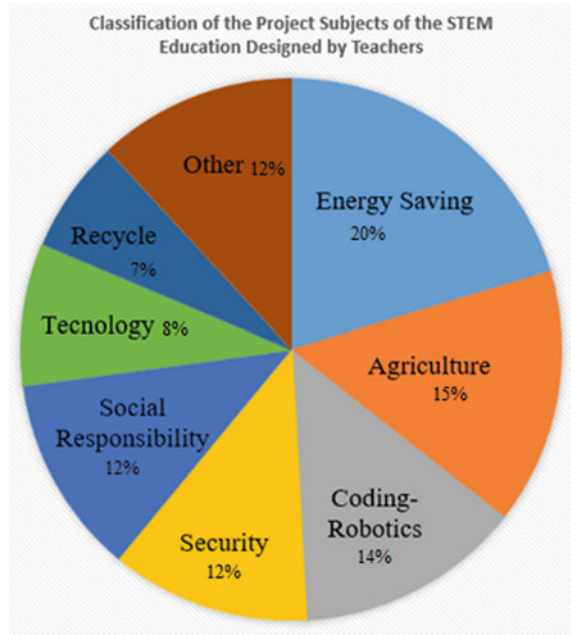
When the classification of the STEM project in the Fig. 2 is examined, it is seen that teachers mostly develop projects in order to direct their projects to the Energy Saving, Agriculture Technologies, Coding-Robotics, Security Technologies and STEM.

3.4 ITEC Future Classroom Lab Project

It is a project for designing the future classrooms. The project gathered together the teachers, policy makers and pedagogical experts from 15 European Ministries of Education to introduce the innovative teaching applications. The purpose of the iTEC is to create a systematic change for the purpose of integrating the emerging technologies into the educational activities in order to prepare European children for the work, life and society of the twenty-first century. The five-phase project was implemented between 2010 and 2014. Turkey has joined the project on the 3rd phase.

Being an educational project focused on the implementation of the new technologies, iTEC aimed to address the students' curriculum needs with the Learning Stories and supportive web tools based on the project-based learning model. Within the project, teachers were provided with Learning Stories and Learning Activities archive and guideline. Learning Stories design was supported with the studies on the twenty-first century skills and relevant teacher competencies. The matching of the competencies with the Learning Activities gave teachers the opportunities to choose Learning Activities according to the competencies that they want to develop.

Learning Scenarios were the general description of the classroom learning experiences. They were taken from the trends of education, society and technology and adapted. Learning Stories were the packed versions of the learning activities, where teachers are interested the most.

All the project data were evaluated in terms of the learning outputs, digital competencies for learning and the pedagogical use of ICT. The report prepared by the project partner, Manchester Metropolitan University has shown the top-level positive aspects of the iTEC innovative learning activities for teachers. It has shown that there is an effective and measurable impact in the classrooms where iTEC learning activities were conducted.

After the finalisation of the iTEC project, YEGITEK had some important steps for the sustainability of the results of iTEC project. A specific in-service training course called "New Approaches to Education" was designed and teacher trainers were trained so as to disseminate the new approaches to other teachers in Turkey. Additionally, YEGITEK benefitted from the experiences of iTEC and designed its own Future Classroom Laboratory in which the innovative pedagogies, newest educational technologies can be tested and reported. The implementation of the laboratory is going on.

4 Monitoring, Evaluation and Impact

Aiming at improving teachers' skills on pedagogic use of educational technologies through aforementioned national and international initiatives and projects, YEGITEK regularly conducts surveys and studies so as to measure the impact of the work done. There is a research cycle adopted by YEGITEK that includes the target groups of teachers and students. YEGITEK conducted 4 nation-wide studies in 2016 and increased the number of studies to 9 in 2017. The research topics were determined after field visits, taking into account requests of teachers, headmasters, directors and students. The topics of the studies were aligned with the national priorities of the MoNE and YEGITEK. Apart from measuring the impact of the work done by YEGITEK, the results of each study were shared with the related departments of the MoNE and YEGITEK as inputs for the future steps and policies. In this way, the studies also contributed to evidence-based management processes.

4.1 Findings from Project-Based Surveys

In 2017, the nine studies conducted by YEGITEK collected opinions of 249.524 teachers and 177.609 students, involving the following topics:

- Evaluation of the use of ICT tools distributed within the scope of the FATIH Project

- The usability level of EBA in students' perceptions
- The reflection of the in-service trainings within the FATIH Project at school
- Identifying the ICT skill levels of the teachers
- Digital reading culture of the students
- Analysis of the current situation of STEM activities
- Global STEM approaches
- Global education trends and STEM activities in Turkey
- Measuring the teachers' application level of smartphones in educational activities.

The results of the studies are mainly used in the internal processes. It was found out that the majority of the teachers used the interactive boards while delivering the teaching materials in the classrooms. 91% of the participants under survey have stated that they use the interactive boards for various educational purposes in the classrooms.

It is also found that the teachers stated that they claimed themselves proficient in the level of ICT use in the classroom. According to the studies, the level of competency of the ICT use also changes according to the teachers' experience, postgraduate studies and their participation in international projects.

In the research on the Global STEM Approaches, 80.0% of the teachers who implemented STEM activities stated that STEM activities increased the cooperation among teachers. 81.3% of the teachers who implemented STEM activities stated that they taught in an easier way with the help of the STEM activities.

In the research titled "Determination of the Teachers' Levels of Smart Phone Use in Educational Activities", young teachers seem to use the smart phones earlier. 63.5% of the teachers who have worked less than 5 years have stated that they have been using mobile phones more than 4 years while the ratio is 48.2% for teachers who have worked more than 21 years. In the same research, 86% of the teachers have stated that they have mobile educational applications on their mobile phones.

4.2 Findings from Academics

On the other hand, researches made by academics on this subject were examined.

Bozkuş & Karacabey (2019) studied the use of information technologies in education with the FATIH Project. The purpose of the research is to determine the level reached in the use of information technologies in education through the FATIH Project based on the opinions of the project coordinators. The informants consisted of 10 project coordinators working in Şanlıurfa province during the 2016–2017 academic year. Data were gathered using an interview form including 10 open-ended questions developed according to the literature and field experts. It was identified that schools were equipped with smart boards, multi-function photocopy machines, tablets and internet without adequate in-service training to teachers.

Vural & Ceylan (2014) evaluated the conqueror project using technology in education according to the opinions of the teachers. The aim of this study is to evaluate

professional development, which is one of the components of FATIH Project, based on teachers' views. In the study, semi-structured interviews were conducted with 19 teachers who participated in the course on Technology Use in Education in the FATIH Project in Milas/Muğla. These 19 teachers teach different subjects in 4 different schools. Based on the findings from the interviews, it is concluded that the professional development has some structural problems and the teachers did not gain the techno-pedagogical skills as expected.

Yıldız et al. (2013) examined the In-Service Training Activities organized within the Scope of FATIH Project in terms of ISTE Teacher Standards. This research was carried out with the participation of 40 teachers from different branches who received in-service trainings of FATIH project in various provinces. When the in-service training activities organized within the scope of FATIH project are evaluated according to ISTE standards, it is seen that they do not contribute to the professional development of teachers. This shows that the in-service trainings have a limited impact.

4.3 The Way Forward

The integration of technology into education is carried out as a State policy at the MoNE. Technology supported training activities, as a policy, are included in the 2023 Country Vision Plan. Teacher training will continue with remote and face-to-face methods in the FATIH Project. In addition, technology-supported EU projects will continue to work routinely within the institutions.

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Consolidated and Research-Based Knowledge Initial Teacher Education: Present and Future Scenarios in Portugal

Maria Assunção Flores and Maria Alfredo Moreira

1 Introduction

Teacher education has been subject to restructuring processes in many parts of the world influenced by national priorities and supranational agencies. The concern about its quality has been a driving force although different understandings of the concept may be identified (Flores, 2016, 2019; Menter & Hulme, 2011; Tatto & Pippin, 2017). International research has been highlighting the features of successful teacher education programmes that can significantly improve student teacher learning and teaching (Darling-Hammond, 2017; Darling-Hammond et al., 2018): careful recruitment and selection; coursework in content, specific content curriculum, and content pedagogical learning; a focus on learning specific teaching practices, including meaningful teaching experiences and relevant classroom projects that integrate high-quality clinical work, and foster a dialectic relationship between theory and practice; careful selection of 'training schools' or professional development schools. However, international research also shows that social recognition and prestige, as well as carefully planned induction and teacher development and teacher assessment models that capacitate and empower professional, are also important; this is the case of competitive salaries, sound and comprehensive professional teaching standards that connect student learning to classroom teaching, mentoring, collaboration, and a teaching load that will allow time for reflection in professional communities of practice, including professional dialogue and collaboration between schools and universities (Darling-Hammond, 2017).

Globalisation, definition of standards, focus on performativity and the increased marketisation of education have been identified as factors impacting on how teacher

M. A. Flores (✉) · M. A. Moreira
University of Minho, Research Centre on Child Studies, Braga, Portugal
e-mail: aflores@ie.uminho.pt

M. A. Moreira
e-mail: malfredo@ie.uminho.pt

education and teacher performance assessment is understood and enacted (Gómez Sánchez & Moreira, 2020; Tatto & Pippin, 2017; Townsend, 2011). In many parts of the world, teacher education is increasingly becoming teacher training, a form of consumer service geared towards consumer satisfaction (Diniz-Pereira, 2019; Torres Santomé, 2017a, b; Zeichner, 2018). This is the result of many years of disinvestment in the teaching profession and school education that have turned knowledge production a commodity, no longer a public good (Dias, 2003; Moreira, 2020; Raiker & Rautiainen, 2020; Silva & Moreira, 2019).

In Europe, quality Initial Teacher Education (ITE) is associated with "teachers' knowledge, skills and commitment" (European Union, 2013, p. 8) along with the idea that "[t]eachers should be able to develop and maintain a mindset and a practical approach which are based on reflection and inquiry, and focused on ongoing professional development" (European Commission, 2015, p. 3). As experts in pedagogy, teachers' "professional identity and thinking are based on concepts of learning, being human and functioning as members of [a] society" (Raiker & Rautiainen, 2020, p. 4) that, in a European setting, is fundamentally diverse and multicultural.

In a recent publication, Menter and Flores (2021) discuss how teacher professionalism has been subject to processes of redefinition in several settings, namely through major changes within teacher education. The authors identify forces for convergence and forces for divergence; the former are related to the influence of OECD exercises such as PISA and TALIS, and of transnational agreements such as the Bologna process in Europe; and the latter is associated with issues of cultural diversity, national identity, citizenship education and language education. Teacher education in the common European space is expected to contribute to a more equitable, peaceful, and sustainable Europe (Simões et al., 2018), while being responsive to local issues and sustaining a national identity.

The Bologna process that took place in Europe in the late 1990s has forced the restructuring of all teacher education programmes, both in its structure and content. In this chapter, we look at policy development in teacher education in the Portuguese context, particularly after the implementation of the Bologna process, but we also draw on existing research literature focusing on its changes and effects. We, therefore, focus on current but also on future scenarios for teacher education, including the threats and possibilities in the post-pandemic time.

2 Policy Development Post-Bologna

Since 2007, in order to become a teacher in Portugal, in all education/schooling levels (from kindergarten to secondary) a Master's degree is required, for both the public and the private sector. ITE programmes have different entry and study requirements, depending on the schooling level and subjects to which they qualify. Secondary teachers (ISCED 2 and 3) and teachers qualifying to two education/schooling levels (ISCED 0 and 1) must complete a 120 ECTS programme, while kindergarten (ISCED 0) or primary teachers (ISCED 1) only need to complete 90 ECTS. Besides a semester

or a two-semester academic course, student teachers need to spend two semesters doing their teaching practicum, or supervised teaching practice, in local schools, under the supervision of both higher education supervisors and cooperating teachers. The adoption of a consecutive model for ITE as a result of the implementation of the Bologna process required a two-stage process: a first three-year degree (*Licenciatura*) on a specific subject (or Basic Education for kindergarten and primary school) followed by a Master degree in Teaching.

ITE programmes in Portugal are strictly regulated by the Ministry of Education that stipulates the teaching profiles, the length of the programmes, the curriculum components and the corresponding number of credits, the resources, the conditions for teaching practice, among others. It is up to the institutions to design and implement such programmes in accordance with the national legal framework. The most recent reform on teacher education curricula includes preparation in five components (Table 1).

The most valued component is initiation to professional practice (with a minimum of 35% of the curriculum), followed by didactics (minimum of 23%), subject teaching

Table 1 Component design of initial teacher education curricula

Subject teaching	• Content area knowledge (required to teach the school subjects/subject areas)
General education	• Developmental psychology • Cognitive psychology, namely elementary mathematics and reading; • Curriculum and assessment • School as an educational organization • Special educational needs • Classroom management and organization
Didactics	• Didactic content knowledge (required to teach the school subjects/subject areas)
Cultural, social and ethical competences (to be developed across the curriculum)	• Awareness of the main problems of contemporary world, including fundamental values of the Constitution of the Portuguese Republic, freedom of religion and of speech, respect for ethnic minorities, and for the values of gender equality • Scientific culture, arts, and humanities • Research methods (data collection and critical analysis of data, hypotheses, and theories) • Awareness of the ethical and civic dimensions of the teaching profession
Initiation to professional practice	• Classroom observation • Supervised teaching practice: planning, teaching, assessing

Source Decree Law n. 79/2014, May 14, adapt

(minimum of 15%), and general education (minimum of 6%). In spite of the wide variation in these percentages according to the schooling levels to which the programme qualifies, the ranking is the same: the so-called *practical component* of the teaching activity is the most valued which often results in having the field of teacher education populated with technical analyses and prescriptions to guide teachers' work (Moreira, 2018, 2020). Teacher education curricula are expected to go 'back to basics', as "[t]he 'good' teacher knows a lot of 'fundamental' subjects like mathematics and language, dominates the required techniques to teach the average student, and knows how to design reliable, objective assessment tests, tests that will replicate the external exams, so that the student-consumer can be satisfied, schools can be ranked, and the market better served." (Moreira, 2017, p. 311). This state-of-affairs is evident as foundational subjects like Philosophy of Education, History of Education, Sociology of Education, or Pedagogy are being gradually wiped out of the field of ITE. Similarly, the research dimension is no longer a compulsory component of the ITE curriculum as was the case in the first legal framework issued in 2007 (Decree-Law No. 43/2007). The 2014 framework reinforces the need to enhance teacher education "particularly in the subject knowledge and didactics" since "the preparation of teachers needs to be done in a rigorous manner in such a way that it values the teacher's role" (see Preamble of the same Decree-Law). However, as a Master degree is required, research has to be somehow infused in the ITE curriculum. In our context, at the University of Minho, student teachers are required to develop pedagogical inquiry projects in their teaching practicum, an action-research approach rooted in a conceptual and ethical framework that facilitates the emergence of 'alternative ways to do alternative forms of teacher education' (Paraskeva & Moreira, 2020). The ITE model implemented aims at promoting inquiry competences, multifaceted professional knowledge, and a transformative vision of education in schools and in ITE.

3 Findings from Research on ITE

In their teaching practicum in the post-Bologna era, student teachers at the University of Minho are offered the opportunity to develop a pedagogical project that will mobilise different kinds of knowledge, namely contextual, educational, content-related, and research-related knowledge (Flores et al., 2016). Vieira et al. (2019) analysed 32 reports completed between 2011 and 2013 within 7 ITE programmes (Biology-Geology, Mathematics, Philosophy, Portuguese-Spanish, English–Spanish, Primary Education, Pre-school Education). They concluded that student teachers were able to construct various kinds of knowledge in their practicum, by expanding "the enactment of a praxeological epistemology" (Vieira et al., 2019, p. 52), especially contextual and educational knowledge, followed by content-related knowledge. They were also able to use research as a tool to enhance reflective practice in order to better understand and transform educational contexts.

Research focusing on the analysis of practicum reports in our context has been evidencing the potential of the inquiry-based approach to practicum in terms of

professional learning, reflective practice, and informed pedagogical decisions within a humanistic and democratic orientation (Vieira et al., 2019). With appropriate supervisory support, student teachers are able to develop *procedural* research knowledge as well (Vieira et al., 2019), that is, the ability to mobilise and articulate, implicitly or explicitly, various types of professional knowledge. *Declarative* research knowledge (knowledge *about* research) was less evident in students' practicum reports, which brings into the fore the "potential ambiguities regarding the teaching-research nexus and the type of research most suitable in the practicum" (p. 52) as the research activities involved in their pedagogical inquiry projects do not seem to be perceived as such by the student teachers.

Studies highlight the relevance of pedagogical research in promoting the quality of teaching and learning (Flores et al., 2016; Vieira, 2014; Vieira et al., 2013, 2019). They evidence the co-existence of different modes of relating research and teaching, showing how research can be placed at the service of pedagogy and of the development of professional competences. The studies point to the presence of diverse approaches to teaching framed in democratic views of education and sustained in different kinds of knowledge. Student teachers resort to a multiplicity of data collection methods and assessment modes, like observation, reflective records, questionnaires, or checklists that are used, not just to collect data on teaching practice and student learning, but also on promoting relevant educational and academic competences.

A recent study of the 10 years of the implementation of the new practicum model after Bologna (Vieira et al. 2020a, b) concluded that supervisors, cooperating teachers and student teachers' perceptions validate the model's aims, as they all sustain that it helps promoting inquiry competences, multifaceted professional knowledge, and a transformative vision of education. However, some critical aspects, already identified in earlier studies (Flores et al., 2016; Vieira et al., 2019), still endure. Serious constraints are evidenced in the increased amount of time required for research, student teachers' increased workload, and an expansion of supervisory roles that now include the ability to promote pedagogical inquiry skills. In addition, student teacher supervision and mentoring is regarded as a by-product of teaching, in schools and higher education institutions alike.

Despite the positive and innovative features of the model of ITE in the post-Bologna context, namely an inquiry-based approach, a number of issues deserve further consideration if we take into account findings from research in ITE over the last decade: the need to foster a more collaborative dimension of professional learning, the integration of the ethical, social and cultural dimensions, stronger connections between course and field work, and the need to develop more explicit pedagogies for identity development in ITE (Flores, 2021). Other key issues after the implementation of the Bologna process relate to the sometimes weak link between theory and practice and the fragmentation of the curriculum components, the place of the practicum and the role of research in ITE (Flores, 2011, 2018; Flores et al., 2016; Vieira & Moreira, 2012; Vieira et al., 2019). In spite of the reduction of the academic training and teaching time, student teachers highlight a number of positive issues related to the quality of the facilities, relevance of curriculum content, the adequacy

of the teaching and learning methods, the development of professional competencies during teaching practice, and the quality and commitment of the supervision (Flores et al., 2014). The latter are paramount to considering the development of satisfactory research and reflection skills. However, there are also constraints, namely the persistence of the gap between theory and practice in given study courses/modules but also in the relation and consistence between the work expected for the school and for the university supervisors, and how it responds to student teachers' needs. The role of teacher educators and supervisors is critical in enhancing the quality of the teaching experience for the student teachers, including their guidance, support, and feedback.

