



Development Administration in Action: Comparing Public Sector Innovation in Basic Education Reform in the Philippines and Singapore

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Abstract: *This paper examines the case of public sector innovation in basic education reforms in the Philippines and Singapore, including their strategies, barriers, and successes. To be more precise, the research examines the scale and character of educational reforms in both countries, demonstrating the compatibility of the level of reforms with global educational standards. The K to 12 Program is a new system of basic education in the Philippines, as the country aims to help its students perform and be better prepared for the workforce, adapting to the international educational system. However, a lack of funding, scarcity of infrastructure, and issues with teacher training are barriers to the success of such reforms. Conversely, the major changes in education in Singapore, which include practice-oriented, integrated learning and 21st-century skills, have established the country as a role model in education worldwide. It is also epitomized by good governance and the equitable distribution of resources, which includes ongoing professional development of teachers within the country. Although resources were easier to invest in in Singapore, the nation must not neglect the issues related to school autonomy and the integration of technology into education. This paper examines the key areas where both countries have struggled with the initiation of educational reforms, particularly in terms of financial aspects, infrastructure, and teacher training. The two countries have experienced significant setbacks, which have negatively impacted their academic performance, the development of critical skills among students, and their competitiveness in the world. Based on the findings, the reforms in Singapore have played a positive role in the performance of their students, particularly in international tests. Nevertheless, the K-12 Program in the Philippines has yielded mixed results, with modest gains in academic performance in urban centers and substantial gains in rural regions. The findings of this study conclude that resource equity, teacher training, and systemic shifts in governance are key constituents of an effective educational reform effort. The analysis also emphasizes that a thorough planning of the educational system's reform is essential, and aspects such as investment in teacher competence, facilities, and resource availability cannot be overlooked.*

Keywords: *Comparative development, education reforms, innovativeness, public sector, K-12 program, teacher training, global competitiveness, Philippines and Singapore*

Introduction

A comparative overview of the basic education reform through innovation in the government sectors of the Philippines and Singapore has revealed that the two countries adopted different approaches towards the integration of innovations, given their socio-



political environments, types of governance, and philosophies of education. The methods adopted by the two countries to streamline education trends have been quite different, although their goals have been similar. The K to 12 program is celebrated in the Philippines as a program that has expanded the level of basic education to 12 years, aligning the Philippine education system with global trends (Department of Education [DepEd], 2021). Nevertheless, these reforms have been partially hindered due to challenges such as a lack of materials, pedagogical staff, and inadequate infrastructure (World Bank, 2024). Nevertheless, the K to 12 program aims to create graduates ready to face higher educational and entrepreneurial challenges, but the implications of implementing the program are still under scrutiny (DepEd, 2021).

Conversely, Singapore has long been recognized for its educational reforms, which emphasize holistic development, critical thinking, creativity, and lifelong learning. Important policies, such as Learn for Life and Every School a Good School, have shifted management control over education to the level of individual schools, where they have autonomy to cater to students' and their needs (Kwek, Ho, & Wong, 2023). In addition to this, Singapore's reform initiatives have aimed to reinforce teacher professional growth, incorporate technology into the school curriculum, and promote inclusion in education, all of which have contributed to the country's high education rankings in global standards (Lee & Ho, 2022). These reforms are reinforced by the government's high commitment to the constitutional changes, which aim to adapt the curriculum to meet the evolving needs of the global economy (Tan, 2007).

Both the Philippines and Singapore have attempted to incorporate innovation into their educational reforms, but the results have been shaped by the respective priorities and resources available in each nation. The Philippines, being highly populated and diversified, has a long way to go to ensure that quality education is equally accessible in both urban and rural regions, in terms of infrastructure and funding (World Bank, 2024). The fact that the government tries to implement free practices with universal education with the help of the K to 12 program is an essential step towards educational equity yet the overall success of these transformations is still dependent on the resolution of the systematic intricacies like quality of teaching, school facility, and relevance of the curriculum (DepEd, 2021). On the other hand, the abundance of Singapore and its developed governance systems make the process of realizing reforms more effective, targeting sustainable processes, including lifelong learning and flexible teaching strategies (Kwek et al., 2023). The comparison between these two countries presents a strong argument for how contextual issues, such as national wealth, political determination, and institutional capacity, influence the success of educational change, as well as ignite long-term social and economic change that endures (Tan, 2007). Accordingly, such an analysis of the reforms concerning the public sector innovation might provide significant contributions to the achievements and setbacks that other nations might encounter by attempting the same change in education.

