# Policies and Implications on Enhancing Pre-school Education Teachers in Singapore during the 2010s in the Context of Educational Informatization

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## Abstract

In the current stage of rapid informationization, the widespread application of information technology in education has become a crucial indicator of a country's educational level. Singapore stands out as a pioneer in leveraging information technology extensively in educational practices, having initiated educational informatization strategies relatively early and consistently maintaining a leading position globally. During the 2010s, to promote the development of pre-school education and achieve the goal of nurturing "holistic development of the child", Singapore formulated a series of educational reform policies based on thorough research and the actual needs of pre-school education. These policies ranged from the framework for kindergarten accreditation to the certification standards for pre-school teacher training institutions, as well as curriculum frameworks and parent-school collaboration, among others, leading to effective reform and practical exploration. Through these reforms, Singapore's pre-school education sector made significant progress, garnering widespread international attention. This paper examines the integration of educational informatization into educational reform, the enhancement of teaching standards, and the cultivation of high-quality pre-school education teachers across four dimensions: improving the quality of kindergarten management, establishing platforms for teacher growth, strengthening training systems, optimizing teachers' comprehensive abilities, innovating curriculum frameworks, supporting teachers in better teaching, providing guidance for parents, and recognizing the importance of parents as the primary educators. By analyzing and evaluating the core policies of pre-school education in Singapore, this paper aims to provide insights into their content, strengths, weaknesses, and implications for the development of pre-school education in China.

**Keywords:** Educational informatization, Singapore, pre-school education, policies for enhancing teachers, the 2010s.

## 1. Introduction

Under the influence of the global wave of educational reforms, Singapore has been greatly influenced by advanced international reform ideas and started to focus on the "holistic development of the child" in the field of preschool education. Since 1999, Singapore has been committed to planning the direction of pre-school education development, standardizing the content of pre-school education curricula, conducting pre-school education teacher training, raising pre-school education teacher qualification standards, and regulating kindergarten management [1]. During the 2010s, in line with the aforementioned development goals, Singapore successively

introduced policies and promulgated related documents, including: "Desired Outcomes of Education" (In 2000), "Pre-school Education Teacher-Training and Accreditation Framework" (In 2001), "Pursuing Excellence at Kindergartens" (In 2003), "Accreditation Standards for Early Childhood Teacher Training Courses" (In 2008), "Singapore Pre-school Accreditation Framework."(In 2010), revised edition of "Nurturing Early Learners: A Curriculum Framework for Kindergartens in Singapore, revised 2012" (In 2012).

In addition, within the context of educational informatization, Singapore has consistently prioritized infrastructure development across different stages of pre-school education. Information technology infrastructure has always been placed in a crucial position, providing robust support for both pre-school education teachers and young children in teaching and learning activities. Singapore places significant emphasis on the deep integration of information technology into pre-school education teaching practices. Through establishing pilot schools and integrating information technology into practical teaching experiences, Singapore actively explores and introduces emerging teaching models supported by information technology, thereby transforming traditional teaching methods and accumulating rich teaching experiences in pre-school education. Moreover, Singapore considers the enhancement of pre-school education teachers' information technology capabilities and their professional development as integral parts of its educational informatization strategic planning. Enhancing pre-school education teachers' information technology capabilities is consistently embedded throughout Singapore's educational informatization development plans [2]. Information technology application skills are essential professional competencies for pre-school education teachers in an informatized society, serving as the fundamental guarantee for the sustainable development of pre-school education informatization [3].

Currently, there have been considerable researches on Singapore pre-school education from both domestic and international academic circles. Regarding curriculum, Hui Li and Nirmala Rao (2005) identified that the decisive factor influencing children's literacy and early reading abilities lies in the curriculum design of kindergartens [4]. Josephine analyzed the impact of Singapore's "Kindergarten Curriculum Framework" (2003) on the comprehensive development of young children. In terms of quality assessment standards [5], Luo provided insights into the background and basic framework of Singapore's curriculum quality standards [6]. Kwan and Sylva put forward that pre-school children typically engage in cognitive and social activities in the real world throughout their daily lives. High-quality kindergartens are usually capable of providing age-appropriate and effective activities that stimulate children's cognitive development, communication skills, problem-solving abilities, and literacy development [7]. Policy research-wise, Tan Ching Ting (2007) analyzed policy developments in Singapore's pre-school education from the perspectives of curriculum reform, teacher training, and evaluation standards between 2000 and 2007 [8].