4   Future Scenarios: Threats and Possibilities

Overall, and despite the need to improve some of its dimensions, ITE in Portugal has evolved in a positive way. Amongst other features are the consolidation of knowledge developed over the last decades, visible in research and scientific publications, and the development of teacher education practices framed within what is internationally known in this field. It is noteworthy that the institution where we work—Institute of Education at the University of Minho—has a high reputation in the field of teacher education developed over the last decades. However, whilst teacher education has a long and consolidated pathway, it is also true that the future is uncertain and worrisome. In this section, we look at future scenarios in teacher education by discussing some threats but also some possibilities.

4.1   COVID-19 Pandemic: From a Health Crisis to an Economic and Social Crisis

It is clear that the COVID-19 pandemic has had an impact on education which will require time and adequate interventions to overcome losses in terms of pupil learning and achievement. Teacher education has also been affected in various ways. The unprecedented and unexpected transition from face to face to remote teaching entailed a number of demands for schools and teachers but also for teacher educators and student teachers. Existing literature points to the different kinds of institutional and pedagogical responses (e.g. Flores & Gago, 2020; la Velle et al., 2020; Quezada et al., 2020; Scull et al., 2020; Sepulveda-Escobar & Morrison, 2020) which include the virtualisation of teacher education and the adoption of a variety of strategies to adapt the programmes to the online environments. Amongst other features is the reduction of time in terms of teacher and students' interactions but also the existence of more time for reflection and writing. In such scenario, Flores and Gago (2020) discuss the tensions and the possibilities of the practicum experience as a

'real practice' versus 'an ideal(ised) practice' and they question its implications for professional learning and for the development of a teacher stance in light of an instrumental or transformative approach. As such, student teachers were learning *about* practice, but they were no longer *in* the usual teaching context (Kidd & Murray, 2020) with implications for the role of practice and issues of mentoring (Flores & Gago, 2020) and for the adoption of an innovative stance often perceived to be lacking (Ellis et al., 2020).

Thus, whilst COVID-19 may have represented an opportunity to (re)think new ways and spaces for professional learning and to reinvent established practices in teacher education (Flores, 2021), it has also entailed a number of consequences, particularly in terms of development of student teachers' competences in physical classrooms and professional interaction with experienced teachers. Not surprisingly, the COVID-19 crisis has become also an economic and social crisis associated with the closure of important sectors of activity and to unemployment. Thus, it is likely that the lack of investment in the public sector, including education, will also affect teacher education institutions.

4.2 Paradoxes of a Semi-peripheral Country

In Portugal, teacher preparation takes place in both the public and the private sector, in both universities and polytechnic institutions. Paradoxically, the severe financial restrictions that were introduced ten years ago with the international bailout under the auspices of the IMF, the European Commission, and the European Central Bank, have halted the expansion of the private offer of teacher preparation programmes (Silva & Moreira, 2019). This happened in counter-cycle to managerial and marketisation practices and principles that populate higher education (Paraskeva, 2012; Silva & Moreira, 2019) and that constitute real menaces to high quality teacher preparation worldwide.

In spite of the lack of social recognition and prestige of the teaching profession, ITE in Portugal is picking up. Forty years of dictatorship made higher education highly selective and only accessible to the elite. After the return of democracy, in 1974, higher education exploded, especially in the private sector. However, and in spite of the defunding and neoliberal menaces to its survival, only the public sector was prepared to withstand the impact of the economic and financial crisis at the beginning of the second decade of this century (Silva & Moreira, 2019). It still is better prepared to withstand the impact of the post-pandemic crisis. Recent statistical data (PORDATA, www.pordata.pt) show that in 2020 the number of students enrolled in the public sector is four times higher than in the private sector (323.754 vs. 73.155), a figure matched by the number of higher education teachers in 2018 (27,279 vs. 8,004). In an analysis of the evolution of the scenario of ITE programmes in Portugal between 2014 and 2018, Silva and Moreira (2019) conclude that around 80% of the offer comes from the public sector, with a tendency to grow in the coming years.

Thus, in Portugal, teacher education continues to be the monopoly of the State (Paraskeva, 2012) and the public sector is still enjoying an image of quality and prestige, in health services, but also in education. It is better prepared to recover from the current pandemic crisis and increment the offer of ITE programmes, a movement that is already under way. Notwithstanding, the lack of attractiveness of the teaching profession, high unemployment rates, and overall dissatisfaction and resentment among teachers (Flores, 2011; Simões et al., 2018), as well as the rise of alternative fast-track programmes, still cast a shadow for the future of ITE in Portugal.

4.3 Ageing of the Teaching Workforce and Teacher Shortage: Alternative Routes to Teaching?

In a review of 40 years of publications in the European Journal of Teacher Education, Livingston and Flores (2017) highlight a "language shift from teacher training to teacher education alongside philosophical and political shifts in beliefs about the role of teachers in the twenty-first century. This includes shifts in expectations about the contribution education makes to the economy and society and what contribution teachers make to improving student learning" (p. 555). The analysis of teacher education, and the investment in it, has also to be considered in light of its contribution to the broader development of societies. Recent research has shown that the closure of the schools and the need for teachers to quickly adapt to remote teaching has led to a demonstration of their professionalism marked by collegiality and collaboration, but also to a revalorisation of the teaching profession (Flores et al., 2021). As such, it is important to consider how important teaching is, what kinds of investments, both material and symbolic, are done, and how teacher education is understood in a given socio-cultural and political context.

In the Portuguese context, the teaching profession is facing a number of challenges, the most important of which are the ageing of the teaching workforce and the decrease in the number of teaching candidates. The teaching profession is described as a feminised profession, a profession marked by the ageing of the teaching workforce, a high professional experience workforce in terms of years of service, and a decrease in the attractiveness of the profession (CNE, 2019a). From 2013 to 2018, there was a significant increase of teachers aged 50 or above in Portugal (from 28% in 2013 to 47% in 2018) (OECD, 2019). By 2030, more than half of the teachers will have retired (57.8%) and a reduction of about 50% in the number of teaching candidates from 2011 to 2018 (CNE, 2019b) adds to the problem. The teaching profession is neither attractive nor valued, lots of teachers suffer from the professional fatigue and burnout, working conditions at the beginning of the career are deplorable, and there are no career prospects (CNE, 2019b). In Portugal, as in other places around the world, teachers' working conditions have been deteriorating, which adds to the

lowering of their economic and social status and recognition, increase of the work-load and bureaucracy, and increasing criticism and control of their work (Flores, 2014, 2020).

In face of such a challenging situation, it is likely that the teaching profession will be affected by a possible reconfiguration of its current characteristics. It is clear that it is in need of more attention and investment and, consequently, also teacher education. One of the threats is the development of alternative routes to teaching, such as Teach for Portugal, in light of similar projects existing in other countries. Its attractive language and ways of operating may entail a real challenge to teacher education as we know it in Portugal. The expansion of shorter and more pragmatic models represents a move towards teacher deskilling and teacher deprofessionalisa-tion, including a rather technical and instrumental approach to teaching (Flores, 2021; Moreira, 2019). As Loughran et al. (2016, p. 416) suggest, teacher education is not "about training, it should be an educative process that develops thoughtful, informed and highly able professionals". Similarly, discussing the tensions and contradic-tions in teacher education and professionalism, Menter and Flores (2021) identify "a populist and simplistic view of teaching and teacher education which is domi-nant in policy circles (e.g. the USA and England) in contrast to a view that entails complexity, professional growth, agency and autonomy (e.g. Finland, the Republic of Ireland)" (p. 117). It is, therefore, essential to focus on what has become a priority in teaching: the investment in highly qualified teachers through strong teacher education programmes which provide them with the required solid knowledge, skills, attitudes and competences to face the complexity and uncertainty of teaching in its all dimen-sions. It is paramount to counter-act the prevailing narrative that deprofessionalises teachers (Moreira, 2020; Silva & Moreira, 2019), by implying that our current society only needs 'good enough teachers' (Zeichner, 2014, 2018), that is, teachers prepared in fast-track programmes, preferably online, to teach in remote rural areas or in high needs urban schools (Diniz-Pereira, 2019; Zeichner, 2018).

The difference between teachers as intellectuals and teachers as technicians does not rely on methodological issues or on the source of technical skills; good teachers must possess sound technical skills that will enable them to be effective in supporting student learning and their education as fully integrated citizens in a democratic and pluralistic society. As Menter and Flores (2021) argue: "Teaching is after all a profes-sion concerned not only with knowledge and cognition, crucial though these are, but also with values and morality. It is challenges such as these that require a full recognition of the need to imbue teaching—and teacher education—with a sustain-able inquiry orientation, indeed a base in education research." (p. 124). Viewing the teacher as an intellectual and a reflective professional ensures that teachers develop sound teaching skills, while acquiring a sociocritical stance and deep knowledge of the communities in which their students live (Zeichner, 2014). It is, thus, crucial to invest in the development of policies of teacher recruitment and of valorisation of the teaching profession in order to make it more attractive by keeping 'the best' and the 'better prepared'. This calls for the involvement of all stakeholders, but it certainly demands a clear financial investment in order to make teacher education, and thus the teaching profession, stronger.

5   Conclusions

This chapter set out to examine the development of policies for initial teacher education in Portugal in light of current and future scenarios. While important developments have been achieved in a post-Bologna setting, associated with a high qualification for teaching and an inquiry-based approach that promotes educational and social change in a democratic society (Vieira & Moreira, 2012), limitations have also been identified. These are related to the need to foster the connections between course work and fieldwork, within a more aligned and articulated way, and to the importance of fostering the collaborative dimension of professional learning and also a scholarship of teacher education (Flores, 2021; Vieira et al, 2019). As Paraskeva (2010) examined and anticipated, the Bologna Declaration needs to be seen as an unaccomplished utopia. Such utopia remains alive as Symeonidis (2018) suggests, for, in spite of having had a significant impact on the structure of teacher education systems, Portugal included, "a more profound influence in terms of changing institutional cultures towards learner-centred approaches is an ambiguous issue and requires more time" (p. 24).

It is possible to say that overall initial teacher education has been developed positively through consolidated and research-based knowledge. However, in line with other international contexts, Portugal is facing a critical situation: the ageing of the teaching workforce, the reduction of student teachers, and the possible development of alternative routes to teaching may hinder the possibilities for growth of quality ITE programmes in the public sector, in spite of its strengths.

As Ling (2017) contends, looking at teacher education entails "an iterative process rather than a linear one and needs to be backwards, forwards, inside-out and outside-in somewhat simultaneously, because it is complex, recursive and has multiple layers" (p. 562). There is a need to account for the "broader issues faced within a supercomplex, twenty first century knowledge society, where the future is not only unknown but unknowable, and where the frameworks by which we make sense of our world are moving, blurring and shifting as well as being highly contested and contestable" (Ling, 2017, p. 562). The process of becoming a teacher in the 'old' continent in the post-Bologna era entails a complex role as agent of social transformation, while actively engaging in preparing children to live and act in a multicultural and increasingly changing world capable of "taking action to create a more equitable, peaceful and sustainable Europe." (Simões et al., 2018, p. 5).

For teacher educators like us, this role entails helping teachers become highly skilled technicians, but also critical transformative inquirers, as we help them seek to unveil the ways power and ideology operate to undermine their professional autonomy and their students' learning in a democratic society (Moreira, 2016, 2017). Teaching does entail a technical dimension but it also goes well beyond that as it is "an intellectual, cultural, and contextual activity that requires skillful decisions about how to convey subject matter, apply pedagogical skills, develop human relationships, and both generate and utilise knowledge" (Cochran-Smith, 2004, p. 298). We know that there are no easy paths or recipes. However, we do know that there

are alternative ways to think alternatively about ITE in Portugal—and within the European Union—towards more democratic and more inclusive societies (Moreira, 2016; Paraskeva, 2018; Paraskeva & Moreira, 2020; Torres Santomé, 2017a, b). The future of ITE remains to be seen, but struggles and challenges may be anticipated. While the future is uncertain, it is also clear that ITE is more than ever essential to counteract more simplistic and narrow views of teaching and of teacher education.

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Curriculum, Teacher, and Employment in Global Context

Reforming the Secondary School Curriculum: A Sri Lankan Experience at the Dawn of the New Millennium

Indira Lilamani Ginige

1 Introduction

The National Institute of Education (NIE), Sri Lanka, recognized as the professional arm of the Ministry of Education (MoE), is the agency responsible for developing the national curriculum for General Education (GE). According to the eight-year curriculum cycle introduced in 1999, the Institute had to announce its first curriculum reform of the new millennium in January 2007. The turbulent political environment that prevailed in the country during the first half of the first decade coupled together with many changes that took place in the organizational set-up of the Institute in 2004, did not allow the planning of the reform to start proper until mid-2005.

To spearhead the reform, the Centre for Curriculum Development that existed in the previous organizational structure was brought under two faculties—the Faculty for Languages, Humanities and Social Sciences and the Faculty for Science and Technology. With the majority of the curriculum developers having over 30 years of experience in GE and both the faculties coming under one management at the inception, the Institute was in a good position to rethink the existing curriculum to bring it in line with the needs of the twenty-first century.

1.1 Setting the Scene

The school system of Sri Lanka, similar to that of many other countries, consists of two major cycles—primary and secondary. The primary cycle incorporates three Key Stages that cover grades 1 and 2, grades 3 and 4 and grade 5 respectively. The two sub divisions of the secondary cycle—the Junior Secondary and the Senior

I. L. Ginige (✉)
National Institute of Education, Maharagama, Sri Lanka
e-mail: indiralginige@hotmail.com

Secondary—comprise grades 6–9 and grades 10–13 while the latter sub divided again into GCE/OL and GCE/AL, comprises grades 10–11 and grades 12–13.

Reforms (1999) in its major attempt to reduce the number of subjects taken by GCE (AL) students from four to three, adopted a top-down approach for curriculum development. Considering the normal tendency of university academics to overload the curricula at the top for the mere sake of preparing a few academically-oriented students for higher education, the curriculum developers were determined to make education joyful for all students. The content of the primary curriculum already finalized and the content scoping for the Junior Secondary Cycle also complete, the scene was set for a bottom-up approach for curriculum development.

Considering the massive effort taken by Curriculum Reforms (1999) to uplift Primary Education, reforms in 2007 focused basically on Secondary Education paying special attention to the Junior Secondary Cycle (JSC) that had no terminal examination. The plan developed for introducing the reform focused on two grades per year to complete the introductory period in four years. The reform initiated thus with Grades 6 and 10 selected for 2007 intended to reach grades 9 and 13 in year 2010. Considering the highly competitive nature of the GCE/AL examination that could make any change at this level ineffective, a decision was made subsequently to limit the reform only to the grade range of 6–11.

1.2 Purpose of the Reform

The main intention of Reforms (2007) was to provide a sound general education for the children of the nation. Grade 5 scholarship examination opening the doors for the less privileged to gain access to the popular secondary schools of the country, and the GCE (AL) examination providing the only means for gaining access to the limited number of places available at the universities were identified as the two main reasons that hindered the learning of school children. The parents rushing to benefit from the scarce opportunities made available to them, were compelling the schools to produce good results at these knowledge-based examinations. This situation made tuition classes providing extra learning support for school children to mushroom and the schools competing with them to deviate from the total curriculum. Many parents were also under the impression that the schools were there to prepare the young for the world of work while a fair number admiring the type of education they received in their school days, wanted their children also to be provided with a traditional type of education. To eradicate all these misconceptions, the curriculum developers initiated the new reform by defining GE as a foundation laid for the young of the nation to help them become successful in any walk of life they select for their future.

Upon completing school education, Sri Lankan youth usually step into four paths viz. higher education, professional/vocational education, the world of work and home making. At the time of the reform only 5.5% of an age cohort could gain access to higher education. This constraint called a large number of highly qualified GCE/AL graduates to seek for professional development programmes to prepare for a career

of their choice while the less qualified sought for technical and vocational education. Another large proportion entered the world of work straight away to take up self-employment or other employment opportunities available in the state or the private sector. A very small proportion consisting mostly of females turned to the home and family to make their future lives pleasant and meaningful. To be effective, the foundation laid by GE had to consider all these facets.

To groom the young for a fast-changing world, Curriculum Reforms (1999) focused on nine national goals and five basic competencies. The former was reduced to eight later while the latter dealing with communication, environment, religion and ethics, play and leisure, and learning to learn was dropped totally to pay attention to a broader set of needs that came under the evolving concept of integrated personality. This type of change was needed to reduce the emphasis on subject matter knowledge (SMK) at the expense of life skills that were considered equally important. Figure 1 illustrates the eight national goals on which the reform focused.

Fig. 1 The eight national goals. *Source* (Created with data drawn from sources mentioned in the bibliography) Ginige (2002)

The changing world requires the young of the nation to be equipped with two types of skills. Interpersonal/Social the first of these deals with relationships developed among people. Intrapersonal/Personal the second, relates to abilities that arise from within a person. Although thinking skills are also intra personal, the serious neglect of these in the learning–teaching process made Reforms (2007) to consider them as the third major component of the integrated personality.

Figure 2 illustrates these main skills with a set of sub skills coming under each of them.
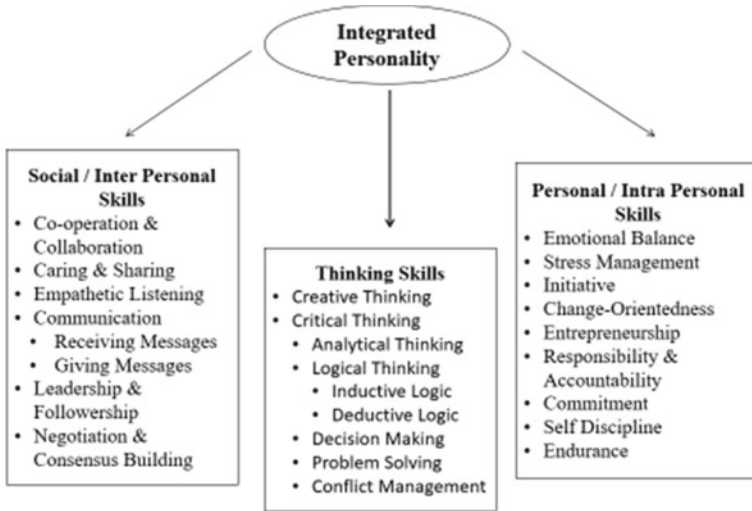
Fig. 2 Integrated personality with main and sub skills

The children gradually turning into adults are expected to demonstrate success at home, in the work place and also in the community, where the sound social and personal skills they develop in school become useful to them. In view of developing citizens who could take up the challenges of the twenty-first century, Reforms (2007) paid attention to the 4C's referred to as communication, collaboration, critical thinking and creativity (Partnership for 21st Century Learning, 2007).