In this paper, the researcher will discuss innovations and public sector reforms in basic education in the Philippines and Singapore, with references to the implemented strategies, challenges, and achievements. Through the two countries, the research aims to provide an understanding of how the effect of innovation in the public sector can be positively utilized to develop educational systems further, considering different national circumstances, resources, and policy situations. The lesson of how innovation can be



applied to reform the educational process can help other countries around the world that are still changing their education systems (World Bank, 2022).

Objectives of the Study

This paper explores the innovation of the public sector in the context of basic education reform in both the Philippines and Singapore, focusing on the strategies involved in these reforms, the challenges they present, and the consequences of these reforms.

1. To compare the level and character of the basic education reform policies in the Philippines and Singapore with respect to compliance with the global educational standards.

2. To make some comparisons between the critical issues that affected the two nations in the policy of making educational changes, and issues to be dealt with regarding money, construction and teacher training.

3. To measure the impact of these changes on the achievements of a student, i.e., academic performance, critical thinking, and equipping with the necessary competence to compete in the global arena.

Methodology

In the study, a qualitative case study research design was employed, with document analysis serving as the primary process for data collection and analysis. The qualitative approach has been chosen because it allows for a deeper discussion of both subject-specific education reform purposes and situation-specific educational reform objectives in the Philippines and Singapore. By employing the case study method, this paper aims to discuss the details of innovation in the education sector in the public realm and the nature of how reforms have been implemented and experienced in various countries. Little by little, the method has helped us explore the approaches, issues, and outcomes of the reforms in detail, providing us with a more enriched picture of the educational environments in the two countries.

It can be observed that the case study design has gained a reputation for studying relatively complex phenomena in real-life conditions, which is why it is well-suited for examining educational reforms deeply embedded in national policy, social, and cultural rules and regulations (Yin, 2018). One of the advantages of a case study is that it enables a researcher to concentrate on particular instances, in this case, the basic education reforms in the Philippines and Singapore and view them in their entirety. Having been adopted as a qualitative approach, case studies will provide insight into the lives, opinions, and realities of people and institutions participating in the reforms (Stake, 1995). The design is especially helpful when the study aims to gain knowledge about the processes, effects, and reasons behind policy implementations.

Document analysis is the primary data collection method selected due to its success in studying broad policy reports and secondary sources of data on education reforms. Document analysis is a tested technique in qualitative studies, where the process of assessing documents is systematic and utilizes themes, patterns, and information introduced by the research questions (Bowen, 2009). Government reports, policy briefs, education sector plans, and reform evaluation studies, as well as relevant academic literature, are among the documents analyzed in this study to form an extensive picture of the educational reforms in the two countries. Such an approach enables further investigation of not only the overt, but also the covert messages that official documents



may carry, and the way these influence political, economic, and cultural factors that may affect educational reform.

The main sources (primary sources) on which the document was analyzed referred to:

Government and education department reports: These are official reports on educational reforms, providing details on the aims, plans, and progress of reforms such as the K-12 program in the Philippines and the Learn for Life initiative in Singapore.

Policy Briefs and Legislative Texts: To determine the policy frameworks underlying the reforms, these legislative and policy documents were analyzed to examine the intended outcomes of the reforms.

Research Articles and Scholarly Papers: Guided by the limitations of peer-reviewed research and scholarly articles in journals, this type of research facilitates the analysis of theoretical and empirical evidence related to the reforms in the two countries.

Educational Reform Evaluations: Evaluation reports on the reconsideration of the effectiveness of reforms related to student performance, teacher recruitment, and resource allocation were also examined.

The analysis of documents took place in a few steps:

Document Selection: Relevant documents have been secured through an extensive search of scholarly databases, government websites, and reputable educational policy sources.

Data Extraction: Key data regarding educational reforms, including goals, strategies, challenges, and outcomes, were extracted from the documents.