Through the above analysis, it is evident that existing researches have explored significant issues and reviewed relevant policies. Singapore's educational informatization development plan notably emphasizes infrastructure construction and the deep-level application of infrastructure in pre-school education. Furthermore, it has strengthened and enriched the application of information technology, focusing on fostering children's collaborative learning and autonomous learning abilities. There is also an emphasis on enhancing teachers' information literacy and professional development, integrating information and communication technology into pre-school curriculum and pre-school education teacher assessment, demonstrating a process characterized by sustainability and gradual progression. This paper, from a policy perspective, focuses on Singapore's pre-school education reform policies in the 2010s, examining key policy dimensions such as pre-school education institutions, pre-school teachers, curriculum, and home-school cooperation. By analyzing policies based on their enactment timeline, it explores Singapore's successful experiences in pre-school education reform, providing insights for the development of pre-school education in our country.

## 2. Improving the Quality of Kindergarten Management and Creating A Platform for the Professional Growth of Pre-school Education Teachers

Behind the high-quality pre-school education lies not only a group of highly qualified and well-trained principals and teachers but also the continuous improvement and self-assessment of the kindergarten itself, which constitutes an essential part of the quality assurance framework. In this regard, Singapore has successively introduced the

"Pursuing Excellence at Kindergartens" and the "Kindergarten Standards" in 2003 and 2006, respectively. However, to enable kindergartens to better analyze their teaching curricula and processes and achieve educational desired outcomes, the "Singapore Pre-school Accreditation Framework" (hereinafter referred to as the "Accreditation Framework") was introduced in 2010 and officially implemented in January 2011. The "Accreditation Framework" provides detailed kindergarten evaluation standards, which help kindergartens address issues in their daily teaching and administrative management, offering practical guidelines and long-term development plans for kindergartens (A Strong Start for Every Child and Key Stage Outcomes of Pre-school Education. https://www.moe.gov.sg./education/preschool).

The kindergarten evaluation standards in the "Accreditation Framework" mainly cover five dimensions: "Child as the Focus", "Influential Professionalism", "Purposeful Innovation", "Evolving Partnerships" and "Visionary Leadership". The dimensions revolves around kindergartens' structure, teaching processes, and educational outcomes, forming a coherent and orderly organic whole [9]. Regarding the orientation of the evaluation content, it primarily targets kindergartens, setting high expectations for their teaching and management. However, the core focus of accreditation framework lies in the holistic development of the child of pre-school education.

Table 1 Four stages of kindergarten accreditation standards.

| Stage | Evaluation Content | Explanation |
|---|---|---|
| Stage 1 | Registration and Regulations | Minimum requirements and mandatory criteria |
| Stage 2 | Self-Evaluation | Voluntarily chosen, recommended to conduct annual self-evaluation |
| Stage 3 | Quality Assessment | Voluntarily chosen, referring to quality grading scale |
| Stage 4 | Certification | Divided into grades, awarding certificates |

The "Assessment Framework" evaluates kindergartens through six steps (as seen in Figure 1) and are divided into four implementation stages (Table 1). The Singapore Pre-school Accreditation Framework Review Committee (SPARK Committee) is responsible for the specific evaluation process. The first stage, "Registration and Regulations", is mandatory, ensuring that kindergartens are registered and supervised by the Ministry of Education, providing a secure learning environment for children. In the second stage, kindergartens voluntarily conduct self-evaluations based on the "Accreditation Framework" standards to diagnose their own developmental progress. During the third stage, "Quality Assessment", voluntary participating kindergartens undergo evaluations in seven dimensions using the "Quality Grading Scale": "Teaching", "Curriculum", "Leadership", "Planning and Management", "Resources", "Personnel Management", and "Health, Safety, and Hygiene". The "Quality Grading Scale" assesses not only the early education of 4 to 6-year-old children but also the quality of early childhood education, organizational management, and effectiveness of the developed curriculum in the kindergarten. In the fourth stage, kindergartens receive certification and are graded based on their management conditions and quality levels. As of 2016, Singapore had 601 kindergartens certified by SPARK, which means one out of every three kindergartens holds the SPARK certification (Singapore Pre-school Accreditation Framework. https://www.moe.gov.sg/news/speeches/speech-by-parliamentary-secretary-for-education-low-yen-ling-at-the-singapore-pre-school-accreditation-framework-spark-certificate-presentation-ceremony.). The increasing number of SPARK-certified kindergartens has elevated the standard and expanded the coverage of early childhood education in Singapore, fulfilling the growing demands and expectations of Singaporean society for preschool education.