Co-operation and Collaboration are two social skills that are essential for the twenty-first century. Collaboration that implies every student in the group has a role to play goes beyond co-operation. Communication dealing with four skills where two are receptive and the remainder productive requires people to be proficient in both receiving messages and giving messages. Knowledge sharing, the most important aspect under sharing, enables both the giver and the receiver of knowledge as well as the knowledge itself to develop and shine. Leadership and followership equally important in group situations highlight the emergent leader over and above the appointed leader. Initiative and orientation to change together with entrepreneurship are three important personal skills that all young people entering the world of

work should develop. For success in life, people also should be able to balance their emotions by avoiding extremes in areas such as joy and sorrow and manage their stress by developing a host of time management skills such as setting priorities and engaging in planning.

To bring about a revolution in thinking, Reforms (2007) paid attention to both creative and critical thinking. Although subjects in the school curriculum like aesthetics and literature focus on the development of creative thinking, and Mathematics and the Sciences on critical thinking, the emphasis of the reform was on subject independent thinking. This situation provided opportunity for every teacher to develop thinking skills in their students using new methods that were invading the twenty-first century classroom. Development of thinking skills likewise was expected to have a massive impact on organisations that were terribly slow in making decisions, solving problems and managing conflict.

The Sri Lankan classrooms at the time of the reform were in favour of left-brained children who were sound in logical-mathematical and linguistic skills. Considering the difficulty that this type of approach was creating for the right-brained learners who were smart in other areas, the nine types of intelligence—naturalistic (nature smart), musical (sound smart), logical-mathematical (number/reasoning smart), existential (life smart), interpersonal (people smart), bodily-kinesthetic (body smart), linguistic (word smart), intrapersonal (self-smart), spatial (picture smart)—introduced by Gardner (2006) were also taken into consideration in instructional planning. Excessive teacher talk was the other factor that denied equal education opportunity for children in a classroom. Considering the education of the boys that was getting affected as a result, VAK (visual, auditory and kinesthetic) learning styles introduced by Barbe and Milone (1981) were also given special attention.

Similar to teacher talk that is advantageous for the females who can sit for long hours listening to lectures, the knowledge-based public examinations with their repetitive questions were also found to be in favour of the same group. The better performance that the females demonstrate in such examinations brings to light that they are adept in retaining and recalling the information they collect through listening. Using examinations that provide clear support to one group over the other was found to discriminate not only boys attending schools, but also adult males who were aspiring for jobs particularly in the teaching profession. All these brought to light the need for rationalizing the three aspects of learning, teaching and evaluation as a means for securing equal education opportunity in Sri Lankan classrooms. Table 1 illustrates how the females outperform males in both education and employment.

Table 1 Gender wise disparities in education and employment (some highlights)

Area of disparity	Male (%)	Female (%)
School leavers—Grade 1 to 10 (2015)	12.65	7.42
Performance at GCE/OL (2013)	51.25	63.23
Performance at GCE/AL (2013)	57.45	64.54
Admission to Universities	38	62
First and second classes obtained by university undergraduates	55	75
Employment in the education sector	28	72
Employment in executive grades	41	59

Source (created using percentages drawn from different sources mentioned in the bibliography) Ministry of Education (2016) and Human Resource Development Centre (2013)

2 Curriculum Planning and Design

Curriculum planning the first step of curriculum development deals basically with situational analyses that facilitate needs assessment. Curriculum design—the second step—on the other hand focuses on aspects such as the purpose, content, instruction and evaluation related to the proposed curriculum.

2.1 A New Vision for Curriculum Development

Restoring a sound general education for school children of Sri Lanka required proper direction. A situational analysis brought to light that our system of education was resting on three traditional pillars. To overcome consequences of stagnation and reap benefits of twenty-first century education, there was a need to move this system onto three new pillars. Figure 3 illustrates the vision developed for the reform on the basis of where we were at the dawn of the new millennium and where we wanted to be by 2015.

A system of education geared towards preserving the known and transferring the existing knowledge and skills to the young was not motivating the teachers to look for new knowledge and meaning. Knowledge gaining prominence over attitudes and skills prevented the young from trying out their learning in real life situations. The teacher talk taking prominence in the classroom favoured the auditory learners over the visual and the tactile. This situation making the girls outperform boys at public examinations, created a gender imbalance in the learning community. Moreover, evaluations of the teaching staff focusing mainly on student performance at public examinations forced the teachers to attend only to their normal teaching rather than troubling themselves with extra duties such as development of life skills in students.

The undue attention paid to knowledge made many a teacher to fall into the habit of emphasizing the subject content over and above the methods needed to

New School Curriculum

WHERE WE ARE

- Retaining the known
- Learning the pre-determined
- Constructing what is

- Answering Model Questions
- Memorizing Facts
- Mechanical and Superficial Learning

WHERE WE WANT TO BE

- Revising the known
- Exploring the undetermined
- Constructing what might be

- Constructing Knowledge and Meaning
- Exploratory Learning Inquiry .Based / Action-Based
- Internalized Concepts

Fig. 3 Vision for curriculum reform

impart it. Some language teachers severely tied to the textbook were deriving their instructional objectives from the lessons in the textbook (e.g. Sinhala/Hindu New Year) rather than from the subject they were teaching. This practice illustrated the extent to which these teachers had forgotten the four language skills that they had to develop in students. Many teachers seated at their desks read the textbook to the class while some even avoided this by getting a clever student to do the reading. Model questions also gaining momentum as a main method of teaching, the students were developing the bad practice of cramming facts coming to them in the form of teacher notes, textbook material or answers to model questions. All these methods that contribute to mechanical and superficial learning also confined student learning strictly to the classroom.

Many schools focusing largely on the academically-oriented few who could grasp the knowledge and become successful at examinations, were neglecting their co-curricular programmes. The publicity given by media for students with high island ranks in examinations was also demoralizing others who were thriving for a balanced personality, the real prize of general education. All this made a small percentage of schools with high examination performance to get bigger and bigger, making the others less successful smaller and smaller. Large classes thus becoming a common feature of popular schools did not allow the teachers of these schools to try out the new methods, and the students to benefit from them.

Comparing where we were and where we wanted to be in education likewise, revealed a huge gap to be filled. It was in this context that a new school curriculum with focus on competency-based, activity-oriented and student-centred education was introduced to Sri Lankan schools with a host of new subjects as well.

2.2   Selection of Subjects for the JSC and the SSC

A committee comprising top level officers of the National Education Commission (NEC), National Institute of Education (NIE), Education Publications Department (EPD), and the Department of Examinations (DoE) chaired by the Secretary to the Ministry of Education (MoE) proposed the subjects for the JSC and the SSC. The JSC with 12 subjects in total had more or less a common curriculum. The curriculum proposed for the GCE/OL consisted of six core subjects and a variety of optional subjects classified under three subject groups devoted for Arts and Commerce, Aesthetics, and Technical Studies. Setting aside some periods to be allocated at the discretion of the school principals, was a novel feature common to both proposals.

With the number of periods allocated per subject, per week specified as two, three or five, the 12 subjects of the JSC could be grouped into three categories. The students had the opportunity to select their own Religion, Mother Tongue and the Second National Language with one Aesthetic Subject selected from a variety of aesthetic subjects (Music, Dance, Art and Drama and Theatre). Although the committee proposing the curricula highly recommended Common Aesthetics introduced for Grade 6 by the previous reform to be taken up to grade 9, many artistes protesting against this proposal made the MoE to withdraw it later. Reforms (1999) introducing Life Competencies as a new subject of the JSC also appointed a new teacher cadre for teaching the subject. Observing the loss of interest that this move generated in subject teachers in developing generic skills, Reforms (2007) decided to reduce the weight given to the subject by combining it with Civics.

Social Studies disintegrated into History, Geography and Civics in the new reform, made History a core subject of the GCE/OL curriculum, and the others optional subjects of Subject Group 1 dealing with Arts and Commerce. Placing the Second National Language (SNL) in the same group with a number of other important subjects did not allow many students interested in SNL to select the subject. Incorporating Literature and Appreciation subjects in Subject Group 2 dealing with Aesthetics also brought down the number of students opting for aesthetic subjects. Although the Technical Subject Group consisted of many new subjects that oriented the students to a variety of opportunities in the world of work, incorporating a non-technical subject—Health and Physical Education—also in the same subject group created an anomaly.

Considering the importance of entrepreneurship with particular reference to self-employment, a decision was made to replace Business and Accounting Studies, formerly a technical subject of the GCE/OL, with Entrepreneurial Studies. To attract students to this new subject it was also placed in Subject Group 1 with the Arts subjects. Yet the pressure exerted by certain University academics to bring Business and Accounting Studies back to the GCE (OL) curriculum, and the subject thus returning placed in Subject Group 1 instead of Subject Group 3, did not allow the new subject of Entrepreneurial Studies to reap the expected benefits.

2.3   The Curriculum Process

Generally speaking, curriculum development goes beyond the 'what' aspect discussed above to incorporate the 'how' aspect as well. In view of the latter, Reforms (2007) adopted the Nine Decision Model that provides a framework for comparing curriculum planning with planning of a journey. Figure 4 presents the nine questions of the model with answers relevant to the two processes.

Major Questions	Planning of a Journey	Curriculum Planning
Where should we go?	Destination	Competency
What route should we take?	Towns to be passed	Competency Levels
Where should we stop for sightseeing?	Sites selected in towns	Content
What is the major mode of travel?	Car, Bus, Train	Activities
How should we reach the sites?	Walk, Taxi, Boat	Learning-Teaching Methods
What material resources would we need?	Maps, Fuel, Food, Clothes	Quality Inputs
When will we reach the destination? activity	Time estimated for journey	Time estimated for
How would we know that we are on right track?	Landmarks on the way	Criteria for Assessment
How would we know that we have reached the destination?	Landmarks at the destination	Criteria for Evaluation

Fig. 4 Planning of journey versus curriculum planning

The Nine Decision Model used to initiate competency-based education breaks down the curriculum process into three main components (syllabus, learning–teaching methodology and procedures for assessment and evaluation) with a number of sub components under each, and provides a valuable foundation for curriculum development. It also suggests an eclectic approach to learning and teaching that facilitates student learning through assessment. The support that the framework gives the teachers in interpreting the curricula when planning for instruction is also commendable.

3   Paradigm Shifts in Curriculum Design

This section deals with three paradigm shifts directly related to the three components of a curriculum—learning outcomes, learning–teaching methodology and procedures for assessment and evaluation—and a fourth dealing with a shift from lesson plans to activity plans that covers all three components.

3.1 From an Objective-Based Model to a Competency-Based Model

The objective-based model for curriculum development that gained popularity during the industrial era called the teachers planning for instruction to specify objectives under cognitive, affective and psychomotor domains of learning, and pay attention to all three types of objectives during the instructional process. Although these requirements were well accepted and practised by the teachers at the outset, the public examinations focusing only on knowledge made them gradually neglect the two important aspects of attitudes and skills. To take students beyond knowledge and minimize gender disparities that were becoming prevalent in general education, a decision was made to adopt a competency-based curriculum for Reforms (2007) paying due attention to Bloom's Revised Taxonomy and incorporating a number of recent developments (Amer, 2006).

At a time where many countries were struggling with generic competencies that are cross curricular, Sri Lanka was one of the first few countries to adopt a competency-based education that focused on both subject and generic competencies. Figure 5 illustrates these two types of competencies.
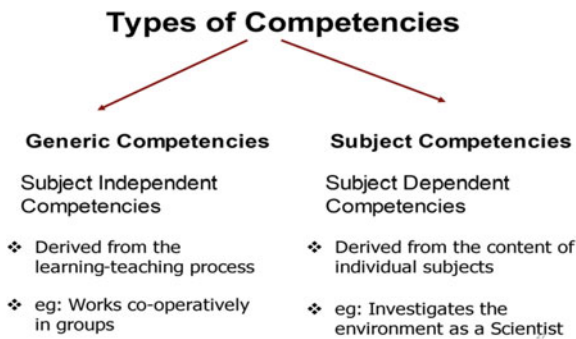
Fig. 5 Classification of competencies

Figure 6 shows how the intellectual and emotional development brought about by subject and generic competencies combine with physical development to bring about a person with an integrated personality. Generic competencies thus coming to the fore also enabled Life Competencies introduced by Reforms (1999) with a separate teacher cadre to be abandoned.

Fig. 6 Integrated
personality
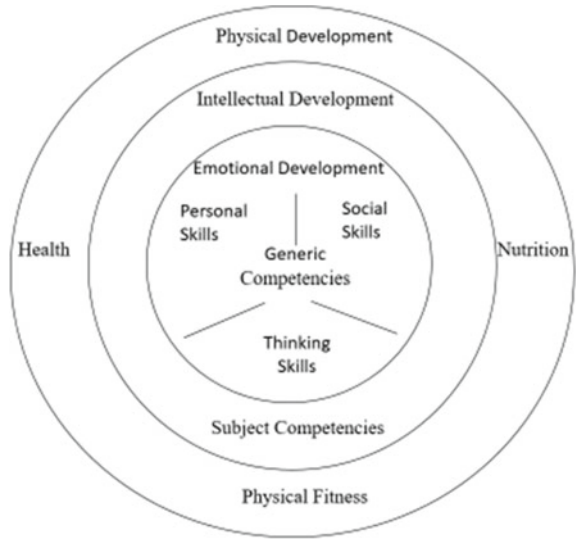
The literature available was reviewed to select a suitable definition for the term 'competency.' Since there was no consensus on the matter, an operational definition that highlights the integration of subject and generic competencies was developed. According to this definition a competency is a lifelong practice or an ability that integrates relevant Knowledge (K), Attitudes (A) and Skills (S) drawn from the subject and the generic competencies derived from the methods used to impart the subject content. Figure 7 illustrates how these two types of integration take place to develop a competent person.

Fig. 7 KASP model for
defining the term
competency
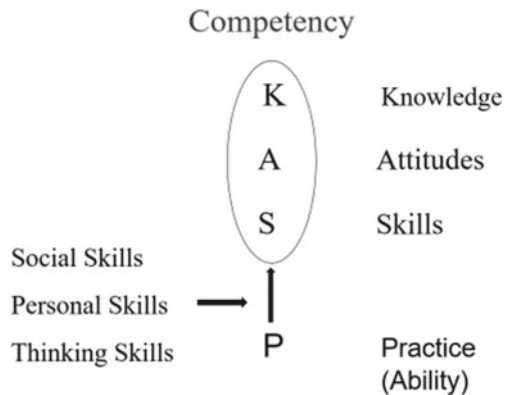
K, A, and S pertaining to a subject overlap in different ways to bring about competencies of the subject while the K, A, and S of a competency overlap in a similar manner to form the competency levels (CLs) within a competency. Figure 8 illustrates how this overlap occurs.

Fig. 8 How the three
domains of learning overlap
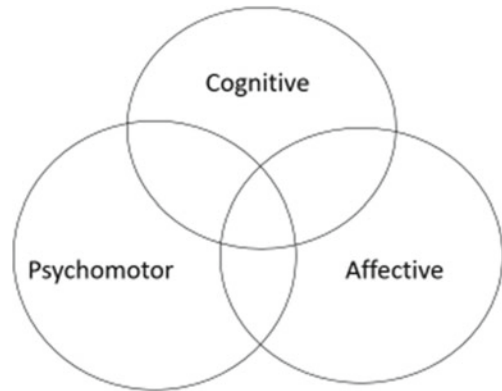
Considering that the competencies are too broad for instructional purposes and the
need to adopt a spiral curriculum at the JSC, methods for breaking down competencies
into two or more CLs were given due thought. Identification of the CLs as the basis
for activity selection and limiting the subject content of the activities to K, A and S
of the CLs, also provided a means for controlling the curriculum overload. Figure 9
illustrates how two competencies related to the subject Health and Physical Education
were broken down into CLs and sequenced appropriately to facilitate implementation
(NIE, 2008).

Fig. 9 Breaking down
competencies into
competency level. *Source*
Adapted from National
Institute of Education (2008)

Competency 1

Contributes to the building up of a health society.

Competency Levels

1.1 Takes action to maintain personal health.

1.2 Takes action to maintain health at home.

1.3 Takes action to maintain health in the school.

1.4 Takes action to maintain health in the community.

Competency 2

Maintains correct posture in day-to-day life.

Competency Levels

2.1 Maintains correct posture in standing.

2.2 Maintains correct posture in walking.

2.3 Maintains correct posture in sitting.

2.4 Maintains correct posture in lying down.

The persuasion model (PM) that initiates skill development with sound attitudes
formed through relevant knowledge provided in a fascinating manner (head, heart

and hand), was preferred over the compulsion model (CM) that begins by compelling the learners to get involved in the skills that they had to master (hand, heart, head). The learning motivation that the PM allowed the learners was expected to put an end to the longstanding problem of mechanical and superficial learning while at the same time enabling them to internalize concepts, learn for life, and become worthy citizens.

3.2 From Teacher-Centred Education to Student-Centred Education

The first paradigm shift in the role of the teacher occurred with industrialization. The second is taking place now in the modern era of information. The role of the teacher that changed from transmission to transaction a number of decades ago, is now undergoing a change from transaction to transformation to meet the emerging needs of a global society. Figure 10 illustrates the rationale for these paradigm shifts on the basis of the philosophical question 'why children learn.'
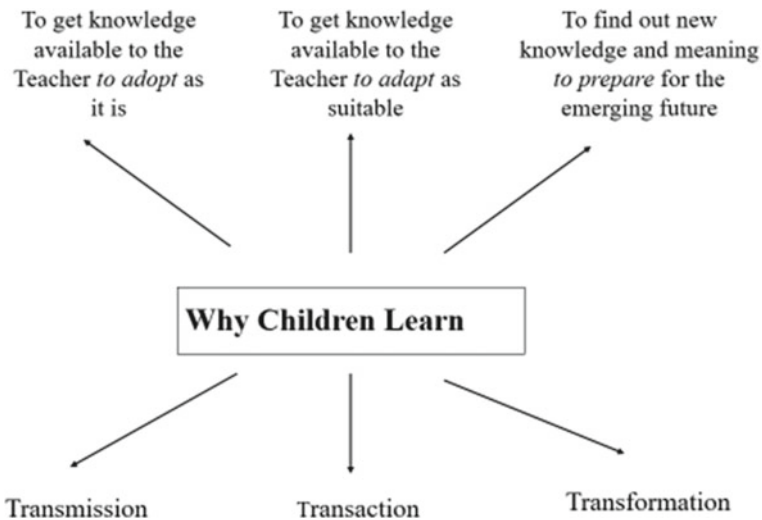
Fig. 10 Rationale for the changing role of teacher

To prepare children for the emerging future, the curriculum developers had to bring about a total revolution in the way the teaching–learning process was taking place. A new learning–teaching culture emphasizing the learner and learning over teacher and teaching was needed in place of the teaching–learning culture that was getting redundant. The student-centred approach to learning and teaching thus coming forward, directed the teachers, who were planning lessons on the basis of objectives to take

up activity planning with focus on CLs. The dialogue/discussion approach they were using to impart knowledge also had become outdated at a time where the students were expected to explore to find out knowledge and meaning for themselves. The tendency demonstrated by teachers for continuous interaction with learners during the explorations, was another feature that was identified as unsuitable. To allow students to explore undisturbed, the teachers had to be moved away from the role of facilitator to a role of resource person, where the interventions occur only when and where necessary. All these changes focused on moving the students away from their previous roles of listener, respondent and note taker to a set of new roles such as explorer, information seeker, presenter, elaborator and evaluator. The eclectic approach proposed for learning and teaching also enabled different learning styles and multiple intelligences to be catered to, and the lost equal education opportunity at the classroom level to be reinstated.