Coding and thematic analysis - Thematic analysis was conducted through a coding procedure to identify common responses and trends across the documents. These themes were further grouped into general themes in accordance with the study's research objectives, which include the scope of the reforms, the challenges encountered, and their effects on educational outcomes.

Cross-case Comparison - The final step involves comparing the results of the analysis conducted in the Philippines and Singapore to identify similarities and differences in the methods and outcomes of the education reforms in these two countries.

Document analysis will be particularly suitable for this study, given the large amount of publicly available documentation on educational policies and reforms. It is also affordable and less intrusive than other methods, such as interviews or questionnaires, making it ideal for comparative analysis between countries. The triangulation of results and increased familiarity with the reform processes can be done by examining both official and secondary sources of information (Bowen, 2009). Moreover, important documents are crucial in recording the expected results of the reforms because they typically comprise strategic plans, policy targets, and performance indicators that cannot be achieved through day-to-day operations in education.

Although document analysis has its advantages, it also has its weaknesses. To begin with, it depends on the availability and accessibility of the relevant documents. Sometimes, significant policy papers may be partial or outdated, and in such cases, the study may not be able to provide a comprehensive conclusion. Furthermore, the published official documents on changes in education may focus solely on official reports of educational reforms and fail to reflect the perceptions of individuals directly affected

by the implementation of these reforms, such as teachers, pupils, and education authorities in a specific region. To address these weaknesses, this study considered various sources of information and allocated time for evaluating contextualization and possible bias in the manuscripts.

Results and Discussions

1. The level and character of the basic education reform policies in the Philippines and Singapore with respect to compliance with the global educational standards

This section presents the findings of the document analysis, which examines the scope and nature of basic education reform policies in the Philippines and Singapore, with references to compliance with global educational standards.

1.1 Philippines: The K to 12 Program

The implementation of the K to 12 Program in the Philippines began in 2012, introduced to transform the quality of basic education and actualize the Philippine educational system to meet international standards (DepEd, 2021). The program also reduced basic education to 12 years, as most countries in Western Europe have adopted this pattern and, in accordance with the Bologna Process and other learning systems worldwide, observe a 12-year study requirement (World Bank, 2022). The K-12 program consists of three major components: Kindergarten education, six years of primary education, four years of junior high education, and two years of senior high education. These stages focus on preparing students to pursue tertiary education, vocational education, or the workforce.

The K to 12 program is expansive, with reforms to the curriculum, training for teachers, enhancements to infrastructure, including the provision of water and electricity, the construction of classrooms, and revisions to policies, all aimed at improving the learning process. It is worth noting that the curriculum used in the program is more responsive and adaptable, which allows students to specialize in certain areas by the time they enter senior high school. This aligns especially with the global focus on 21st-century skills, including critical thinking, problem-solving, and versatility, which have become increasingly significant in the contemporary globalized labor force (DepEd, 2021). Nevertheless, it has been stalled by the problems of insufficient material equipment and unequal quality of teacher training, combined with an infrastructure deficit (World Bank, 2022).

The K to 12 Program in the Philippines is one of the major reforms aimed at enhancing the quality of education by extending basic education to 12 years, thereby aligning the Philippines with the practice of most countries worldwide (DepEd, 2021). Among the key drivers of such a reform is adherence to the demands of global frameworks, such as the Bologna Process, which recommends a 12-year schooling system to be deemed academically and vocationally equipped (World Bank, 2022). As it has been stated by Cimino and Cifuentes (2020), curriculums in education systems all over the world have an opportunity to transform to face the demands of the modern labor market, and the focus on the lifelong learning, critical thinking and problem solving skills at the core of K to 12 system is among the priorities of this shift.

Nevertheless, despite good intentions, implementation issues persist in the Philippines, which hinder the country's ability to meet global standards holistically. These include poor teacher training, insufficient funding for schools, and disparities in access to education, particularly for those in rural and underprivileged communities



(World Bank, 2024). As Cabus (2021) points out, structural flaws in the allocation of resources and local governmental affairs tend to undermine any successfully implemented education changes. Even though the curriculum was drafted to align with international standards on academic rigor, its effectiveness highly depends on addressing the issues, particularly the low budget of the Philippine government for education and infrastructure.