Throughout the kindergarten evaluation process, both pre-school teachers and kindergartens contribute to each other's growth. On one hand, teachers can objectively analyze their strengths and weaknesses based on the kindergarten's current level. This allows them to clarify their self-positioning, develop more promising self-plans, engage in deeper and more effective self-reflection, and seek opportunities for professional development. On the other hand, kindergartens can understand teachers' real levels, learning desires, and career prospects based on their self-plans. This enables kindergartens to coordinate and arrange more timely and targeted training opportunities for each teacher.
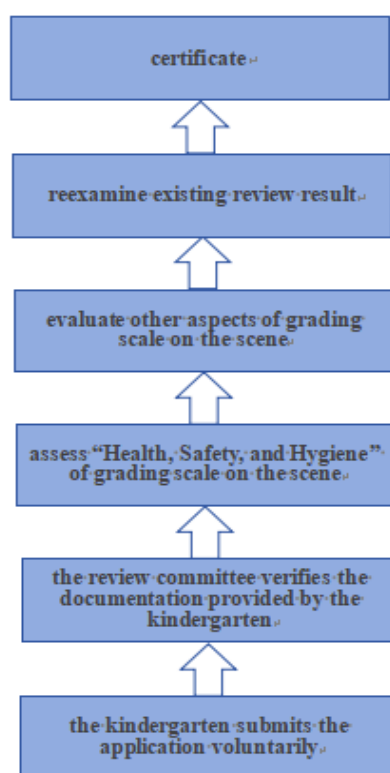
Figure 1 Kindergarten evaluation and certification assessment steps

### 3. Strengthening and Perfecting the Training System to Enhance the Overall Competence of Pre-school Education Teachers

In the development of education, teachers are fundamental safeguards. The Organization for Economic Co-operation and Development (OECD) emphasizes that in the field of pre-school education, high-quality education relies on well-trained teachers and a highly professional teaching workforce. Since the 21st century, improving teaching quality has become a hot topic in Singapore's pre-school education. The government places significant importance on the professional development and competence enhancement of pre-school education teachers in the development of pre-school education (It All Begins with a Teacher. https://www.moe.gov.sg/careers).

As there are no specialized teacher training colleges for pre-school teachers in Singapore, early childhood teacher education is mainly conducted in teacher training institutions. Consequently, the government attaches great attention to pre-school teacher training, focusing on training content, certification standards, and trainees' qualifications, while providing financial support. The "Pre-school Education Teacher-Training and Accreditation Framework" was promulgated in the early 21st century, and in 2008, the "Accreditation Standards for Early Childhood Teacher Training Courses" (hereinafter referred to as the "Accreditation Standards") was introduced. The "Accreditation Standards" provides detailed regulations for training institutions, specifying training standards, courses, and training durations, aiming to maximize the quality of training institutions.

In 2001, the "Pre-school Education Teacher-Training and Accreditation Framework" required different levels of pre-school education teachers to possess either a "Certificate in Pre-school Teaching (CPT)", "Diploma in Pre-school Education - Teaching (DPE-T)", or "Diploma in Pre-school Education - Leadership (DPE-L)". By 2008, all pre-school education teachers were required to hold the "CPT", and one-fourth of them needed to achieve the "DPE-T" level. The qualification certificates are based on corresponding course training requirements, clearly specified in the "Accreditation Standards", which mainly include six aspects [10].

First, "Admission Requirements and Practices": This sets the entry threshold for pre-school education teachers, and the different qualification certificates and their corresponding training content and requirements are outlined in Table 2 (The Cambridge General Certificate of Education Ordinary Level, commonly referred to as the GCE

"O" Level, is a standardized examination jointly administered by the Singapore Ministry of Education and the University of Cambridge. It is designed for secondary school students and serves as a benchmark for academic achievement. Students have the option to take the "O" Level examination upon graduation. The examination results are recognized by Commonwealth countries. The subjects covered in the "O" Level include Chinese, English, Mathematics, Science, Humanities, Geography, and others.).

Secondly, the "Course Content" is an essential aspect of the training process. As different training institutions have varying levels of competence, they have the flexibility to offer courses for CECCE, DECCE-T, DECCE-L, and SDECCE. While the content and emphasis of each course may differ, they share similar values and practical significance. This can not only ensure the teaching quality of the training institutions, but also provide the choice space for the participants. The courses aim to equip participants with the ability to impart knowledge and skills, foster children's thinking and social abilities, facilitate effective learning, and develop a comprehensive understanding of pre-school education.

Thirdly, "Administration of Courses". It is crucial in ensuring the effectiveness of the training. Before the courses commence, training institutions are required to submit essential information, such as the existing levels of participants and the course schedule. During the training period, institutions should maintain timely records of attendance, training performance, and personnel changes of institution itself. Efficient administration of courses help provide better training services and ensures the desired training outcomes.