The adoption of a variety of methods for learning and teaching increased the demand for learning–teaching material. The financial grant made available to schools through the Quality Input Vote (MoE, 2002) was a blessing for school principals who had to support the teachers to meet these needs. To popularize this norm-based, unit cost resource allocation mechanism (NBUCRAM) that provided an equitable means for meeting the resource needs of schools, the new term 'quality inputs' was used in all curricular material in place of the original term 'learning–teaching material.'

The transformation role of the teacher does not discard the two previous teacher roles of transmission and transaction. The exemplar activities planned for the teachers, therefore, started with transaction and ended with transmission giving the central place to the new thinking that had come forward in the twenty-first century. This made the uni-, bi- and multi-directional patterns of communication that existed in the past to be retained in the learning–teaching process with two new patterns commonly referred to as communication within the groups and communication among the groups. To facilitate the emerging trend, the class setting had to be changed from the whole class to small groups and vice versa increasing the opportunities available for students for interactive learning, collaborative learning, inquiry-based learning and action-based learning.

Assessment getting a prominent place in the new learning–teaching environment was mainly to provide learning support for the exploring groups. Evaluation, receiving a new orientation in the reform was no longer at the end but during the time that the students were sharing and elaborating their exploration findings. Figure 11 illustrates a comparison of the three teacher roles under 10 selected themes.

Criteria	Transmission	Transaction	Transformation
Emphasis	Teacher and Teaching	Teacher and Teaching Learner and Learning	Learner and Learning
Basis	Topics & Presentations	Objectives & Lessons	Competencies & Activities
Mode of Learning	Lecture	Dialogue/Discussion	Exploration
Teacher as	Transmitter	Facilitator	Resource Person
Learner as	Listener	Respondent	Listener, Respondent, Explorer, Information Seeker, Presenter, Elaborator, Note Taker, Evaluator
Class setting	Traditional	Modified	Whole-Class & Small Groups
Communication	Uni Directional	Bi Directional Multi Directional	Bi and Multi Directional Within Group, Among Groups, Uni Directional
Inputs	Only Chalk & Board	Just a few	Many
Assessment	No time for assessment	Slightly during the lesson	During Exploration
Evaluation	At the End of the Presentation	End of the lesson	During Explanation & Elaboration

Fig. 11 Comparing the three roles of the teacher

3.3 From an Evaluation Culture to an Assessment Culture

The first teacher role of transmission that gives prominence to teacher talk does not allow teachers any time for assessment. The same problem also compels the teachers to attend to the evaluation at the end of the presentation, mostly through a few questions. The second teacher role where dialogue and discussion are used to impart knowledge, gives the teachers some opportunity for assessment during the learning–teaching process. Evaluation postponed to the end of the lesson again, is also on the basis of a few questions. Assessment, however, becomes a must in the third teacher role of transformation where the students have to learn on their won. Evaluation also getting a distinct place during the learning–teaching process, the teachers get two control mechanisms to assure learning performance of students.

Assessment, a new concept in the modern educational scenario, provides opportunity for the teachers to support student learning. The teachers getting free during student explorations have the time to move from group to group to observe students at work, and to provide them with feedback or feed forward. The teachers involved in evaluation pay attention to exploration findings of the group to determine the extent to which the groups have learnt.

Teachers planning for instruction had to identify five criteria for assessment and evaluation. The first three of these, derived from the subject content and arranged in the order of difficulty, enabled the teachers to make judgments on the subject competencies that the student groups have mastered. The remaining two criteria

derived from the learning–teaching process permitted them to come to judgments on the generic competencies attained by the students.

Successful attainment of the five criteria identified for each activity requires substantial effort on the part of both teachers and students. Attainment of these criteria signals that the competency level that lays the foundation for the activity has been attained while the attainment of other competency levels of the same competency contributes to an automatic attainment of the competency. This type of assessment and evaluation that takes place in every activity to guarantee the success of students in specific, intermediate and broad-term learning outcomes spelled out in the curriculum, was referred to as 'continuous assessment and evaluation.'

Learning and teaching that preceded evaluation in the past are now on the same platform with evaluation. Assessment, quite a new concept today, gets a prominent place for its contribution to success of group learning. Both assessment and evaluation focus on group performance rather than individual performance. Proficiency levels attained by groups identified at four levels—very good, good, average, and should improve—are communicated to student groups verbally. Irrespective of the informal manner in which such things happen, their contribution towards student learning was expected to be at a high level.

3.4   From Lesson Plans to Activity Plans

The learning outcomes spelled out for students changing from objectives to competencies, the responsibility for developing generic competencies reverting back to subject teachers, and the urgent need to move children away from teacher dominated isolated approaches to learning, called the curriculum developers to look for new strategies for implementing the student-centred approach. To let the children, go in search of subject knowledge while developing at least the 4C's recommended, there existed a need to move away from the traditional lesson plan to the activity plan preferably on the basis of the constructivist approach to learning and teaching.

The success of activity-oriented learning rests on the explorations planned for each activity. To develop social skills, it was found necessary to get the students explore cooperatively in a number of small groups. To facilitate collaboration, different groups were assigned different facets of the same problem, and different members of the same group different roles related to the explanation. Furthermore, to facilitate the synthesis of exploration findings all groups were sent along the same route through a set of common instructions.

To make the group size manageable in the event of large classes, the teachers were asked to increase the number of groups to multiples of the number of facets, allowing two or more groups to work on the same facet. Considering the fact that some students were obtaining extra school help to become successful at competitive examinations, a decision was made to give preference to heterogeneous groups over

homogenous groups. Although this allowed the less privileged to learn from their more privileged peers, considering the innovative measures that the teachers were using to provide extra support for the weaker students, decisions on the type of group to be formed was left solely in the hands of the teacher.

The format introduced for activity planning consisted basically of three steps. This number, however, could be increased to five particularly in instances where there was a need for setting up experiments and conducting practical work. Considering the real learning that takes place through group explorations, the teachers were requested to employ a variety of methods for group work such as brain storming, discussion, concept mapping, problem solving, discovery learning, experimentation, project work, and field work. In view of developing the thinking skills of students it was also proposed to involve students in educational games, quizzes, debates, dramas, role plays, and the like.

Motivating the students for the exploration was equally important. The first step of the activity devoted for this required a number of relevant methods with a variety of quality inputs. The students completing the explorations had to share their findings with other groups. For this they had to conduct team presentations for the whole class or adopt other methods referred to as onion ring/doughnut method, jigsaw method and gallery walk. Some innovative methods recommended for team presentations were demonstration, dramatization, seminars and panel discussions. The rope and peg method allowed the findings of different groups to be displayed in the classroom to facilitate sharing, questioning and elaboration. The final step of the activity thus conducted enabled students to develop not only their social skills such as communication and collaboration, but also their thinking and other personal skills.

Assessment and Evaluation were confined to two distinct stages of the activity. The former taking place during group explorations helped the groups to reach at least the near proficiency level. The latter taking place when the groups were sharing and elaborating their findings, required the teachers to make judgments on the proficiency levels attained by student groups and communicate these to the class at the end of the activity. Although assessment was a task confined solely to the teacher, the students also could involve themselves in a variety of evaluations with regard to their own learning, learning of peers of the same group and other groups, learning of one's own group and other groups as well as the teaching of the teacher.

Activity planning for Reforms (2007) thus initiated was found later to be very much in line with the 5E Model that was getting popular. Figure 12 illustrates how the curriculum developers have adopted the 5E's (Bybee, 2009) to facilitate learning and teaching.

Engagement

Step 1

The Teacher **transacts** with one or more **motivators**

• to get the attention of the class,

• to help the class to reflect on prior learning, and,

• to motivate the class for the forthcoming exploration.

Exploration

Step 2

The Teacher

• divides the class into **groups**,

• assigns different **facets of the problem** to different groups,

• distributes **quality inputs** across the groups,

• involves the groups in the exploration,

• supports student learning through **assessment**, and,

• prepares the groups for an innovative, whole-class. team **presentation**.

Step 3

The Teacher

Explanation   ⟶   • gets small groups to **present** their findings,

• calls the presenters to make the **first elaboration**,

• calls other groups to submit **constructive comments**,

Elaboration   ⟶

• listens to students to develop a note and evaluate proficiency,

Evaluation   ⟶

• presents the **final elaboration** first in writing and then verbally, and,

• concludes the activity with an **expression of evaluation findings**.

Fig. 12 The 5E's explained

4   Problems Encountered and Solutions Recommended

With the introductory phase of Reforms (2007) coming to an end in year 2010, the full curriculum covering all grades from 6 to 11 commenced implementation in 2011. Although nearly 10 years have passed since then, certain reversals resulting from Reforms (2015) together with a variety of longstanding systemic problems have not allowed the schools to move away from the three traditional pillars yet. As a result, the teachers continue to strengthen lower order mental skills in students with focus on answers developed for model questions. The students also use the short note books prevalent in the market with no understanding of at least the purpose of a short note. The mechanical and superficial learning that still takes place for passing of examinations thus hinder the clientele from developing the competencies identified for them.

Many problems have contributed to a delay in institutionalizing the first curriculum reform of the new millennium. Ginige (2018b) analyzing these problems under the four stages of curriculum development—plan, design, implement and evaluate— finds that the lack of a national education policy as the main problem that affects curriculum planning. Delays in initiating the reform in an era of political instability, rushed and ad hoc decisions made in subject selections, pressure group action leading to the denial of integrated Aesthetics and the dilution of Entrepreneurial Studies at the JSL and the retirement of the key people responsible for the change quite early during the reform period are cited as some other problems.

Lapses in co-ordination both within the NIE and with the organisations outside the NIE have affected curriculum design. The same problem related to co-ordination together with a host of other problems dealing with the cascade approach used for taking curriculum messages down to the schools has hindered curriculum implementation. Curriculum evaluation, depending largely on organisations responsible for research and development and quality assurance in education, was also associated with problems. Lack of a phased in programme for introducing quality assurance has enhanced the workload of school mangers and distanced them from clinical supervision denying its benefits to school teachers.

5   Present Status and the Way Forward

The little policy attention that education in Sri Lanka received in the recent past has not allowed the country to become fully successful in reforming school education. Yet with the new national policy framework introduced for Curriculum Reforms (2023), also emphasizing student-centred, outcome-based, activity-oriented and authentic approaches to learning and teaching there is much hope that the new thinking initiated in 2007 will be institutionalized in the near future.

5.1   Present Status in General

With a low rate of public spending on education, development of education in the country has decelerated over the years (Aturupane & Shojo, 2016). A study conducted by National Education Research and Evaluation Centre (2013) has identified a wide variation between the advanced and the less advanced regions in terms of learning outcomes. The expert thinking and complex communication skills needed for economic growth (World Bank, 2011), and the skills demanded by employers call the future curriculum reformers to focus on neural and biological development of students, orient teachers for socio-emotional skills development, seek the assistance of managerial staff to reorganize the school network for active and interactive learning, and increase the emphasis paid on co-curricular activities such as sports, clubs and recreational pursuits.

5.2   Present Status with Reference to Reforms

World Bank (2011) commenting on equal participation of girls and boys in primary education concludes that more girls complete secondary education today. This comment indicates that the trend in gender disparity that the reformers observed in early 2000, is still continuing.

With the 5E instructional model adopted for activity planning and student mastery determined at five levels, competency-based curricula developed under reforms (2007) are grounded in the constructivist approach (Sedere, 2019). Although activities so developed enable students to process various inputs in an intentional manner, information processing taking place only at the cognitive level, the textbook used as the only source of information confining students to structured and explicit knowledge, and the classroom-based learning environment minimizing opportunities for out-of-school authentic learning and performance evaluations have brought about problems (*ibid*).

The education culture of Sri Lanka focusing on content learning for passing examinations derails the learning process that forms the key to child-centred education (Sedere, 2019). Examinations in the form of paper–pencil tests emphasizing convergent thinking and suppressing creative learning, also constrain students from getting involved in co-curricular activities. To reduce this mismatch between the teaching model and the procedures used for evaluation that reverts the schools back to traditional methods, authentic evaluations focusing on real world situations are much needed for summative evaluations (NEC, 2016).

A study on the implementation of the 5E Model in 40 secondary schools of the Putlam District has identified a variety of problems that hinder implementation of Reforms (2007) (Pushpakumara, 2016). These problems highlight the unsuitability of the model for certain topics of the curriculum, difficulty of covering the overloaded curricula when using the model, drawbacks in the provision of learning–teaching

material, limited opportunities available to school personnel to learn about the new method, and the low interest demonstrated by some of them in learning the new method. Although the TIGs developed as self-learning tools can fill many gaps related to teacher development, the difficulties faced by authorities at the outset in providing the TIGs to schools on time, and in adequate quantity have hindered teacher awareness on the new methods introduced.

To improve student achievement, National Committee for formulating a New Education Act for General Education (2011) states that educational managers at all levels of the educational hierarchy have to demonstrate sound instructional leadership with adequate awareness of the learning–teaching–assessment–evaluation procedures newly introduced to schools. Yet finding the managers under concern not up-to-date with the new trends in pedagogy and weak in change management, the Committee admits their inability to advise implementers at school level and function as change agents to institutionalize the change. Many principals confined to the administrative role, also hesitate to delegate their routine work to their administrative colleagues. The limited time this practice makes available for principals to act as instructional leaders prevents them from working closely with teachers in the classroom—identifying their developmental needs, encouraging them for self and peer evaluations, and arranging demonstration lessons or other programmes for their development.

Many principals refraining from clinical supervision due to lack of a clear overview of the new learning–teaching methods, remain unaware of the teachers who are using the new methods and others who have never been oriented to use them (Pushpakumara, 2016). Although most principals have paid high attention to School-Based Teacher Development (SBTD), the content of such programmes are also not adequately focused on the new thinking of the twenty-first century (*ibid*). The difficulties faced by principals in shifting emphasis from their previous roles of administrator and manager to the new role of instructional and academic leader furthermore prevent them from establishing the learning environment required for student-centred education, thereby calling the teachers also to fall back to their previous roles.

A study conducted on the implementation of the 5E Model with a sample of prospective teachers drawn from Siyane National College of Education has identified that these teachers face difficulties in finding material for their activities and completing the activities during the given time period (Polgampala et al., 2016). Irrespective of many benefits of the model such as active participation of students, joyful learning with motivation, opportunities for better understanding the content, improved permanency of learning, and enhanced self-confidence with communication, questioning and evaluation skills, the researchers highlight the misunderstandings and confusions that occur when teachers fail to implement the planned activities properly. With some pupils dominating and some others idling particularly during exploration, the high incidence of classroom disciplinary problems have also been observed during this stage of the activity. Although previous models used for teaching demand less disciplinary and pedagogical expertise from teachers, the inability of those models in getting the students apply knowledge in new contexts, communicate knowledge in complex ways, and use knowledge creatively in solving problems

prove that they are not the most effective for developing twenty-first century skills (Sedere, 2019).

Reforms (2007), identifying competencies for each subject of the curriculum, breaking down these competencies into competency levels, and specifying methods to develop generic competencies along with subject competencies, goes far beyond Reforms (1999) (Nawastheen, 2019). As skills can be developed as an integral part of the instructional process, identification of competencies with a bent-on skills allows the 5E Model to be applied for any content of any subject (Sedere, 2019).

Although the teachers implementing reforms at the classroom level are the critical agents, who should be the major focus of analysis as well as the source of evidence for this type of reform (Nawastheen, 2021), they demonstrate a lack of readiness for implementing the reform (Nawastheen, 2019). Teacher concerns and levels of use with respect to the 5E model also differ according to type and location of school, age and experience of the teacher, and the medium of instruction (Nawastheen, 2014). To fill the performance gaps arising in education as a result, there is a need to minimize the many disparities that continue in the learning environment with respect to human, physical and material resources and provide more development programmes for teachers low in age, experience and qualifications who are at higher stages of concern when compared to their older, experienced and qualified counterparts (*ibid*).

Irrespective of the low impact generated, the curriculum reforms of 2007 incorporate many innovative ideas (Sedere, 2019). Although the teachers were trained to implement these ideas, many problems associated with the implementation of school-based assessments and the examination-oriented culture that exists in Sri Lankan education, has not allowed the 5E approach to take root (ibid).

6 Conclusion

Considering that changing times need changing systems, Reforms (2007) made a concerted effort to move school education of Sri Lanka away from an objective-based curriculum to a competency-based curriculum, with the new teacher role of transformation and a modern system of authentic evaluation. The heavy workload that all these changes brought forth for staff at all levels, the drastic change demanded in the views of the beneficiaries, and the limited interventions that allow innovations to find their way into the actual practice of the classroom (Fullan, 2007) have not made it easy for the reform to move the system away from long rooted formal practices. Yet to meet the expectations of the fourth industrial revolution and the twenty-first century all stakeholders, irrespective of these difficulties, have to realize the negative effects of further stagnation and make up their minds to adopt and embrace the new thinking introduced to them at the dawn of the new millennium as a foundation for their further development.

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Albania: Education and Employment Reforms Linking Professional Education and Labor Market

Joniada Barjaba and Kosta Barjaba

Education and labor market in Albania are facing several challenges related to the modernization of higher education. Labor market and employment are constantly changing due to the changes of the economic system, the demands of free market economy and the level of job creation. In addition to the issues faced in education and labor market, there is also a weak synergy between the aforementioned fields, which is considered to be a result of the impact that education has on the labor force qualification in the country.

1 The Challenges of the Albanian Education and Labor Market Systems

Over the past thirty years, Albania has experienced a rapid transition of the education system, from a state system to a combination of public and private education institutions. During the 2019–2020 academic year, data show that 92% of elementary students, 88% of high school students and 76% of university students were enrolled in public education institutions respectively (Instat, 2021; Albania in Figures, 2019). University education is no longer the only pathway to individual advancement as a democratic society offers other opportunities such as professional education, self-employment and migration. The content of education and curricula have also been reformed. However, there is a tendency of students being oriented towards social

J. Barjaba
Ministry of Finance and Economy of Albania, Tirana, Albania
e-mail: jbarjaba@gmail.com

K. Barjaba (✉)
Member, Academy of Sciences of Albania, Tirana, Albania
e-mail: Kosta_Barjaba@ksg05.harvard.edu

sciences and humanities rather than technology and natural sciences. The Albanian system intends to reach the standards of the European Union education system through implementing the Bologna process (Final Report on Universities and Scientific Research Reform, 2014). Labor market is no longer the guaranteed destination of graduates; the country is experiencing a gap between the growth of labor supply of graduates and limited employment opportunities.