Furthermore, Herczog (2021) argues that K-12 reform should not be limited to structural transformation to overcome the inequality problem deeply embedded in the education system; accordingly, genuine global alignment would involve changes in governance structures, accessibility, and teacher preparation. On a global scale, Tan (2022) addresses the issue of the competency of such reform, emphasizing the necessity to invest a sufficient portion of funds in continuous professional development and pedagogical innovation to achieve the reform's effectiveness. These results reinforced the need for a comprehensive approach to educational reform, one that is not limited to a single-dimensional focus on curriculum changes but also involves additional systemic changes, such as teacher training and infrastructure development.

1.2 Singapore: Holistic Education Reforms

In Singapore, the Education Blueprint 2025 highlights the need to shift the focus from academic-based learning to a more holistic approach, emphasizing the development of critical thinking, creativity, and a lifelong learning mindset. The center of the reform policies is education based on the needs of students, and their goals concentrate on providing students with the necessary knowledge, not only in the academic field but also in the personal and social competencies required by the modern world (Kwek, Ho, & Wong, 2023). These reforms are aligned with global educational frameworks, such as the OECD's Learning Framework 2030, which proposes promoting a personalized and inclusive learning environment that emphasizes the diversity of student needs (OECD, 2024).

The emphasis of the Singapore education system is on flexibility, as it enables schools to offer special programs that help build the strengths and interests of students. Examples of such programs include the policy of making each school a good school, which is decentralized and focuses on school autonomy to ensure that the quality of education is preserved at all levels and diverse learning needs are supported (Lee & Ho, 2022). Areas of these reforms include the design of curricula, restructuring of the national assessment system, and implementation of teacher professional development programs with a focus on enhancing instructional practices and pedagogical methods. These reforms align with global standards in that they prioritize innovation and the development of skills required in 21st-century employment processes, including collaboration, communication, and digital literacy.

The system of educational reform in Singapore, particularly the emphasis on holistic education, contrasts with the Philippine model. The Education Blueprint 2025 also focuses on building 21st-century competencies, which include creativity, critical thinking, and lifelong learning, aligning with the global movement towards personalized learning and competency-based education (Kwek, Ho, & Wong, 2023). OECD (2024) and UNESCO (2023) tenure Singapore as a leader in world education, especially in terms of teacher quality and education governance. The country's priorities regarding equity and quality, as demonstrated by policies such as "Every School a Good School,"

show its commitment to providing all students, regardless of their backgrounds, with high-quality education (Lee & Ho, 2022).

The effective functioning of the Singaporean education system can be attributed to its highly formalized policy system, which prioritizes the professional growth of teachers, curriculum redesign, and the incorporation of digital technologies into the teaching and learning process (Tan, 2022). Baker and Lang (2021) emphasize the importance of teacher autonomy in Singapore, suggesting that granting educators greater control over the educational process will lead to increased student engagement and improved outcomes. Singapore is a state with a high governance structure that enables the accurate implementation of national changes, which is one of the factors explaining its success in education in a global environment (Tan & Ng, 2021).

According to Seah (2022), Singapore's heavy investment in educational technology enables the country to align its education system with those used worldwide. One of the projects of the reforms is the implementation of digital tools in the classroom, enabling students to develop the skills necessary for individuals to flourish in a digital economy. Chang and Teo (2020) argue that this attention to integrating technology has also enhanced the consistency of the Singapore educational system with global trends, where the focus has shifted increasingly towards digital literacy and innovative pedagogical practices.

1.3 Comparison and Alignment with Global Standards

The two states of the Philippines and Singapore have attempted to align their basic education reforms with global standards, yet the strategies and results differ significantly. With the K to 12 Program, the Philippines has endeavored to enhance its educational system to become globally competitive, particularly in terms of access to education and a curriculum that meets international expectations in post-secondary education requirements. Nonetheless, the reforms have not completely rectified some issues, such as inadequate resources and irregular quality of education provision, which serve as barriers to complete adherence to international standards (World Bank, 2024).

The reforms in Singapore, particularly those focused on holistic education and lifelong learning, have been exceptionally effective in adapting to the international educational system.