Fourthly, the "Quality of Faculty" has the most significant impact on the participants. The "Accreditation Standards" stipulate that training institutions must have dedicated academic leaders, curriculum administrators, and core trainers during the training. Academic leaders are primarily responsible for teacher appointments, curriculum supervision and quality control. Curriculum administrators handle course arrangements and evaluate participants and trainers, while core trainers are in charge of course-related content and ensuring the smooth implementation of the courses as planned. All three roles require a diploma qualification to be eligible for the position.

Table 2 Training content and requirements for different level certificates

| Qualification Certificate | Hours of Training | New Teachers | Experienced Teachers |
|---|---|---|---|
| CECCE(Certificate in Early Childhood Care and Education) | 800 hours | Attain at least three GCE "O" Level passes in at least 3 subjects (including English or mother tongue)(Cambridge General Certificate of Education Ordinary Level, GCE "O") | Attain at least three GCE "O" Level passes in English or mother tongue |
| DECCE-T (Diploma in Early Childhood Care and Education - Teaching) | 1200 hours | Attain at least five GCE "O" Level passes in English or mother tongue | Attain at least five GCE "O" Level passes in English or mother tongue or, on the basis of holding the CECCE, attain passes in three different subjects at "O" Level |
| DECCE-L (Diploma in Early Childhood Care and Education - Leadership) | 850 hours | Hold the DECCE-T and attain at least five GCE "O" Level passes in English or mother tongue | Hold the DECCE-T and attain at least five GCE"O" Level passes in English or mother tongue or, on the basis of holding both CECCE and DECCE-T, attain passes in three subjects at "O" Level |
| SDECCE (Specialist Diploma in Early Childhood Care and Education) | 1600 hours | Hold a undergraduate's degree or have a junior college qualification with a pass in the English subject at "O" Level | Hold a junior college qualification or undergraduate's degree |

Fifthly, "Modes of Assessment and Supervised Teaching/Leadership Practice" are essential components of the evaluation process. The evaluation should be fair and transparent, with systematic evaluation methods, specific implementation plans and detailed feedback provided to participants for their future improvement. To ensure the integration of theoretical knowledge and practical experience, the "Accreditation Standards" specify the required number of hours for practical learning in each training course, such as DECCE-T requiring a minimum of 300 hours of practical learning and SDECCE requiring a minimum of 1600 hours of practical learning.

Lastly, "Facilities and Resources" play a crucial role in providing a conducive learning environment and ensuring the quality of training courses. Training institutions should offer relevant lectures, suitable venues for learning and discussions, and accessible resources for reference to enhance participants' learning experience.

Researches have indicated that the educational background and training of pre-school education teachers are fundamental to their professional development and are positively correlated with children's growth and development. Generally, pre-school education teachers with higher educational qualifications or more extensive and frequent professional training can better inspire and guide children and engage in effective teacher-child interactions. Despite the absence of specialized teacher training colleges for pre-school teachers, Singapore's pre-school education has still made significant progress, thanks to the measures mentioned above.

## 4.    Innovating the Curriculum Framework to Enhance Teaching Excellence

In 2017, the Organization for Economic Co-operation and Development (OECD) released the latest research report on pre-school education, emphasizing its foundational role and significant value in lifelong education (Starting Strong 2017: Key OECD Indicators on Early Childhood Education and Care. https://www.siis.net/documentos/Path/525108.pdf). According to the Programme for International Student Assessment (PISA) conducted by the OECD (Program for International Student Assessment is an international program organized by the Organization for Economic Co-operation and Development. It aims to assess the readiness of 15-year-old students in various countries to apply their knowledge and skills to real-life situations. PISA evaluates students' proficiency in three key areas: reading literacy, mathematical literacy, and scientific literacy.), the academic performance of 15-year-old students is correlated with their early education. Those who have received at least two years of pre-school education perform better in PISA assessments. In "Starting Strong III: A Quality Toolbox for Early Childhood Education and Care", OECD emphasizes that curriculum is a key factor in improving the quality of early childhood education. Influenced by Singapore's emphasis on elite education and parents' expectations for their children's future development, some kindergartens have been pressured to offer curriculum content related to primary school examinations to meet societal demands. However, while knowledge in the early childhood stage is important, what is even more essential is fostering the cognitive qualities that enable young children to fully develop through their interactions with the real world. Therefore, such practices contradict educational principles and goes against the prevailing trend of modern early childhood education development. Furthermore, due to Singapore's heavy reliance on talent and knowledge for economic development, fostering creativity and innovation has become even more critical, necessitating reforms in early childhood education and teaching. Educational reform cannot be separated from curriculum reform, which stands as a key factor for successful educational reform.