There are several challenges faced by the Albanian labor market. Employment is considered a social and economic right and people are struggling to have a stable and decent job in the country. The labor force, especially young people, is unable to navigate their way through the labor market. Albania has a high level of hidden unemployment, which is "competing" with registered unemployment. Hidden unemployment refers to the number of people who do not have jobs yet and are not counted in unemployment statistics. The practice of excluding hidden unemployment while calculating official unemployment rate ended in 2014 (Barjaba, 2014). Meanwhile, the number of graduates from training centers, professional schools and universities has increased. The hidden unemployment includes not only unemployed people looking for a job or individuals being unemployed for a long period of time, but also people entering and leaving the pool of unemployment often (Summers, 1990). In addition, scholars suggest that hidden unemployment is linked with the low threshold of the amount of work required in the defined employment (Hausmann & Nedelkoska, 2017). There are visible asymmetries between education and labor market. More and more students are attending universities instead of professional schools and training centers.

1.1 Participation in Education as a Rationale to Universities Reform

Nowadays, students in Albania can choose to study full time, part-time or online. Since 2008, basic education is compulsory for all children residing in the country from ages 6 to 15. Basic education consists of nine years in total: five years of primary education and four years of secondary education. Students who have reached the age of 16 and have not completed primary education full time are eligible to enroll in part-time basic education schools.

There are three types of secondary education: (i) general secondary education (gymnasium); (ii) professional secondary education (economy, construction, tourism, information technology, mechanics, electronics, agriculture, agro-business, forestry, veterinary, commerce etc.), and (iii) oriented secondary education (arts, sports, foreign languages, pedagogy etc.).

After the 2009–2010 academic year, professional education started to operate at three levels, providing students with general and professional training (theoretical and practical), as well as preparing them for work and further education. The two-year

programs (basic vocational education) at the first level are designed to train semi-skilled workers. Successful students receive a basic vocational training certificate and can enter the labor market or continue their studies at the next level. At the second level of professional education, which includes the two-year program of the first level and one additional year of training, students receive a certificate for professional education. Meanwhile, the third level of technical managerial education, which is a three-year program of the second level and one additional academic year, paves the path to university. Upon completion, students take a professional practice exam and the State Matura, school-leaving exams required for the completion of secondary education, which lead to a professional diploma (First Report on Universities and Scientific Research Reform, 2014).

In 2020, a total of 611,062 students were enrolled at all levels of formal education. At the beginning of the 2018–2019 academic year, participation at all levels of education or GER (Gross Enrollment Ratio) was 84.4% (Instat, 2021).

The university education system in Albania is aligned with the Bologna Declaration and contains a three-year bachelor's degree, followed by a 1–2 year Master's degree and three years of study for the PhD program. Albania joined the Bologna Process in 2003. Because of the specific nature of studying in these schools, in 2020, the Faculty of Medicine and the Faculty of Law left the Bologna process. The Faculty of Law continued with the five year programs as a response to judiciary reform in the country.

The Universities Reform, undertaken by the Albanian Government in 2014, was a result of the poor academic performance: low quality education, outdated models for financing; weak market power of degrees; and public universities accepting a large number of students beyond their management capacities (First Report on Universities and Scientific Research Reform, 2014).

The Reform was also a response to other challenges related to the education system, including a large number of students attending universities rather than professional education; large number of students graduating in social sciences and humanities rather than technology and natural sciences, which created a mismatch of available jobs to available graduates; low level of employment among university graduates due to their limited skills in sectors of production and services versus their orientation towards jobs in public administration. Meanwhile the Albanian economy was more in need of people with technical skills, yet less people with technical and industrial skills were available (First Report on the University and Scientific Research Reform, 2014).

1.2 Atypical Labor Market

Population ageing is one of the characteristics of demographic transition in Albania (Barjaba, 2011; Meçe, 2015). The number of people above 65 years is increasing, while the number of people under 15 years is decreasing. Females' growth rates are higher than those of males, 25% against 19% (Instat, 2017). The higher growth

rate of female population is one of the causes of higher female unemployment. The labor force grows with slower rates than population at working age. The labor market is unable to accommodate the new labor force from outside the market. During the period 2013–2017, labor force participation increased from 1,060 to 1,185 thousands (Instat, 2018a). A growing working age population is considered to be "a demographic gift" for the labor market. However, this "demographic gift" has become a "demographic risk" because of lower rates of job creation (Barjaba, 2015).

The labor market in Albania remains vulnerable and some of the most evident aspects are: (i) low employment rate and the need for effective labor market policies; (ii) higher employment in agriculture and other traditional activities, which is estimated to be 40–50% of the number of employees when compared to the "modern" sector (Instat, 2020a); (iii) low labor productivity; (iv) high unemployment rate, particularly youth unemployment, linked to the limited options in the public sector and reluctance of the private sector to employ young people; (v) high level of exclusion from the labor market of young people, women and non-skilled workers; (vi) very high level of informal employment coexisting with informal economy (Hausmann & Nedelkoska, 2017); (vii) vulnerability of VET system which remains inefficient and fails to promote employment; (viii) limited resources for promoting employment programs; (ix) lack of competition between public and private employment services; and (x) labor market being noncompliant to young graduates (Barjaba, 2019).

Informality constitutes one of the most critical problems of the labor market and employment. Some aspects of labor market informality are: (i) high level of informality in the modern sector compared to the traditional sector and agriculture; (ii) sector diversity of informality with an increasing trend in construction and services; (iii) considerably lower wages in the informal sector compared to the formal sector; (iv) surveys conducted by international organizations show that despite Albania's global competitiveness growth in the recent years, many Albanians are employed in low-skilled and low-productivity jobs, particularly in the agriculture sector (OECD, 2020).

1.3 Youth Unemployment as a "Product" of the Gap Between Education and Labor Market

Albania has a high level of youth unemployment, though below the rates of other countries of the region. In 2017, youth unemployment rate (15–29 years) was 24.5% against 12.5% of the official unemployment rate for the total population (INSTAT, 2018b). Youth unemployment is linked with the limited options for employment in the public sector and reluctance of the private sector to hire young people and graduates.

The country has also a high level of long-term unemployment and discouraged workers outside the labor market. In 2017, the number of people being long-term unemployed was higher than the number of unemployed receiving unemployment

insurance (INSTAT, 2018c). This shows that frictional and structural unemployment are the main forms of unemployment in Albania.

Youth unemployment might be explained by the fact that labor market is refractory to young people. The increasing number of students completing higher education and entering the job market does not align with the labor market absorption capacities in the country. As a result, the number of unemployed graduates increases.

Moreover, there is an unequal distribution of youth unemployment all over the country. The majority of young unemployed people are living in villages. Unequal distribution of youth's structural unemployment could also be explained by the unequal distribution of professional schools and VET centers in the country. That said, there is a need for additional teachers and trainers in professional schools and VET centers.

2 Policy Reforms in Response to the Challenges

In 2014, considering the education and employment situation in the country, the Albanian Government undertook two main reforms: the University Reform and Employment and Skills Reform. The government decided to undertake these reforms because the country had an atypical labor market, a high level of unemployment and a non-efficient and low-quality university system.

Both reforms were designed and implemented with the support of international organizations and institutions and involved the participation of civil society, groups of interest and experts from Albania and abroad. However, it is important to highlight that the labor market reform received more support when compared to the universities reform; the latter was not supported by several stakeholders, including from academic body of public universities.

2.1 Universities Reform in the Context of Recent Transformations

After the 2013 parliamentary elections, the University Reform was the first reform launched by the new Government of Albania. Through this reform, the Government showed that higher education was a priority; the consolidation of human capital, knowledge and skills were considered to be essential tools for the country's development.

2.1.1 The Goals

The main goals of the University Reform included improving the quality, standards, efficiency and performance of public and non-public universities; promoting competition between universities, academic staff and students; creating equal and merit-based opportunities; and promoting scientific research.

As a result of the development of private education during the last twenty years, the efficient managerial model was transferred and implemented in the regulatory framework of public education. The recommended model by the Reform was the UK Anglo-Saxon model, which included the Bologna Process standards (First Report on the Universities Reform, 2014). The expansion of private university education resulted in a high number of private universities and a high number of students enrolled in private education. In 2014, 44 out of 59 universities in the country were non-public. The number of students in universities grew from 52 000 in 2005 to 165 000 in 2013. In order to compete with private universities in regard to their admission policies, public universities increased the number of part-time students, reaching a level of 21.5% in 2014. Despite these quantitative changes, the quality of university education remained low (Final Report on the Universities and Scientific Research Reform, 2014).

The Reform recommended that since university education is considered to be a public good, it should be supported and financed by the government, while having their autonomy, administration, responsibility and transparency. The reform aimed to: (a) improve teaching and scientific research in universities in order to help students gain the necessary skills to better respond to labor market demands and strategic development of the country; (b) increase the capacities of universities and their academic staff and students to make universities more competitive in regional and European context and strengthen their market power; and (c) increase the universities' social and public responsibility (Final Report on the Universities and Scientific Research Reform, 2014).

2.1.2 The Policy Actions

The reform in education was implemented through the support of several policy actions. These actions included all levels of education: university education as well as primary and secondary education. The synergy between policy actions and interventions at all levels of education constitutes one of its strengths.

<u>Higher education system</u>

While implementing the University Reform, the Government created sustainable and diverse financing schemes for the Albanian universities to be able to afford economic changes. Also, the Government highlighted the importance of supporting the autonomy of universities, including financial, organizational and academic aspects. Nowadays, universities in Albania have the autonomy to set their tariffs for students based on the minimum and maximum rates established by the Government.

In order to offer equal opportunities for all, the Government has also created programs to support students who are unable to finance their own studies through need-based scholarships and grants. The Government started to finance public universities in an equal and transparent way, in alignment with their performance in teaching and research and their contribution to the country's strategic priorities. Priority is given to university programs that are considered important for the country's development. As a result of the Reform, 20 private universities and 2 public universities were closed down as they failed to satisfy the standards set by the Reform.

Integrating teaching with scientific research and ensuring access to research are two objectives supported by the new legal framework and institutional measures. Legal framework has been developed to enable universities to function as nonprofit organizations and develop economic activities beyond teaching (Final Report on the Universities and Scientific Research Reform, 2014).

<u>Primary and secondary schools</u>

The reform in the pre-university education was also undertaken, including renewing the curricula, improving existing infrastructure, updating content of textbooks, improving teachers' hiring and certification procedures, exploring new branches of professional education with particular focus on information and communication technology, agriculture and marketing, strengthening connections to businesses and industries, etc. Under this Reform, more than 600 textbooks have been removed and around half million high school students have access to new textbooks that meet the EU standards and are published by prestigious publishers such as "Oxford", "Pearson" and "Cambridge" (Ministry of Education, Youth and Sport, 2018). Children coming from poor families are entitled to free textbooks. Furthermore, schools are implementing contemporary European teaching models, which enable students to build essential skills. The mechanism for teachers' recruitment has changed too. Around five thousand underqualified teachers were replaced with highly qualified teachers. Also, transparency was enhanced in order to help schools attract and select from a wider, more diverse talent pool. In order to teach, teachers must obtain certain teaching credential requirements, rather than using their political connections.

Moreover, the reform of the school system included growth of the number of children enrolled in preschools, aiming to make it mandatory by 2021; inclusive education with additional assistance for children with disabilities; longer school days; transforming schools into community centers; and digitalization of pre-university education curricula.

While implementing the reform, teachers faced several challenges that required a better awarding system. In this regard, numerous steps were taken: training for 20 thousands teachers; increasing teacher pay; offering performance-based compensation; organizing online professional networking for teachers; and depoliticisation of education and management policies." (Ministry of Education, Youth and Sport, 2018) In 2020, the Albanian Government raised teachers' salaries by 15% (Parliament of Albania, 2021).

2.1.3 The Impact

The education reform improved education by making schools more effective and producing better educational results. The outcomes of the reform facilitated the transition of young people from education to employment through the following indicators: increasing the number of professional school graduates; narrowing the gap between professional schools and university students and graduates; increasing the share of professional school students to the total number of students enrolled in all educational levels; narrowing the gap between students enrolled in Gymnasium & Socio-cultural schools and students enrolled in professional schools.

An important aspect of the reform was for students to gain the necessary skills in today's job market. The reform resulted in a higher level of participation in pre-university professional education (high technical schools). Around 18% of the total pre-university students participated in professional education during the 2018–2019 academic year (Albania in Figures, 2019). In addition, enrollment and graduation from professional schools increased. Figure 1 presents the growth of professional school graduates in Albania during the period 2014–2018.

As the Figure shows, the number of graduates from professional technical schools in Albania increased by around 30% from 2014 to 2018.

Professional technical high schools (non-academic) graduates constituted the lowest share of graduates in the last five years, about 3% of the total number of graduates before the reform. However, this percentage increased in recent years compared to university graduates. The table below presents the number of graduates by levels of education during 2013–2018 (Table 1).

As shown above, the number of professional technical schools' graduates increased by around 33% (between 2013 and 2018), compared to 17% of the increase
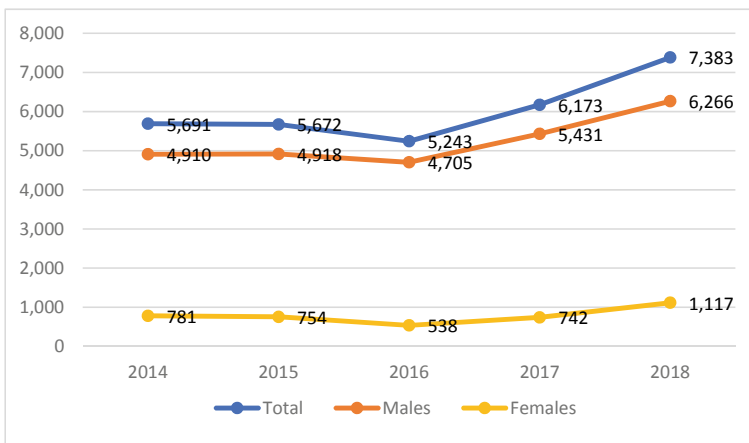
Fig. 1 Graduates in pre-university professional education (2014–2018) *Source* The data are from ["Albania in figures"], by INSTAT (2019)

Table 1 Graduates by educational level (2013–2018)

Educational level/academic years	Before the reform			After the reform	
	2013–14	2014–15	2015–16	2016–17	2017–18
Elementary	44,139	44,001	43,084	36,546	37,795
Secondary	35,254	39,629	37,721	36,436	35,278
Professional	3,136	4,702	4,507	5,215	4,189
University	29,301	33,654	31,865	35,388	34,331

Source The data are from INSTAT (2019a)

of university graduates during the same period. This shows that young people and their families are becoming more aware of the role of professional education in their career paths.

What is more, the education reform narrowed the gap between professional school and university graduates. The figure below represents the ratio between university graduates and professional school graduates/students during 2014–2019 (Fig. 2).

The comparison shows that the number of university graduates in Albania was 9.4 higher than the number of professional school graduates in 2014, and decreased by 8.1 times in 2018. Similar trend is noticed with the number of students (see Table 2). The number of university students in Albania was 7.4 times higher than the number of professional school students in 2015 and it reduced by 6.6 times in 2019. These

Fig. 2 Ratio of university and professional school graduates and students (2014–2019) *Source* The data are from INSTAT (2019b)

Table 2 Enrolled in education (2014–2019)

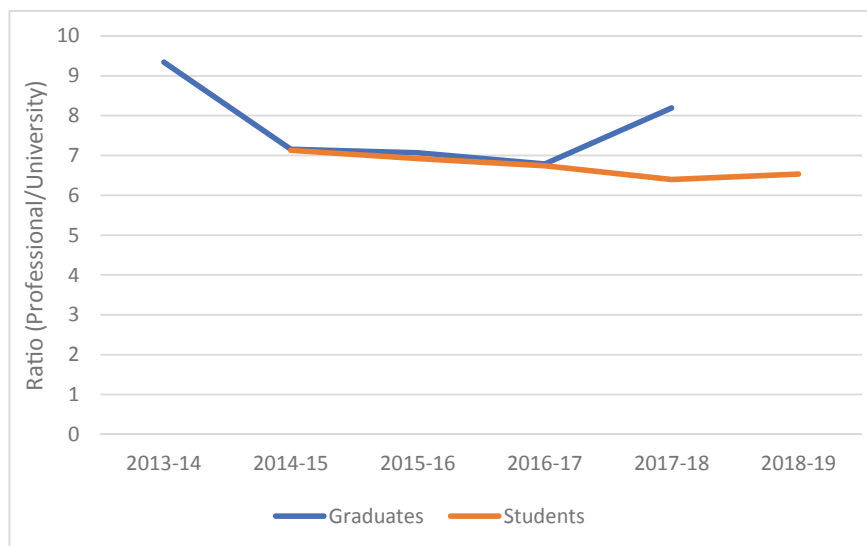|	Before the reform		After the reform		
Academic year	2014–15	2015–16	2016–17	2017–18	2018–19
Total:	888.530	835.159	804.902	772.654	757.809
Kindergartens	82.494	82.623	81.194	81.026	78.942
Basic education					
Primary	188.371	179.564	174.836	170.861	167.104
Lower secondary	175.037	163.935	153.264	148.810	139.426
Upper secondary	140.042	130.380	127.114	120.062	116.646
Gymnasium & socio-cultural	117.241	108.956	106.133	99.457	95.359
Vocational	22.801	21.424	20.981	20.605	21.289
Universities	162.544	148.277	141.410	131.833	139.043

Source The data are from INSTAT (2019b)

changes indicate that professional education tends to be a sustainable trend in the Albania's education system and a contributor to youth employment.

As predicted and discussed, the University Reform produced several significant results. For example, girls' education helped narrow the gender gap in employment. As a result, in 2018, the share of female students was 47% in basic education, 38.5% in secondary education and 59% in higher education. Also, the reform resulted in a higher number of female graduates (30%) compared to males (22%) (Statistical Yearbook, 2018). However, better access to education did not produce the expected results in narrowing the gender gap in employment. Women's employment rate in 2020 was 52.4% and men's employment rate was 66.7%. Female participation in the labor market and their market power is still weak in Albania. Women and girls have limited access to resources, knowledge, use of time and reconciliation between work and family life (INSTAT, 2020b).

With the implementation of the reform, public and private universities are becoming more competitive. Accreditation and ranking of universities are having a positive impact on reframing the "university supply" and narrowing the asymmetry between the labor market and education system.

Digital engagement by young people is also increasing. In 2012, Albanian children were ranked 2.5 school years behind the OECD average. While PISA results show improvement from 2012 to 2015 in math and sciences, the distance with OECD is reduced by half (OECD, 2012). However, a considerable part of Albanian young people continues to perceive technology as a luxury, not as an instrumental tool for personal development.

The reform led to the growth of budgetary resources for education. Public expenditure on education in Albania for 2018 accounted for 10.84% of total expenditure of state budget and a share of 3.17% of total GDP (Albania in Figures, 2019).