Starting from the year 2000, Singapore began transforming the "Desired Outcomes of Education" for pre-school education into a curriculum framework, aiming to strike a balanced integration between core knowledge and creativity development. In 2011, Singapore announced a revision of the curriculum framework from 2003. In 2012, the "Nurturing Early Learners: A Curriculum Framework for Kindergartens in Singapore (NEL)" was officially released (While the document was officially released in 2012, its planning, conceptualization, and development processes occurred before the 2012.), marking the comprehensive implementation of a new kindergarten curriculum reform in Singapore (Frequently Asked Questions for NEL Curriculum. https://www.moe.gov.sg/docs/default-source/document/education/preschool/files/faqs-for-nel-curriculum.pdf).

The 2012 version of the curriculum framework is distinguished by a series of NEL curriculum resources, which serve two main purposes: first, to help teachers create high-quality learning experiences for children, cultivating their learning abilities and interests; and second, to aid teachers in renewing teaching content and skills promptly,

ensuring that "a strong start for every child". The NEL curriculum resources consist of three parts: the NEL Framework, the NEL Guide for Educators, and the NEL Teaching and Learning Resources (Nurturing Early Learners: A Curriculum Framework for Kindergartens in Singapore, revised 2012. https://www.nel.sg/nel/slot/u566/Resources/Downloadable/pdf/kindergarten-curriculum-framework.pdf).

**4.1 NEL framework**

The NEL Framework comprises four components: Desired Outcomes, Principles, Learning Goals, and Learning Areas (see Table 3). It specifically outlines the type of children Singapore aims to nurture through pre-school education, how they should be nurtured, and what beliefs and principles that constitute high-quality pre-school childhood education. The Desired Outcomes reflect Singapore's educational expectations for the type of children they aim to nurture. The Principles indicate the roles of teachers and children in learning activities, how teaching and learning should take place, and clarify the nature of children's learning activities. The Nurturing Early Learners framework places the child at the core and firmly believes that young children are curious, active, and capable learners. The iTeach principles consistently uphold this belief and play a crucial role in guiding early childhood educators to design meaningful and appropriate learning activities for young children. The iTeach principles encourage greater involvement of young children in the process of acquiring knowledge and skills through the six key learning areas. The Learning Goals specify the values, emotional attitudes, knowledge, and skills that need to be nurtured during children's development. The Learning Areas include the cultivation of aesthetics, emotions, and exploration abilities, consisting of learning objectives, interim goals, and expected outcomes, all aimed at assisting pre-school education teachers in designing learning content and organizing curriculum activities. Each Learning Area is compiled independently and can serve as a reference for pre-school education practitioners and parents.

Table 3 NEL Framework

| Components | Specific Content |
|---|---|
| Desired Outcomes | a confident person who has a strong sense of right and wrong; a self-directed learner who takes responsibility for his own learning; an active contributor who is able to work effectively in teams; a concerned citizen who is rooted in Singapore |
| Principles | iTeach Principles: integrated approach to learning, teachers as facilitators of learning, engaging children in learning through purposeful play, authentic learning through quality interactions, children as constructors of knowledge, holistic development |
| Learning Goals | know what is right and what is wrong, be willing to share and take turns with others, be able to relate to others, be curious and able to explore, be able to listen and speak with understanding, be comfortable and happy with themselves, have developed physical co-ordination and healthy habits, love their families, friends, teachers and school |
| Learning Areas | aesthetics and creative expression: enjoy art and music and movement activities, express ideas and feelings through art and music and movement, create art and music and movement using experimentation and imagination, share ideas and feelings about art and music<br>discovery of the world: show an interest in the world they live in, find out why things happen and how things work through simple investigations, develop a positive attitude towards the world around them<br>language and literacy: listen for information and enjoyment, speak to convey meaning and communicate with others, read with understanding and for enjoyment, use drawing, mark making, symbols and writing with invented and conventional spelling to communicate ideas and information<br>motor skills development: enjoy through participation in a variety of physical activities, demonstrate control, coordination and balance in gross motor tasks, demonstrate control and coordination in fine motor tasks, develop healthy habits and safety awareness at home, in school and at public places<br>numeracy: recognise and use simple relationships and patterns, use numbers in daily experiences, recognise and use basic shapes and simple spatial concepts in daily experiences<br>social and emotional development: develop an awareness of personal identity, manage their own emotions and behaviours, show respect for diversity, communicate, interact and build relationships with others, take responsibility for their actions(NEL Framework. Learning Areas and Learning Goals. https://www.moe.gov.sg/education/preschool/learning-areas-and-learning-goals) |

In addition to the four key components mentioned above, the NEL framework also emphasizes the concept of "Learning Dispositions". Learning dispositions refer to positive behaviors and attitudes towards the curriculum framework. Learning dispositions play a vital role in the lifelong learning of young children and support their

holistic development across different areas of learning. The learning dispositions encompass six main elements, namely: perseverance, reflectiveness, appreciation, inventiveness:, sense of wonder and curiosity and engagement.