In 2018, around 34,000 students graduated from universities (Albania in Figures, 2019). The majority of them, referring to 2018–2019 academic year, about 70%,

Table 3 Students enrolled by field of study

Academic year	2014–15	2015–16	2016–17	2017–18	2018–19
Education	13.654	11.236	11.779	10.689	10.062
Arts and humanities	17.588	17.095	17.278	15.441	14.348
Social sciences, journalism and information	10.462	13.073	10.004	12.259	14.086
Business, administration and law	42.089	41.523	36.471	30.233	33.447
Natural sciences, mathematics and statistics	10.473	6.719	7.816	6.325	7.060
Information and communication technologies	9.560	8.260	7.487	8.228	10.016
Engineering, manufacturing and construction	18.728	18.005	18.480	18.730	20.019
Agriculture, forestry, fisheries and veterinary	10.171	8.383	7.086	4.564	4.999
Health and welfare	22.780	21.550	20.900	19.837	20.727
Services	5.022	2.433	2.306	3.088	4.279
Other	2.017	-	1.743	2.439	6.354
Total	162.544	148.277	141.410	131.833	139.043

Source The data are from Instat (2020c)

graduated in the following fields: Arts and Humanities; Social Sciences, Journalism and Information; Education, Business administration and Law; Health and Welfare, and Services (Instat, 2019c). The table below shows students' enrollment by field of study during 2014–2019 (Table 3).

In the 2018–2019 academic year, the preferred field of studies are the following: Business Administration and Law; Health and Welfare; Engineering, Manufacturing and Construction; Arts and Humanities; Social Sciences, Journalism and Information; Education; Information and Communication Technologies; Natural Sciences, Mathematics and Statistics; Agriculture, Forestry, Fisheries and Veterinary; and Services (Fig. 3).

The top field of study was Business Administration and Law, with a share of 28.4% of the total number of graduates. The second most preferred field of study was Health and Welfare with 14% of graduates. The third most preferred field of study was Social Sciences, Journalism and Information, with 10.3%. The rest of the fields were as following: Arts and Humanities (10.2%), Education (9.7%), Engineering, Manufacturing and Construction (9.6%), Information and Communication Technologies (6.8%), Natural Sciences, Mathematics and Statistics (4.3%), Agriculture, Forestry, Fisheries and Veterinary (4%), and Services (2.7%).
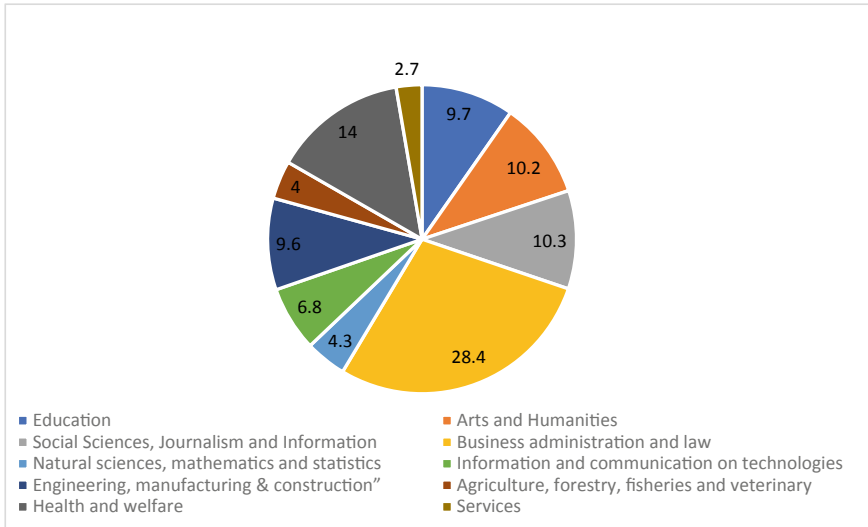
Fig. 3 Graduates by field of study (2018) *Source* The data are from Instat (2020c)

2.2 Employment and Skills Reform

The weak market power of university degrees and the low level of employment of university graduates were among the driving forces of the labor market reform.

According to the Business Environment and Business Performance Survey, more than half of the companies surveyed reported the lack of a skilled workforce as a barrier to their business development. In 2009, according to the Investment Climate Survey, 51% of large companies, 41% of exporters, and 48% of foreign-owned companies reported that lacking the right skills was a challenge for their businesses. Over 35% of companies that had introduced new technology indicated that workforce education was their biggest challenge. Moreover, three Needs Assessments Surveys conducted by the National Employment Service in 2008, 2010 and 2012 revealed that skills shortages were present in all sectors of the country's economy. Inadequate labor force qualification was a major problem for the vast majority of businesses operating in the agro-processing sector, extractive industries, and energy industry; whereas job seeker attitude/work culture was considered a major problem for almost half of the businesses operating in agriculture, trade, hotel and restaurant sectors, as well as in the education sector. According to these surveys, employers reported that it is very difficult to find certain qualifications in the labor market, while most of the currently qualified employees are over 55 years old and will soon have to be replaced (Country Strategy for Employment and Skills, 2014).

That said, the reform addressed the need for narrowing the gap between skill supply and labor market demand. The majority of the existing curricula offered limited opportunities for the application of new knowledge and skills. In some sectors,

the qualifications of the workforce did not match with the workplace requirements. There was also a shortage of qualified workforce in several sectors such as agriculture, agro-industry, tourism, construction, transportation, and information and communication technology.

2.2.1 The Goals

The Employment and Skills Reform intended to create more jobs in the Albanian economy, reduce informality, increase employment and decrease youth unemployment through remodeling the economic development, prioritizing sectors with higher job creation potentials and increasing labor market flexibility.

More specifically, the aforementioned reform was designed update the old curricula of professional education, improve the quality and performance of teachers in professional schools, improve the recruitment of qualified teachers, control the asymmetric distribution of professional schools across the country and encourage the establishment of professional schools and centers in rural areas.

Part of the Employment and Skills Reform was the VET system, which was also being addressed by the Universities Reform. It aimed to create a functional synergy between the labor market, employment and the VET system in the country.

2.2.2 Policy Actions

Below we will list some of the measures that were adopted by the Government under the Employment and Skills Reform.

(a) *Study fields*

Priorities within the reform agenda included reducing the relatively high number of students enrolled in study fields such as business administration, finance, law, foreign languages, and humanities; the high number of students enrolled in the above fields was seen as a factor of high level of unemployment rate among recent graduates. Offering tuition incentives was another strategy used by the Government. Tuition incentives were offered to students willing to choose majors that were less popular, but that would prepare them for the labor market.

(b) *Funding*

Educators frequently need outside resources to engage in meaningful professional development due to limited funding. Considering the limited financial resources, additional funding could be provided by educational institutions and private sector.

(c) *Dual education system*

One way of training for future occupation in several countries is by pursuing a dual vocational training programme; more specifically, combining apprenticeships in a company and vocational education at a professional school. This combination of

theory and practice offers plenty of opportunity for on-the-job training and work experience. Some of the professional schools in Albania started to implement the dual system, with particular focus on craftsmanship. The initial successful models of dual system are expected to continue the implementation of dual system in the whole country.

(d) *Extended collaboration*

Practices and strategies for enhancing learning included the need to initiate collaboration of professional schools with training centers. This collaboration contributed to consolidation of the synergy between professional education and training, in terms of curricula, qualifications, credit transfer and geographic distribution. Furthermore, some professional schools in Albania begun to serve as multifunctional centers, delivering education and professional training services. Also, the professional schools and professional training centers started to become more autonomous, more efficient in management and more present in different rural areas.

In regards to curricula improvement, professional schools and training centers included skills required to succeed as an entrepreneur, considering that about 96% of businesses in Albania are small and medium enterprises.

(e) *Study period*

Teachers had to adjust to several changes that took place in professional education, including the change of study period from five to four years. These changes were undertaken in order to be more flexible and aligned with the European Qualification Framework; more specifically, facilitating different levels of education: level I (one and two years); level II (one year after the basic professional education); and level III (one additional year after level II; or two additional years after level I; or four years after completion of mandatory nine years education).

(f) *Other measures*

Two additional measures taken under the reform included better coherence between the National System of Qualifications and qualifications offered by professional schools and training centers and establishment of career services/counseling in professional schools that are used by students to advance their careers (Country Strategy for Employment and Skills, 2014).

2.3 Impact

Employment and Skills Reform produced remarkable results. The unemployment rate in Albania reduced from 18.2% in 2014 to 12.5% in 2018. Similar trends were noticed in youth and higher education unemployment (Instat, 2019d).

The table below shows the dynamic of registered unemployed job-seekers from 2014 to 2019 (Table 4).

Table 4 Registered unemployed job-seekers (2015–2019)

Description	2015	2016	2017	2018	2019
Total	1,49,148	1,19,710	89,780	74,686	70,930
Males	73,184	59,790	42,386	35,535	33,702
Females	75,964	59,920	47,394	39,151	37,228
With primary education	78,400	63,900	50,250	42,676	39,582
With secondary education	59,001	47,187	34,260	27,102	26,062
With university education	11,747	8,623	5,270	4,908	5,286
16–19 years old	6,707	4,686	2,096	1,575	2,279
21–34 years old	51,258	37,125	23,148	18,650	18,594
35 years old and over	91,183	77,899	64,536	54,459	50,057

Source The data are from Instat (2019e)

Meanwhile, the figure below shows the decrease of the number of registered unemployed university graduates during 2015–2019 (Fig. 4).

With the increase of the number of university students in Information and Communication Technology (ICT), there has also been a growing demand for ICT professionals in the labor market. Reports show that, in 2017, the number of university students who majored in ICT increased five times compared to 2013 (The Ministry of Finance and Economy, 2018). Such a growth might be partly explained by the fact that the Albanian Government is offering the majority of public services online and individuals have to engage more with technology.

The VET system is surpassing inherited vulnerabilities such as being outdated and non-responsive to labor market needs, with limited resources and insufficient and outdated labs. The number of professional school graduates and VET centers
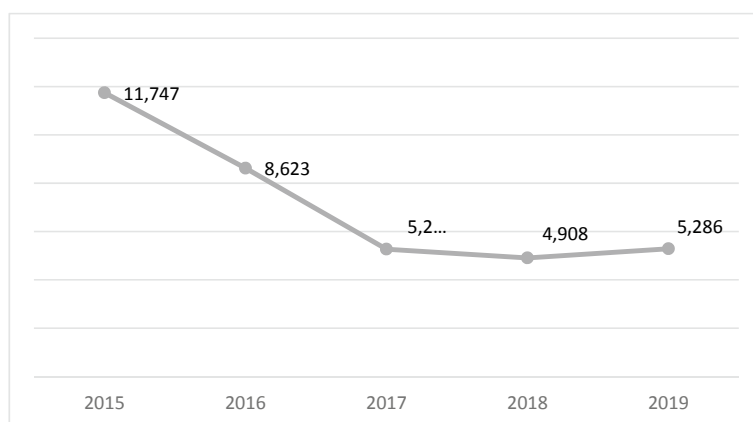

Fig. 4 Number of unemployed university graduates (2015–2019) *Source* The data are from Instat (2019f)

trainees has doubled. The professional school graduates consist of 20% of total number of graduates, compared to 15% in 2013. Around half of graduates and trainees are females. The number of professional school students in agriculture and agro-industries doubled. The government has planned the establishment of at least one professional school for each municipality of Albania. As a result, more students will be able to get the necessary qualification demanded by the labor market. Professional schools and VET centers are required to increase the number of existing teachers and take appropriate measures for their qualification and training (Ministry of Finance and Economy, 2018).

Each municipality will have at least one professional school, specialized in delivering knowledge and skills for entering the local labor markets. Therefore, teachers are required to expand their knowledge for local developments and local needs and also help trainees to adequately adapt to these needs with proper skills. In this way, professional school graduates and VET centers' trainees will become more productive and competitive beyond the local labor markets.

3 The Way Forward: Linking Better Education and Employment

Education, skills, employment and participation are the four principal avenues of the growth of economic and social competences of young people.

Youth unemployment level will continue to decrease through the support of start-up programs, better education and new skills as well as preferential pathways in the labor market for employment of young people.

The insufficient budgetary support for education remains a challenge. Public finances for education consist of 3.23% of the country's GDP, compared to 5.5% that is the lowest ratio of public spending on education for primary to post-secondary non-tertiary education in OECD countries (OECD, 2018). This figure is also far from the Government expectation that public spending on education will reach 5% of the country's GDP.

Another challenge for teachers comes from the new definition of the mission of education system: to provide knowledge, shape work and research skills and build competences to address individual and societal problems and to contribute to sustainable, inclusive and smart economic growth. The high number of young people having access to quality education and VET will ensure a sustainable growth. The particular and incentivized focus on industries and technologies will help young people to contribute to the knowledge economy.

Some of the most significant challenges in strengthening the synergy between labor market and employment are considered to be as follows:

(i) Limited resources mobilized to encourage learning of technology and natural sciences. Both university and high school system have students with a strong desire to study social sciences, which has resulted in having a very low number

of students interested in technology and natural sciences. One way of narrowing such a gap might be to offer scholarships to university students studying technology and natural sciences.

(ii) Improvement and consolidation of university degrees through accreditation and ranking might be another measure to help students choose the right schools and universities during the application process. The accreditation and ranking are still at the initial stage in Albania.

(iii) Universities might be more attractive to students if the market power of degrees they provide will increase. The market power and competitiveness of Albanian university degrees can be strengthened by prioritizing well-qualified students rather than massive admissions.

(iv) Public universities are more competitive in the labor market because of their academic staff and reputation; meanwhile, private universities compete by having the appropriate amount of financial resources and better infrastructure. However, the competitiveness will produce better quality of learning and skills if public universities will have more financial resources and private universities will have well-qualified academic staff and be more selective in their admission policies. In this way, the focus of competitiveness will shift from the number of students to the quality of education, market power of degrees and level of graduates' employment.

(v) A better synergy and collaboration between universities and industries in the country is needed. This will contribute to changing the balance between teaching and shaping skills at the Albanian universities. In doing so, students will gain not only theoretical knowledge but also practical skills that will make their access to labor market easier.

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Challenges of Professional Development and Potential Solutions: Policy Reforms of Higher Education Institutions in Mongolia

Bayartsetseg Batjav and Orkhon Gantogtokh

1 Mongolian Higher Education System

The higher education sector is regarded as a crucial means to help accelerate sustainable economic and social development in Mongolia. Mongolia has seen a remarkable expansion in its higher education since 1990 when Mongolia became a democratic country.

Between 1991 and 2021, the number of higher education institutions (HEIs) grew from 14 to 88, and the gross enrollment ratio in higher education grew from 14.0 to 66.0% (MES, 2021). The total number of students rose from some 20,000 to about 150,000 during the same period.

In 2021 a total of 147,293 students enrolled in Mongolia's 88 HEIs. 52.2% of the total students study at state-owned HEIs, 43.1% at private HEIs, and 4.7% at religious HEIs. By the type of higher education institutions, 42.0% of the total HEIs are universities, 54.6% institutes, 3.4% colleges and 6.3% branches of foreign HEIs (MES, 2021). In 2021 entrants into Mongolia's higher education institutions were as follows: 80.9% at bachelor programs, 16.8% at master programs, 2.2% at doctoral programs and 0.1% at diploma levels (MES, 2021).

The total number of employees in the Mongolian higher education sector is 12,000, and 59.7% (7143) of it is full-time academics (MES, 2021). Among the full-time faculty, female members outnumber male colleagues, composing 60.4% of the total. 59.9% of full-time faculty members work at state-run HEIs whereas 40.1% at private HEIs.

B. Batjav
Mongolian Institute of Educational Research, Ulaanbaatar, Mongolia
e-mail: bayartsetseg@mier.mn

O. Gantogtokh (✉)
Mongolian Academy for Higher Education Development, Ulaanbaatar, Mongolia
e-mail: orkhon@maed.mn

Although each institution sets out the qualification criteria concerning professional expertise, teaching, and research experience for recruiting their faculty members, the government sets the general requirements followed by every institution. As such, the minimum criteria are established to qualify as a faculty member: having at least a master's degree in the relevant subject area. 29.4% of the total full-time academics held PhD, and 65.9% had a master's degree (MECSS, 2017).

According to the Higher Education Law, academic positions are defined as assistant lecturer, lecturer, senior lecturer, associate professor, and professor. By the position categories, 6.1% of the total academics are teaching assistants, 41.4% are lecturers, 25.5% are senior lecturers, 10.4% are associate professors, and 8.2% are professors, 8.2% are others (MES, 2020). The rapid expansion of higher education led to an overall dramatic increase of university staff, and junior academic positions expanded much faster than the senior ones (Sukhbaatar, 2014). As a result, HEIs employ a large portion of assistant lecturers and lecturers who are in their earlier careers of the profession, while the professoriate comprises less than a quarter of the academic community (Sukhbaatar, 2014). The situation is much more evident in private institutions compared to those in state-owned universities (Sukhbaatar, 2014).

The Mongolian higher education has been working on addressing the issue of 'low-cost, low-quality academic programs' which are often not relevant to the labour market (World Bank, 2010). Graduate unemployment is a major issue given that an estimated 40% of higher education graduates were unemployed (MECSS, 2017). To address the issues around academic programs, Mongolian universities have been undertaking major curriculum reforms since 2014, primarily by placing more emphasis on upgrading general education, promoting outcome-based education, and broadening narrowly-defined undergraduate programs (Gantogtokh, 2018a). However, many of these reforms have been attempted without adequate capacity building, and have achieved little. Even though program structures have been changed, the courses are designed and delivered in ways that are still content-heavy, incoherent, and teacher-centered. Therefore, the professional development of academic staff is a crucial prerequisite for an effective curriculum change. Consequently, public HEIs are establishing faculty development centres and internal quality assurance units to facilitate the deep-rooted implementation of the change (Gantogtokh, 2018b).

2   Existing Professional Development Practice

Learning from the best practices of the world top universities where faculty professional development is a crucial means to develop academic excellence in teaching and research (Jacob et al., 2015), Mongolian HEIs have been establishing faculty development centres since 2014 to support the continuous professional development of academics. However, faculty development centres are not evenly available to academics and universities across Mongolia. As of 2018, only a few HEIs established their faculty development centres. According to the study on the faculty development

centres of Mongolian HEIs conducted by the Mongolian Institute of Educational Research (MIER, 2018), key activities of the centres include training, visiting professorship, consulting, teacher exchange, and best practice exchange forums. Centres are more engaged with professional development training as their major activity. Training is mainly directed towards improving academics' instructional design and teaching and research competency, and digital and foreign language skills. They also conduct special training for new faculty members. Young faculty members' participation in training is much higher than experienced academics' engagement (MIER, 2018). One of the key reasons for the inadequate participation of experienced academics in faculty development training is that most academics who have more teaching hours simply do not have time for professional development in their packed teaching schedule. They also claim that they spend a great deal of time on administrative paperwork instead of their professional development (MIER, 2018). This implies that there is no formal policy and plan dedicated to faculty professional development which should be reflected in the scheduling and faculty performance management system. They also point out they do not find the training provided by the centres useful and effective.

To increase the participation of more experienced academics, the centres need to offer more innovative training programs. In other words, there is a high demand to update the content and delivery of educational development programs at the faculty development centres. Faculty members want to improve not only technical skills of teaching and research, but also soft skills such as leadership, risk and stress management, teamwork, and interpersonal skills. Even though faculty development centres offer diverse training, they have not seen a considerable impact on student learning and student satisfaction. Faculty members hardly put what they have learned into practice either. They still cling to traditional teaching. Well-designed, sustained programs of study rather than short, one-off professional development workshops usually have an impact on the teaching practices of academics (Ramsden, 1994). As these faculty development centres are still at the immature stage of development, they need more support and sustained funding from the central administration and they also need to incorporate their annual plan with the national and university policy and strategic plans on faculty development (MIER, 2018).