## 4.2 NEL Educators' guide

The "NEL Educators' Guide" enriches the NEL Framework and aims to help pre-school education teachers put the teaching and learning principles outlined in the framework into practice. The guide consists of seven volumes. The first volume provides an overview of how young children develop and learn, with a primary focus on helping teachers understand children and promote their holistic development and learning (Nurturing Early Learners-A Curriculum Framework for Kindergartens in Singapore: Educators' Guide: Overview. https://www.nel.sg/nel/slot/u566/Resources/Downloadable/pdf/nel-guide/nel-edu-guide-overview.pdf). The second to seventh volumes correspond to the six learning areas in NEL. Each volume provides detailed descriptions of how to implement, teach, guide, and evaluate the respective learning areas. For example, the fourth volume, "Language and Literacy", first introduces the language and literacy levels of young children in the early education stage. It then presents the teaching objectives, strategies, and organizational forms for language and literacy, followed by observations and assessments of the curriculum (Nurturing Early Learners-A Curriculum Framework for Kindergartens in Singapore: Language and Literacy. https://www.nel.sg/nel/slot/u566/Resources/Downloadable/pdf/nel-guide/nel-edu-guide-language-literacy.pdf). The "NEL Educators' Guide" provides to pre-school educators emphasizes the importance of organizing the suitable learning environments for young children during early childhood education activities. This can be achieved by focusing on three aspects: the physical environment, the interactional environment, and the temporal environment. An effective learning environment can offer young children an attractive, stimulating, and challenging learning experiences, contributing to their holistic development.

Furthermore, the "NEL Educators' Guide" provides the concept of the "Learning Cycle" for early childhood educators. The learning process for young children is viewed as an organic progression from awareness to exploration, from exploration to acquisition, and finally from acquisition to application. The learning cycle reflects the way children construct knowledge and acquire concepts and skills. It guides early childhood educators in curriculum planning and helps them create positive learning opportunities for young children, especially when they encounter abstract or novel situations and concepts.

These resources significantly assist pre-school education teachers in guiding their teaching activities based on the NEL Framework and effectively promoting children's learning.

## 4.3 NEL teaching and learning resources

The NEL Teaching and Learning Resources leverage local games and real-life scenarios to help pre-school education teachers foster children's language, knowledge, skills, and values. These resources are divided into two main categories: "Activity Ideas" and "Big Book Resources". Under the "Activity Ideas" section, NEL provides six activity content areas, including plants and animals, neighborhood and community, sports and games, food, arts and music, and culture and festivals. Each content area is accompanied by descriptions and guidance on activity design, implementation, and feedback. The "Big Book Resources", developed by the Singapore Ministry of Education, not only reflect local characteristics but also help children develop bilingual proficiency. For instance, nursery rhymes related to the themes of the big books can help children learn language, explore vocabulary and sentence structures, and enhance their understanding of rhythm in a relaxed atmosphere.

The new curriculum framework is built upon Singapore's educational tradition and the global trends in pre-school education. It takes into full consideration the realities of Singapore's social development and the diverse cultural and linguistic backgrounds. Guided by the principle of fostering holistic development of the child, the framework injects a strong impetus into Singapore's pre-school education, laying a solid foundation for the entire education and social development of the country. Furthermore, the curriculum reform, with its detailed framework, effective teaching guidance, and rich teaching resources, provides stable quality assurance for teachers' instructional activities. Singapore's emphasis on curriculum reform has also greatly motivated pre-school education teachers to improve their teaching practices and gradually refine the curriculum framework.

### 5. "A Guide for Parents", Focusing on the Role of Parents As the First Educators of Children

The renowned educator Sukhomlinskii once stated, "There is a task that is the most all-encompassing, complex, and noble of all; it is a task that everyone undertakes, yet in each family, it is unique and distinct - and that is the task of nurturing and shaping a human being [11]."Parents are the first educators of children. Their educational wisdom not only directly influences the child's growth but also plays a crucial role in the high-quality kindergarten education. In order to encourage cooperation between parents and teachers and to facilitate the growth of the first educators, as well as promote the holistic development of the child, alongside the release of the 2012 version of the curriculum framework, Singapore also issued "Nurturing Early Learners-A Curriculum Framework for Kindergartens in Singapore: A Guide for Parents" (Nurturing Early Learners-A Curriculum Framework for Kindergartens in Singapore: A Guide for Parents. https://www.moe.gov.sg/docs/default-source/document/education/preschool/files/kindergarten-curriculum-framework-guide-for-parents.pdf). This document presents four key questions about early childhood education, providing advice to parents and laying the foundation for effective home-kindergarten cooperation and nurturing children.