Heads of centres emphasized four main challenges they faced to sustain centres' activities: financial burden, incompetent human resource, lack of belief and cooperative attitude of staff, and lack of support from the central administration of university due to their instability and bad governance. Therefore, there is a high demand to build capacity at faculty development centres so that they provide quality professional development training to make a change in teaching and learning (MIER, 2018). It also implies that a national-level policy to allocate funding for professional development and to support faculty development centres is much needed to sustain and improve their activities.

3   Rationale and Aim of a Baseline Survey

The National Forum for Higher Education 2018 led by the Minister of Education, Culture, Science, and Sports of Mongolia emphasized that the quality of learning is determined by the proficiency of teachers and their professional development (MECSS, 2018). The government policy on education (2014–2024) states that certain reform actions at the system level will be implemented through improving pre-service and in-service training for academics and continuous professional development and evaluation of academics as well as establishing a human resource development system that supports the sustainable development of academics in HEIs. In the absence of continuous professional development, academics tend to use old teaching methods that are more teacher-centred rather than student-centred, and the research outcome of academics is limited.

The following measures related to the professional development of academics are planned in the action program of the cabinet through the national programs to build up research-intensive universities and to establish an outcome-based education system: (1) to upgrade the criteria and requirements of academics' proficiency; (2) to improve training for new members of faculty; (3) to improve teaching and curriculum design skills of faculty; (4) to improve the condition of continuous professional development of faculty in their workplace, and (5) to establish a national level performance-based system to assess research and teaching outcome of faculty members.

Furthermore, several legislations are set concerning the proficiency of faculty: Higher Education Law[1] sets the requirements for qualification, rights, and responsibilities of a faculty member, ranking of academic positions and professorate titles. Orders[2] by the Minister of Education, Culture and Science set the common criteria and requirements for academic positions of teachers in HEIs, professional ethics of faculty of HEIs including qualifications, the years of service, competencies, research outcomes, teaching skills, ethics, and achievements. The criteria of attestation of different ranks of academics include five pillars of competencies such as subject-matter expert knowledge and skills, teaching skills and attitude, research skills and ethics, contribution to the disciplinary development and contribution to the wider society as an educationalist.

Several models and criteria have been developed to determine the professional development of HE teaching staff including issues of ethics of academic staff and their social responsibility (Begz, 2006), criteria of professional development (Jadamba, 2009), and faculty development model (Ted & Luvsandorj, 2015). The twenty-first century 'scholarly teacher' model (Jadamba et al., 2018) provides insight for a more dynamic system that strikes the balance between the quality of research, the quality of teaching and the quality of attitude. However, all these models are not formally approved or adopted by all HEIs.

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[1] Articles 13 and 14 of Chap. 7 of the Higher Education Law.

[2] Order numbers A270 of 2020, 139 of 2003, 401 of 2007, and 482 of 2006 by the Minister of Education, Culture and Science.

To implement and enforce the relevant policies and legislation including the Government Policy on Education, the Higher Education Law, the Concept of Sustainable Development of Mongolia-2030, and the Action Program of the Cabinet, the government needs to formulate a national policy and legislation for professional development of academics. For this purpose, the Mongolian Institute of Educational Research conducted the baseline survey which aims to identify professional development needs of academics at Mongolian HEIs, find out challenges and solutions to the issues around the professional development of academics, and reflect them in the formulation of the Law of Teacher Professional Development. The key research questions include:

- How satisfied are faculty members with the status of their position?
- What are the priority areas of professional development for faculty members?
- What challenges do they face in their professional development?
- How reflective are they in their practice?
- What do academics believe that the government should do for their professional development?
- What do academics believe that HEIs should do for their professional development?
- What do academics believe that they should do for their professional development?
- What are the solutions they recommend to address the challenges?

4 Method

A needs analysis of faculty development of Mongolian HEIs was conducted by a survey method of exploring how academics' beliefs and conceptions of faculty development and their assessment of faculty development needs for themselves through 'participants' perceptions, meanings, and definitions of situations and constructions of reality (Punch & Oancea, 2014). The survey questions were developed in four stages: First, the working team involving HE experts and researchers drafted survey questions reflecting triangulation; in the second stage, external participants who are professionals from the faculty development centres in HEIs revised the draft survey questions; in the third stage, the survey was piloted involving 50 randomly selected faculty members of HEIs. Based on the pilot survey results, the survey questions enclosed in Appendix 1 were finalized. The baseline study was conducted through paper-based surveys as well as individual and focus group interviews.

Quota selection was applied, identifying the major subgroups, and then taking samples from each subgroup (Goetz & LeCompte, 1984). The major subgroups were identified taking account of institutional and individual characteristics. Informants were sub-grouped by the type of HEIs (university, institution, and college), location, public or private, and years of establishment. The individual selection was made by age, experience, discipline, and proficiency level. There were 782 informants, 10% of the total academic population of Mongolian HEIs, including academics from all types of HEIs in Mongolia. The purpose of the survey, confidentiality and

anonymity of the study were informed to the participants and the informants who voluntarily participated in the survey. Online invitations to participate in the survey were distributed to faculty members through the faculty development centres of the chosen HEIs.

A reputational case selection strategy was used for the selection of informants before data collection (Goetz & LeCompte, 1984). Informants were chosen on the recommendation by the faculty development centres and provosts in charge of academic affairs. A total of 782 academics participated in the baseline survey to determine needs, challenges, and solutions regarding the professional development of the faculty of HEIs at the national level. Tables 1, 2, 3 and Fig. 1 shows the demographic characteristics of faculty members.

Table 1 Informants' positions and discipline areas (by percentage)

Academic ranks	Total	Discipline areas				
		Natural sciences	Social sciences	Engineering	Humanities	Medical sciences
Teaching assistant	75	20	24	16	18.7	21.3
Lecturer	289	20.1	22.8	19.7	18.7	18.7
Senior lecturer	237	19.8	21.5	19	19.4	20.3
Associate professor	127	17.3	22	18.9	21.3	20.5
Professor	51	23.5	29.4	21.6	5.88	17.6
Leading professor	3	33.3	33.3	0	0	33.3

Table 2 Informants by location of university and type of university

Location of HEIs	Percent	Type of HEIs	Percent
Urban	87.5	Private HEIs	21.4
Rural	12.5	State-owned HEIs	78.6

Table 3 Informants by position ranks

Rank of position	Frequency	Percent
Teaching assistant	75	9.6
Lecturer	289	37.0
Senior lecturer	237	30.3
Associate professor	127	16.2
Professor	51	6.5
Leading professor	3	0.4
Total	782	100.0

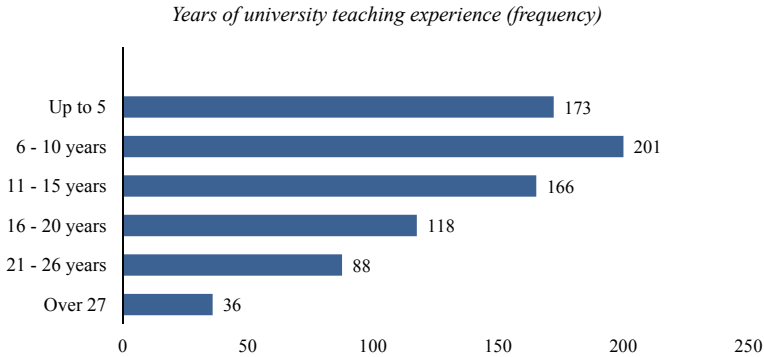*Years of university teaching experience (frequency)*

Fig. 1 Informants by job experience

Most HEIs are in urban areas so the distribution is an actual representative of academic populations' location as shown in Table 2. However, the distribution of informants from private and state-owned HEIs is not the actual representative of the population which is 40% working in private and 60% in state-owned HEIs. The reason is that faculty members from the state-owned HEIs were more responsive to participate in the survey because established faculty development centres in public universities were more active than in private HEIs to reach their faculty members and promote the significance of participating in the survey.

The distributions are nearly representative of the actual population of academics by academic ranks as shown in Table 3.

5   Key Findings

Before finding out the priority areas of professional development needs of faculty members, the initial survey questions are directed towards understanding academics' job satisfaction and their reflection on course evaluation by students. Then, the survey questions are intended to find out what the most important areas of professional development for academics are. Because of the ever-increasing significance of academics' information technology skills in the digital era, there is a separate question to find out how professors perceive this skill. The last questions are to find out obstacles and barriers academics encounter in their professional development practice, and their opinions on how to address these issues for improvement at the policy, institutional and personal levels.

5.1 Faculty Member Status of HEIs

Most faculty members want to work as 'lecturer researcher', which indicates that they prefer spending more time on teaching than research. This result is aligned with the degree level of the faculty members, and the majority of those who hold a master's degree. Those who hold doctoral degrees want to work as 'researcher lecturer', which indicates that they want to give more time to research and less to teaching (Table 4).

5.2 Satisfaction with Being a Lecturer

Most respondents are passionate about their university lecturing duties (Table 5).

5.3 Most Important Competencies Needed for the Professional Development of Academics

Academics' responses to the question about the development needs of the key competencies highlight research skills, foreign language skills, field-specific knowledge and

Table 4 Faculty member status

In which status do you want to work as an academic?		
	Frequency	Percent
Lecturer	69	8.8
Lecturer researcher	414	52.9
Specialist–lecturer	5	0.6
Researcher	13	1.7
Researcher lecturer	281	35.9
	782	100.0

Table 5 Faculty members' satisfaction with being a lecturer

How much are you satisfied with being a university lecturer?		
	Frequency	Percent
Much	395	50.5
Great	345	44.1
No	2	0.3
Don't know how to answer	40	5.1
Total	782	100.0

skills, teaching skills, information technology, and teamwork and communication skills (Table 6).

5.4   The Use of Information Technology in Teaching

The most popular uses of digital technology among professors are using PowerPoint presentations in their lectures and seminars, using digital tools in administrative tasks such as registration, assessment, and curriculum plan, and using digital access to publications for their research (Table 7).

5.5   Effect of a Student Satisfaction Survey

60% of the participants respond that a student satisfaction survey is an effective instrument to reflect on their teaching (Table 8).

Table 6   Most desired competencies needed for academics' professional development

№	Knowledge and skills	Frequency	Percent
1	Research skills	523	67
2	Foreign language	445	57
3	Field-specific knowledge and skills	418	53
4	Teaching skills	286	37
5	Information technology skills	179	23
6	Teamwork skills	115	15
7	Communication skills	96	12

Table 7   How do you use the advancement of ICT in your everyday work?

ICT uses	Percent
PowerPoint presentations in their lectures	84
Register students and assess their assignments	83
Revise their curriculum by enriching content and resources	83
Use online resources such as access to publications for their research	73
Do online courses and learn best practices for their professional development	57
Give and receive students' assignments online	55.9
Use a variety of online applications such as professional software in their work	38
Run work-related blogs and online groups	37
Provide online courses	34

Table 8 Impact of the student satisfaction survey

Do you think that a student satisfaction survey is a good basis for academics to evaluate themselves and improve their teaching?		
	Frequency	Percent
Don't know	99	12.7
Yes	472	60.4
No	211	27.0
Total	782	100.0

5.6 Challenges Encountered for Teacher Development of HEIs

Academics share the difficulties they encounter in their professional development and they emphasize the following eight challenges (Table 9).

Most of the respondents point out that the number one obstacle they encounter is that they simply do not have time for their professional development because their teaching hours are usually overlapped with staff and educational development training and conferences.

Over 80% of the survey participants respond that they spend too much time on administration duties which hinders them to spend enough time for their professional development.

The same number of academics believe that the lack of collaboration and coherence between departments and faculties badly affect their professional development.

Again over 80% of the respondents emphasize the lack of financial and material resources including lack of availability and accessibility of professional resource materials in teaching and learning and educational studies in their mother tongue and inadequate funding for faculty members to attend and present at professional conferences. Over 70% of the respondents point out that there is a lack of financial support to enable faculty members to publish their research papers in journals with

Table 9 Challenges faced by academics in their professional development

№	Obstacles	Percent
1	Overlapping of teaching hours with professional development opportunities	96
2	Too much time spent on administration duties	88
3	Lack of collaboration and coherence at the workplace	88
4	Insufficient resource materials in teaching and learning in the mother tongue	84
5	Inadequate funding to support conference participation	82
6	Lack of financial support for sponsoring publication	76
7	Instability of governance and management of the university	74
8	Lack of competency to meet the criteria for personal development opportunities	55

high impact factors. Some of the costs, associated with publishing papers especially in natural sciences include costs on laboratory test, data collection, software license, access to highly ranked journals, publication fee, conference participation, and hiring of research assistants etc.

Over 70% of the academics respond that the instability of governance and management of the university hurts overall academic performance and professional development of faculty. Non-merit-based recruitment and selection of executive team discourage faculty members to continue their professional development.

Over half of the participants emphasize their lack of competency to meet the requirements and criteria for opportunities for research projects, scholarships, and professional development from time to time. Especially they point out their language incompetency.

In interviews with faculty members, some of the interviewees point out that there is pressure from the management team to limit their academic engagements with external institutions. The academics insist that there should be a clear policy to support the mobility of academics. They argue that the mobility of academics should be seen as a professional development activity. They want their management team to understand their engagements with external professional activities.

5.7 Solutions to Address the Challenges of Professional Development of Academics

Academics share their opinions on how to address the challenges for their professional development at policy-making, institutional and individual levels. First, over half of the survey participants perceive that decision-makers should develop the national policy for 'professional development of academics', establish an internal quality assurance system of academic programs, and ensure the stability of university policy for faculty professional development through good governance as top three measures (Table 10).

Second, academics provide their recommendations for corrective measures of what HEIs should do at the institutional level to support the professional development of academics. They emphasize academic mobility and financial support.

Table 10 Corrective measures at the policy level

№	Measures	Percent
1	To determine the national policy for the professional development of academics	58.4
2	To operationalize the national student satisfaction survey, make it multifaceted and reflect its results in the professional development of academics	57.4
3	To improve the university governance to ensure its stability and autonomy, so that it will be able to be consistently supporting the professional development of academics	54.2

Table 11 Corrective measures at the institutional level

№	Measures	Percent
1	To support mobility of academics and ensure academic freedom	72.1
2	To provide financial support for the publication of textbooks and handbooks	65.1
3	To provide financial support to enable academics to test their research work for production (start-up)	64.3
4	To provide financial support to enable academics to present at conferences abroad	62.2
5	To provide budget allocations to departments and professors' teams to use for their professional development	57.0
6	To provide financial support to invite visiting professors	51.7

They believe that there should be a better and clear policy to support the mobility of academics allowing them to participate in the research projects with external partners, work as a visiting or adjunct professor, and provide consultancy services without jeopardizing their main duties. They also point out that there should be more financial resources to support academics with their publications and to enable them to test their research work for production and to support presenting their works in conferences abroad, which would be a more effective way of professional development rather than attending the training. Furthermore, they respond that there should be the provision of budget allocation to each department for the professional development of their members. They recommend that HEIs should allocate a budget to invite foreign visiting professors for faculty development (Table 11).

The survey participants also share their opinions on what they should do at the individual level to support their professional development. They emphasize attending training and seminars regularly as the most important activity they should do more often. They also stress increasing their research outputs, writing books and handbooks, and publishing research papers on journals with high impact factors. Most faculty members who hold master's degrees prioritize upgrading their degrees to doctoral degrees. The academics expressed wish to build their research capacity by presenting at research conferences, implementing research projects independently, and as a team, working in international research projects and upgrading their research methods and skills. They also think they should continuously enhance their teaching and information technology skills. To extend their academic networking, they should keep their collaborations with international and national academics (Table 12).

6 Discussion

Higher education reform efforts in quality assurance call for qualified and competent academic staff so that the quality of higher education is enhanced. This baseline survey was conducted to find out the needs of professional development of faculty

Table 12 Corrective measures at the personal level

№	Measures	Percent
1	To attend training and seminars regularly	69.8
2	To write books and handbooks	68.6
3	To publish research papers on journals with high impact factor	66.5
4	To upgrade their degrees	61.7
5	To present at research conferences	61.3
6	To implement research projects independently, and as a team	59.0
7	To work on international research projects	58.4
8	To keep collaborations with international and national academics	58.0
9	To upgrade research methods and skills	53.9
10	To enhance their teaching skills	53.9
11	To upgrade their information technology skills	51.7

members of Mongolian HEIs, to identify the issues and challenges around the faculty professional development and recommend solutions on how to address the issues.

6.1 Why not Research?

It appears that there are three main reasons why the faculty members who participated in the survey prefer spending more time on teaching than research indicating that they want to work as 'lecturer researcher' or 'lecturer' rather than 'researcher lecturer' or 'researcher'.

6.1.1 Lack of Collaborative Research Opportunities

First, like in many other Asian countries, the massification of higher education in Mongolia has created a challenge to offer high-quality instruction with an under-qualified faculty workforce (Altbach, 2003; ADB, 2011; Jacob et al., 2015). The majority of faculty members in Mongolian HEIs hold master's degrees, most of whom are trained in the home country. Many of them are also employed by the same HEIs they graduated, just after their graduation, especially in private HEIs. Consequently, they do not have much exposure to the broader academic world, which results in a lack of innovation in teaching and research. Master-degree holding teachers are not much engaged with research so they lack opportunities to improve their research skills in practice. The fact that more academics want to work as 'lecturer researcher' does not mean that the quality of teaching is better in Mongolian HEIs. As mentioned earlier, teaching is generally rather traditional and teacher-centered.

The studies show that doing research and publishing their work is stressful for the teaching-focused faculty members (Griffiths et al., 2014; Guberman & Mcdossi, 2019). Thus, they seem to be more comfortable with their more-teaching oriented positions as indicated in the survey questions. Faculty members engaged with more of teaching lack understanding and experience of how research contributes to their teaching practices (Guberman & Mcdossi, 2019). This issue is not only about the under-qualification of faculty members but also a more fundamental question of what university is all about. Many HEIs in Mongolia have the ambition to be called research university but they are conditioned to be teaching-only universities. As there is no obligation of research in these universities, many of which are small private HEIs and do not need to employ highly qualified academics. They offer more professionally-oriented courses, similar to vocational colleges or even high schools where teaching is practised without research. Can we call them universities simply because they offer degree courses to adults? Can an educational institution without a research function be called a university?

The university is the place where professors and students share their learning, and generate constant critical discourse in a process of pursuing knowledge rather than transmitting knowledge from professors to students as a product (Delanty, 2001). It appears that in teaching universities, there is a tendency of 'transmitting knowledge as product' in part due to a lack of the active atmosphere of critical discourse. The critical atmosphere is generated by teachers' active engagement with the wider disciplinary community, and their overall professional competency. Faculty members corporately have a responsibility to assist in keeping alive the research tradition, but that does not mean that there is an obligation on individuals to conduct research (Barnett, 1990). However, every faculty member has a professional obligation to constantly update his/her understanding of the key conversations going on in the research community. Furthermore, faculty members should be able to interpret other researchers' viewpoints with their critical commentary to share it with students and generate a critical atmosphere in class (*ibid*). In the teaching universities, such an atmosphere is questionable because, in reality, these universities cannot always attract the most qualified faculty members and there is a shortage of qualified people.