The first question addresses, "Who are our children?" By understanding children's developmental characteristics and learning processes, parents can create meaningful learning experiences for them and establish reasonable educational expectations. Children are curious learners who seek to explore and understand the world's meaning. They are active learners who participate and explore real-life experiences through hands-on learning. They are capable learners who gradually accumulate knowledge and skills through continuous reflection and thinking, promoting ongoing development.

The second question is, "How do young children learn?" Through the iTeach curriculum principles in the 2012 version of the curriculum framework, Singapore emphasizes that young children can learn with support from teachers, learn from an integrated and holistic curriculum, and be engaged as active learners through play and quality interactions.

The third question addresses, "What do children learn in kindergarten?" This part provides detailed introductions to the learning areas and learning goals for each area. It also emphasizes that pre-school education focuses on the comprehensive development of children. Parents should not overly emphasize specific curriculum areas or academic performance but should pay attention to nurturing lifelong learning skills and attitudes.

The fourth question is, "How can you help your child?" Parents can help children establish connections between home and kindergarten, enriching children's learning experiences beyond the classroom. Specifically, parents can do the following: understand that children's natural curiosity and encourage them to explore and ask questions; take time to engage your child in play; encourage children to express their thoughts and feelings and explain how they solve problems and overcome challenges.

"A Guide for Parents" not only serves as an authoritative channel for parents to understand kindergarten education but also provides effective guidance for parents in pre-school education. It corrects misconceptions, notions, and behaviors about kindergarten education and shapes a positive family atmosphere for the realization of the education goal of "holistic development". Additionally, mutual respect and effective cooperation between parents and teachers create a sense of security for children at home and in kindergarten, enhancing their self-confidence and creating a warm atmosphere for the best learning state.

### 6. Implications

Pre-school education, as the foundation of enlightenment education, profoundly influences the child's overall development and lifelong growth. It is a crucial period for shaping the child's worldview, values, and attitudes towards learning. In recent years, China has shown dedication to pre-school education, increasing financial investment and alleviating some bottlenecks that have hindered the development of pre-school education. According to the 2017 education statistics released by the Ministry of Education, the enrollment rate for pre-school education in China increased from 10.6% in 1978 to 79.6% in 2017, with the number of children in kindergartens increasing from 1.88 million to 46.0014 million during the same period (National Statistical Bulletin on Education Development 2017. http://www.moe.edu.cn/jyb_sjzl/sjzl_fztjgb/201807/t20180719_343508.html.).

However, challenges persist, as revealed by OECD's "Education at a Glance 2018" report, indicating that 54% of preschool-age children in China attend private schools, 22% higher than the OECD average (OECD INDICATORS: Education at a Glance 2018. https://www.oecd-ilibrary.org/docserver/eag-2018-en.pdf?expires=1540007624&id=id&accname=guest&checksum=E61FD8000E8DB1694246C3081D8BA4FF). To address these issues, China released a public document in November 2018, signaling a new era of reform and development. In terms of the development and reform of pre-school education, Singapore's systematic kindergarten evaluation standards, perfect educators training curriculum, curriculum framework to promote the holistic development of the child and a guide for parents can all provide implications for pre-school education, especially pre-school education teachers in China.

**6.1 Elevating educational standards and providing a platform for teachers' development**

The pursuit of excellence has been the consistent purpose of pre-school education and the development of kindergartens in Singapore since the 21st century. To this end, the Singapore government has formulated a relatively strict mechanism for kindergarten's access, evaluation and elimination to ensure the pursuit of excellence. In China, in order to solve the problem of serious shortage of public kindergartens, the government encourages the development of private kindergartens, and the requirements for running kindergartens are relatively loose. Therefore, many basic indicators of private kindergartens do not meet the standards, such as venues, teachers, equipment and so on. Public kindergartens also have plenty of problems, such as not truly implementing the concept of running kindergartens, mixed teacher team level, and the neglect of children's learning interest and learning ability. Emulating Singapore's policies, China should establish rigorous standards, assessment systems, standardization content, strengthen management and establish supervisory committees to ensure the consistent quality of pre-school education and create a favorable platform for the professional growth of pre-school educators. Forming a virtuous circle between kindergartens and pre-school educators to provide a guarantee for the pre-school education.

**6.2 Perfecting training mechanisms to improve teachers' instructional competence**

Singapore has consistently emphasized the improvement of teacher quality through tailored training programs based on practical needs [12]. By contrast, China has specialized teacher training colleges to cultivate pre-school education teachers, however, the overall supply is in short and the disconnection between theory and practice is serious. The on-the-job training for front-line pre-school education teachers is relatively weak, and the training quality is relatively uneven. China's pre-service and in-service training for pre-school education teachers could benefit from similar investigations to identify current and future requirements. With this knowledge, China can develop more effective and innovative educational and training courses, fostering practical skills and competencies among participants.

**6.3 Enriching curriculum resources to support teachers' instructional activities**

China's "Guidelines for Preschool Education (Trial)" outlines teaching content and objectives for five major domains. "A Guide to Learning and Development for Children aged 3-6" instructs kindergarten and family education. However, they might not fully address the real teaching abilities of teachers and the practical conditions of kindergartens and lack of illustration of teachers' instruction and teaching resources. Conversely, Singapore's curriculum framework aligns with local developmental levels and cultural backgrounds, providing not only curriculum content design but also valuable instructional guidance and practical teaching resources for pre-school teachers.

**6.4 Emphasizing parental guidance and building a positive educational environment**

"Educational effectiveness depends on the consistency of educational influences between schools and families. Without such consistency, the teaching and educational process in schools will collapse like a paper house [13]."In this comprehensive system, parents and schools undoubtedly play the most crucial roles. Therefore, in addition to focusing on kindergarten construction and curriculum reform, the Singaporean government also places great importance on the role of family education in a child's growth. "A Guide for Parents" advocates for parents and kindergartens to work together to nurture a healthy learning environment for children. In China, due to differences

in family backgrounds, economic levels, and education levels, parents have varying educational beliefs and parenting methods. Communication and interaction between parents and pre-school teachers on educational matters are limited, resulting in insufficient parental involvement in pre-school education. Collaborating with Singapore's experience, it is essential for China to issue specific guidelines on parental education and parenting during the early childhood stage. Encouraging communication and exchange between families and kindergartens through theme activities, parenting seminars, and early childhood knowledge sessions can help parents develop a scientific parenting philosophy and construct a favorable environment for children's healthy and comprehensive development.

## 7. Conclusion

Despite the progress achieved in Singapore's pre-school education, new challenges emerge. While the new curriculum framework has guided teachers' instructional activities to some extent, specific requirements on effective implementation remain unclear. Moreover, teachers are expected to integrate the curriculum with various social backgrounds of children to promote their holistic development, which places higher demands on their professional capabilities. Although Singapore opposes the tendency of kindergarten education to resemble primary school education, the practical teaching process still faces pressures driven by elite education, as kindergartens and parents emphasize knowledge acquisition similar to primary schools, neglecting the cultivation of play and children's learning abilities. In light of these issues, China's pre-school education reform should set clear goals and detailed requirements for the specific implementation of the curriculum framework to avoid increasing the burden on teachers. Periodic inspections of instructional activities can prevent the inclination toward primary school-like curriculum.

In the 2010s, under the guidance of a series of educational policies, Singapore's pre-school education has made significant and remarkable achievements, laying a solid foundation for the development of primary, secondary, and higher education. In teachers' training education, there are also many experiences and practices worth learning from Singapore. In the context of informatization, Singaporean pre-school education teachers are shifting away from traditional teaching paradigms. They are pioneering the creation of "smart" games, leveraging technology to make learning enjoyable for children. Furthermore, there is an emphasis on application-driven approaches, spearheading explorations and applications of "Internet + education". With the rapid development of artificial intelligence, pre-school education teachers will have access to more avenues for self-improvement and self-development. Additionally, this advancement will offer children more opportunities for autonomous learning modes and independent study. The success of pre-school education in Singapore reminds us to adopt a fresh perspective towards pre-school education. It is crucial to not only focus on the known but also on the unknown. The task of pre-school education is not solely about transmitting existing knowledge, but equally important is fostering in young children a sense of curiosity towards the unknown and a thoughtful quality to understanding the real world. However, it is essential to recognize that both countries have significant differences in systems, culture, and educational traditions. While borrowing from Singapore's success, China should also consider its own national conditions and traditions. China should adhere to the self-confidence and aware of running education rooted in China, draw from both Chinese and foreign experiences, and embrace the current era and the future. Based on its unique characteristics, China can selectively adopt successful experiences from other countries to support the development of its pre-school education.

In conclusion, learning from the successful policies and practices of Singapore in pre-school education can provide valuable insights for the development of China's pre-school education, particularly in enhancing teacher education, establishing comprehensive evaluation systems, and enriching instructional resources. By addressing the identified challenges and implementing appropriate reforms, China can further elevate the quality of pre-school education, effectively nurturing and shaping the young generation's future.

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