Participating in research projects and learning from more experienced peers in collaborative research is one of the most effective ways of professional development (Flores, 2016; Guberman & Mcdossi, 2019). However, such a collaborative research environment is not often available to faculty members of Mongolian HEIs. This suggests that policymakers and HEI leadership should create and support more collaborative research opportunities for faculty members who are stuck in their teaching-focused positions. The faculty members who participated in the survey also indicated that research skill is the most desired competency to develop. This implies that faculty members are fully aware of the need to be more engaged with research to accomplish high academic standards as a university professor and improve the skill.

6.1.2 Shortage of Time

The second reason is that faculty members simply do not have time for research in reality as the mass higher education overloads faculty members with substantially more teaching and administrative responsibilities (Jacob et al., 2015), which will be discussed more in details later on. The third reason is associated with faculty members' income. Like in many other Asian universities, salary structures are based on the number of teaching hours faculty members complete each semester/term/quarter (Jacob et al., 2015). From a monetary perspective, the faculty members prefer getting paid for extra hours of teaching rather than spending their time on underpaid research activities as their salary rate is not competitive enough.

As mentioned earlier, while most of the faculty members prioritize research as the most desired skill for their professional development, many of them also wanted to improve their foreign language skill, especially the English language, which is the international language of science and technology. Inadequate English language abilities are one of the key issues among many that prevent Asian faculty members from accomplishing higher academic standards (Altbach, 2003; Asian Development Bank, 2010). Over half of the survey participants emphasized their language incompetency as one of the major obstacles in their professional development because they could not meet the language requirements for opportunities such as international research projects, scholarships, and professional development training. Being engaged with the international community of the field by publishing in international journals, participating and presenting at international conferences, updating their field-specific knowledge with the latest international works, participating in joint international research projects, and working as a visiting professor are highly effective professional development activities but without foreign-language skills, faculty members are left behind of such opportunities. Hence faculty members are aware of its necessity for their professional development. However, most HEIs have left this skill to individuals for years and the progress is rather slow. Consequently, it is recommended that HEIs implement a university-wide program to improve faculty foreign language skills by providing support services, ongoing language training and incentives to high achievers so that they will be able to expect more tangible progress in the university research output and international collaboration.

The survey informants put the field-specific knowledge and skills as the third most desired competency. This is well-aligned with their priority needs of research skills. As most faculty members are teaching-focused, they are eager to update their knowledge and skills with cutting-edge research findings and they want to update the curriculum. The fourth industrial revolution has brought unprecedented changes to the labour market, but academics who are sitting in an 'ivory tower', being isolated from the industry, need to update their knowledge and skills to keep with the pace of rapid change. Hence, faculty members are aware of the out-of-date content of the curriculum and need to improve their field-specific knowledge and skills to update the curriculum. This again implies that the professional development strategy needs to give more focus on the research activity of faculty members so that they will be able to keep up with the development of knowledge and enrich their teaching.

Subject and teacher-centred approaches that do not stimulate desired high-quality learning experiences are still dominant in Mongolian HEIs, so the informants seem unaware of their teaching as an issue and only one-third of the respondents indicated that they need professional development support to improve their pedagogical skills. In contrast, there has been a global trend to value the importance of classroom teaching for quality education, which is critical for the future of higher education (Pleschová, 2012). HEIs have established teacher development programmes for academics to advance teaching and learning in higher education. Thus, based on the European best practices (Pleschová, 2012), it is recommended that Mongolian HEIs take the following steps: define professional standards for higher education teachers; measure teaching effectiveness and provide constructive feedback for academics; establish the institutional support base for educational development locally; recognise teaching excellence in hiring and promotion decisions; recognise research on teaching as a research activity; allocate meaningful funding for educational development; and establish an educational development forum or platform to share resources and existing expertise.

An emerging crucial aspect of a professional development initiative in Asian HEIs is educational technology, with a special emphasis placed on research and teaching with multi-media support (Asian Development Bank, 2011; UNESCO, 2011; Azhar & Shahid, 2014; Jacob et al., 2015). However, embedding educational technology into curriculum design as well as active learning practices remain at a low level and there is less attention to it from the central administration of HEIs (Jacob et al., 2015). This was echoed in the Mongolian higher education context. In the survey, most academics use ICT for technical purposes to register and assess students rather than supporting their learning through ICT. However, during the quarantine due to Covid-19, academics had no other choice but to transfer to the fully online mode, which happened overnight. To deliver courses fully online, academics' digital skills became paramount. During the pandemic, faculty members have greatly improved their educational technology skills through learning by doing. Nonetheless, there is a greater demand for proper professional development programs to help academics with their use of ICT to enhance teaching and learning, for example, through blended learning, flipped classroom and simulations to deliver online courses more professionally.

A student satisfaction survey can be a good basis for faculty members to evaluate their teaching and learn about areas in which they need to improve. This is an internal quality assurance (IQA) tool for them to reflect on and revise the curriculum as well as to improve their skills. However, 40% of faculty members who participated in the survey were unsure of the effect of the tool. This implies they do not often reflect on the surveys or that the survey method is not so effective. The IQA is at an early stage of development in Mongolian HEIs so faculty members have not implemented the IQA tools in their everyday work (Saruul, 2021). The student satisfaction survey is taken in most HEIs but its effect is not clear as the data analysis part seems missing. Data is collected in the central administration office for reporting rather than being analysed by the faculty peers to reflect on for improvement. Therefore, it is recommended that faculty development centres and IQA units at Mongolian HEIs train faculty members

on how to effectively use the student satisfaction and course evaluation surveys as an IQA tool to improve their teaching and research.

The top obstacle faculty members encounter in their professional development is a shortage of time they can dedicate to their personal skills development. Mongolian HEIs are facing the same challenge as other Asian HEIs where faculty members are required to teach more classes, and become involved in many administrative duties (Jacob et al., 2015). As a result, faculty professional development tends to be seen as 'luxury' rather than necessity (Jacob et al., 2015). This suggests that Mongolian HEs should reconfigure the current workload of teaching staff, which would enable them to have more space to engage in professional learning. This will be a long-term strategic decision for HEIs to improve the quality of teaching rather than a short-term fix.

6.1.3 Inadequate Funding Support

Another reason for less engagement of academics in professional development programmes is associated with funding. Studies show that professional development programs in Asian HEIs including Mongolia are under-funded so faculty members seeking academic/professional self-enrichment have to rely on self-funding in many cases (Jacob et al., 2015). Thus, they indicated that funding to support their participation in conferences and publications was crucial for their professional development. Different types of reward and incentive systems to encourage faculty members' engagement with professional learning is paramount (*ibid*). Hence, it is recommended that Mongolian HEIs allocate more funding for professional development and introduce different types of rewards to promote faculty professional development.

6.2 Obstacles to Professional Development

Faculty members also identified the key obstacles to their professional development. They are mainly associated with the university governance, academic management, and the power relations within the institution.

6.2.1 Un-Collaborative Environment

Some respondents saw un-collaborative environment among faculties and departments as a major obstacle to their development. They insist on collaborative research and peer learning as an important professional development aspect, but boundaries between 'disciplinary tribes' (Becher & Trowler, 2001) and the fragmented departments hinder their learning from each other for the collective benefits. Collaborative research, informed teamwork and support by college leadership are crucial for improving teaching and overcoming fragmentation (Flores, 2016). Faculty members

could form faculty learning communities (FLCs), which are composed of faculty members from different departments who are committed to improving teaching (Ward & Selvester, 2015). Such interdisciplinary composition promotes a more collaborative atmosphere for professional development. Mentoring is another effective way of professional development where experienced academics mentor the novice through team research projects, peer review and instructional feedback (Griffiths et al., 2014). Thus, it is recommended that professional development centres at Mongolian HEIs offer educational development activities that promote more collaborative professional development.

6.2.2 Lack of Motivation for Informal Learning and Experiential Learning

More informal learning opportunities and experiential learning contribute to the everyday professional practice of faculty members (Czerniawski et al., 2017). However, the survey participants emphasize attending more formal professional development programs such as training and seminars regularly as the most important professional development activity. It seems they are not fully aware of current trends in professional learning. There are many effective informal learning opportunities. For example, faculty members can enrich themselves professionally by participating in external activities, such as working in policy development, consultancy and social awareness activities. For instance, a collaboration between faculty members from different institutions and policy-makers through institutional Communities of Practice (CoP) resulted in expansive learning, which occurred due to a shared vision, reflective and critical dialogue, trusting relationship, and mutual support among participants. Thus, both formal and informal professional development activities need to be understood at the management level of Mongolian HEIs and they should develop a clear policy and procedure to support such informal professional learning of faculty members. Academics believe that a policy to support academic mobility is an important factor to enhance their professional development. This shows that academics see the significance of academic networking and collaboration with external partners for their professional development.

6.2.3 Lack of Resource Materials in Teaching and Learning

As faculty professional development is still in the early stage of development, there is a lack of resource materials in teaching and learning and educational studies in the Mongolian language. Thus, it is recommended that faculty development centres of the key universities should work together to develop and translate resource materials into the Mongolian language for the collective good of sharing knowledge.

6.2.4 Weak Governance

The respondents emphasize the weak governance which adversely affects the overall human resource management of Mongolian HEIs. Mongolia adopted the shared governance system to ensure autonomy and self-sufficiency of its higher education institutions at the institutional level (Munkh-Erdene, 2008). However, the state-run universities have not achieved the desired autonomy due to unstable politics. Higher education policy, law, and regulations regarding governance have changed back and forth adversely affecting leadership, management, and overall performance of state universities (Gantogtokh, 2018b). This resulted in unstable structure and inconsistent support for the recently established professional development centres of HEIs and discouragement of motivation for professional development among academics. Hence, it is recommended that higher education policymakers and legislators amend the current HE Law to grant autonomy to state-run universities and eliminate the politically biased unmerited recruitment practices in HEIs. Furthermore, studies on the best practices of professional development programs in the world top universities find that effective professional development centres require top-level administrative support accompanied by financial and institutional support from the university's central administration to prove that professional development is considered central to the university's mission, rather than an outlier unit/department within the institution (Jacob et al., 2015). It is also recommended that a senior university administrator in charge of academic affairs should lead the centre so that the centre's function is not seen as secondary and reach out to all departments and faculty members (Jacob et al., 2015).

7 Conclusion

The survey generated the following recommendations for the improvement of professional development centres in Mongolian HEIs, which is mostly consistent with findings from a study on the best practices of professional development centres of the world top universities. (Jacob et al, 2015):

(1) To sustain institutional and financial support for professional development centres from central administration of HEIs;
(2) To build-up consultative and collaborative atmosphere at professional development centres where administrators need to be able to adapt to the many different challenges that faculty members and departments from many different backgrounds face, and work cooperatively with faculty members;
(3) To be able to offer one-to-one, walk-in services to meet the unique needs of faculty members;
(4) The faculty members who have the same improvement areas come together to overcome these issues through their synergy and peer learning with support from professional development centres;

(5) To link learning resource materials and online training materials at professional development centres with the central university library so that faculty members have full access to the resource materials online;

(6) To offer instructional feedback from professional development centres, involving peers is an effective tool to improve faculty members' teaching and curriculum design;

(7) To offer multiple professional development options such as individual counselling and mentoring services, online training seminars, podcasts and links to white papers on latest technology trends, peer reviews, courses on optimal use of research and instructional best practices, access to the latest hardware and research and instructional software, and university wide training workshops;

(8) To improve faculty members' educational technology skills to prepare them for fully online mode of teaching whenever needed or offer blended courses;

(9) To get faculty members updated on the latest developments in educational technology and equip them with innovative solutions in their teaching and research;

(10) To have reward and incentive systems to motivate faculty members and educational developers to be engaged with professional development.

In addition, the following actions will also help enhance the professional development of faculty in HEIs, which are aligned with the findings from the parallel meeting on the professional development of academics at the Second National Forum for Higher Education Development where many academics had chances to express their professional development needs.

- To establish a professional development system for higher education teachers;
- To increase the critical mass of competent and internationally recognized faculty members through professional development programs, projects and scholarships;
- To improve academic management skills of highly regarded faculty members and to promote them to executive positions;
- To utilize the advancement of human resource management to recruit, develop and retain the best talents; to promote the culture of knowledge exchange and collaboration and values of faculty members;
- And to learn from the world best practices of faculty development policy and programs, criteria and standards for HE teaching staff; improve legal and policy documents about HE teaching staff including faculty member's status and professional standards and criteria for HE lecturers.

All in all, professional development is only a part of human resource management. The findings and discussion of this study imply that the strategic national policy of human resource development of HEIs and human resource management to recruit, develop and retain the best talents at HEIs exists has not been implemented effectively in the practice of the Mongolian HE sector. Hence, without such national-level, strategic and systematic development, professional development activities wouldn't

achieve the desired outcome. Therefore, it is recommended that a holistic view of human resource development at the national policy level is needed first before implementing professional development measures at HEIs.

Appendix: Survey Questions

Questionnaire on Faculty Professional Development

The purpose of this survey is to identify the professional development needs of the university teachers and the challenges they encounter and solutions to address them. So, I hope that you will contribute to the research and answer the questions to the best of your knowledge. To answer the question, circle the corresponding number of the questions. Thank you for sharing your thoughts!

1. **Classification of your institution:**

   ☐ University
   ☐ Institute
   ☐ College

2. **Location of your institution:**

   ☐ In urban areas
   ☐ In rural areas

3. **Ownership status of your school:**

   ☐ The state-owned higher education institution
   ☐ The private higher education institution

4. **Science field:**

   ☐ Natural science
   ☐ Social science
   ☐ Humanity
   ☐ Engineering, production, and technology
   ☐ Agriculture
   ☐ Health

5. **Your qualification degree:**

   ☐ Bachelor
   ☐ Master
   ☐ Doctor
   ☐ Doctor of Science

6. **The status of your job:**

☐ Teaching Assistant
☐ Lecturer
☐ Senior Lecturer
☐ Associate Professor
☐ Professor
☐ Leading Professor

7. **Year of your teaching:**

☐ Up to 5
☐ 6–10
☐ 11–15
☐ 16–20
☐ 21–26
☐ More than 27

8. **In which status do you want to work as an academic?**

☐ Researcher lecturer
☐ Researcher
☐ Lecturer researcher
☐ Lecturer
☐ Specialist lecturer

11. **How do you like your position?**

☐ Greatly
☐ Very much
☐ Do not know
☐ No
☐ Never

13. **Do you think that a student satisfaction survey is an effective tool for faculty members to improve their teaching practices?**

☐ Yes
☐ No
☐ Do not know

14. **As a professor, which of the following knowledge and skills would you most like to develop?**

☐ Field-specific
☐ Foreign language

- ☐ Research and analysis
- ☐ Teaching methodology
- ☐ Information technology
- ☐ Communication
- ☐ Team working
- ☐ Other _____

15. **Do you encounter the following problems in your work environment? Please tick all that you agree.**

   In teaching areas

   - ☐ My teaching hours are overlapped with professional development training, seminars, and conferences I want to attend.
   - ☐ Salary is deducted if I cancel my classes to participate in professional development or training activities.
   - ☐ Lack of access to the professional literature in mother tongue.
   - ☐ Inadequate resources of education studies in mother tongue.
   - ☐ Other_____

   In research areas

   - ☐ Does not provide financial support for presenting and participating in conferences abroad.
   - ☐ Inadequate supply and access to technical facilities affects my self-development.
   - ☐ Inadequate financial support to publish papers in international high impact journals.
   - ☐ Other_____

   In personal development

   - ☐ No training programs to meet my needs.
   - ☐ My competency doesn't meet the requirement (experience, degree, test scores etc).
   - ☐ Other_____

   In work environment

   - ☐ Much time spent on administration duties on top of teaching load.
   - ☐ Weak collaboration and coherence between departments.
   - ☐ No good atmosphere among colleagues.
   - ☐ Unsustainable management affects learning policy and practice.
   - ☐ As many teachers share the small office room, which limits their availability to provide counselling and support to students.

☐ Other _____

16. **How often do you use the advances of ICTs in your teaching? (Please answer in each row)**

Activities	Regularly	Sometimes	Never
Using Power point in lectures			
Record and evaluate students			
Check student assignment			
Giving and receiving assignments online			
Improving curriculum			
Improving course content with research and facts			
Study online lessons and learn best practices			
Using electronic resource materials			
Using audio and video resources			
Putting lectures in electronic form			
Conduct e-lessons			
Using various apps			
Blogging and running groups in social media			
Other			

17. **What should be done by policymakers to improve faculty professional development?**

☐ Approval of the law for Professional Development of higher education.

☐ Define the concept of "professional development" of tertiary education in the policy.

☐ Determine standards of the competency of university teaching positions.

☐ Ensure autonomy of university to make them independent from politics and become more stable.

☐ Set a policy for ranking of faculty positions in terms of teaching and research.

☐ Make student satisfaction surveys more realistic and multifaceted and create conditions to use survey results as a basis for teacher development.

☐ Support the social issues of the teaching staff of higher education (to provide a low-interest loan, housing, schooling, and kindergarten for teachers' children etc.).

☐ Facilitate health services for teaching staff in universities (provision of health examination for teachers etc.).

☐ Other _____

18. **What do you think Higher Education Institutions need to do to support the professional development of faculty?**

- ☐ Financial support to faculty to pilot their research works into production.
- ☐ To allocate budget to each department for their faculty's professional development.
- ☐ The professors' team is granted the right to make a recruitment decision.
- ☐ To determine status and criteria for Researcher—Teacher, Researcher, Teacher—Researcher and Teacher.
- ☐ To enhance partnership with business and industry organizations.
- ☐ To develop cooperation with similar institutions.
- ☐ To provide financial support to invite and hire a visiting professor.
- ☐ To sell intellectual properties and patents of academics and allocate shares to them.
- ☐ To provide financial support for faculty members to get affiliated with international professional associations.
- ☐ To provide financial support for the publication of textbooks and handouts.
- ☐ To provide financial support for publication in international journals with high impact factor.
- ☐ Students' satisfaction surveys should be used to support teacher development.
- ☐ Others_____

19. **What does faculty members need to do for their professional development?**

- ☐ To attend training and seminars regularly.
- ☐ To present their papers at conferences.
- ☐ To publish articles in international journals with high impact factor.
- ☐ To join international professional associations.
- ☐ To write books and manuals.
- ☐ To implement individual or team projects.
- ☐ To work with an international research team.
- ☐ To work as a visiting professor or guest lecturer.
- ☐ To upgrade their academic degree.
- ☐ To get an assistant researcher.
- ☐ To provide professional consulting services.
- ☐ To stay in touch with international and national researchers in the field.
- ☐ To have a personal development program.
- ☐ To improve their research skills constantly.
- ☐ To improve their teaching methodology.
- ☐ To utilize scientific and technological achievements in their work.
- ☐ Other _____

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