Curriculum integration (21st-century skills) and the provision of quality education to all are also areas of concern to the nation, hence making it a model of excellence in education in the Asian continent (Kwek et al., 2023). Such reforms can be successfully implemented with the help of well-established governing systems and highly financially educated individuals in Singapore. The latter can be considered a good model to follow for other nations that want to incorporate it into their global equivalents.

Both nations have made significant efforts to reform their education systems to meet international standards. However, Singapore, being more resourceful and effective in implementing its new education changes, has been able to achieve these ends more easily, covering larger areas in the process. The findings suggest that institutional capacity, societal-political context, and the availability of sufficient funds are key factors in pursuing education reform, which aligns with international benchmarks.

When examining the reforms practiced in the Philippines and Singapore, one can compare data elaborated within the scope of two nations which are trying to patch up the same issue across the globe concerning education, the world is changing fast, and students need to find a place within it, and one must teach the curriculum digital

technologies and work out skills which are in demand in a future workforce. The instructional reforms in Singapore are more comprehensive, yet with a stronger focus on teacher training, school governance, and well-managed administration. They are also critical when aligning a country's education standards with those of the international community, as this provides a country with the strength to have long-term and wide-scale education (OECD, 2024; UNESCO, 2023).

The data from the present study align with Hattie's (2020) findings, which emphasize that systemic-related factors, such as governance, policy coherence, and sufficient resources, are likely the most significant determinants of effective educational reforms. Other countries with well-established institutional opportunities and a favorable policy environment, such as Singapore, have a higher chance of successfully adapting their educational systems to international standards. In comparison, countries such as the Philippines face an even greater challenge due to infrastructure and resource gap weaknesses (Cabus, 2021). Reimers (2022) also contributes to this argument, noting that to see educational innovation have effects in low- and middle-income nations, it is not enough to focus solely on curriculum reforms; rather, a combination of elements such as effective leadership, accountability, and long-term investment in infrastructure and human capital is necessary.

At the global level, Darling-Hammond (2021) states that effective educational reforms are closely related to teacher quality and their innovative pedagogical activity. Both the Philippines and Singapore have made progress in these spheres; however, Singapore's investments in the development of professionals and the autonomy of teachers have put it in a significantly better position to meet global education standards.

These results are significant in terms of providing implications for comparative development administration, particularly regarding the impact of national settings, forms of governance, and institutional capacities on educational reforms. The comparison between the Philippines and Singapore reflects the importance of effective governance and resource allocation in achieving educational reform success. Although the strong institutional governance system with a keen emphasis on the development of teacher professionalism and school control allowed Singapore to maintain the high process of aligning with international standards in education, the Philippines had to challenge itself with the nature of the resource shortage and systematic discrepancies that could not allow the region to embrace the complete adoption of the K to 12 program. Such a comparison highlights the role that contextual factors play in determining the results of development policy, i.e., policy coherence, institutional capacity, and political will. To the comparative development administration, the findings underscore the importance of customized solutions that take into consideration the specific needs of the country being considered, and demonstrate that global standards are valuable, but success may be achieved by addressing local issues with tailored solutions and effective governance.

2. The critical issues that affected the two nations in the policy of making educational changes, and issues to be dealt with regarding money, construction and teacher training

The fact that both the Philippines and Singapore share common problems regarding funding, infrastructure, and teacher training in implementing their educational reforms is evident in the analysis performed. The difference lies in the fact that the problems are

more intense and far-reaching in the specific case of the Philippines compared to Singapore.

2.1 Philippines: Resource Constraints and Inequities

In the Philippines, a lack of infrastructure and substandard financing have been major setbacks to the implementation of the K to 12 Program. The World Bank reports that, although the Philippine government has invested heavily in education, the investment has not been sufficient to meet the increasing demands of the reform (World Bank, 2024). There is an acute shortage of infrastructure, especially in rural and remote regions, where schools often lack basic infrastructure, including classrooms, computers, and internet access, among others. Such constraints not only impact the quality of curriculum delivery but also further widen educational inequality, especially among marginalized and poor students (DepEd, 2021).

The other challenge is the quality of teacher training. Even after improving the standards of teachers, the government has been able to develop, but many educators still need proper training to implement the new curriculum and physical education changes presented by the K to 12 reform. The absence of consistent professional growth and limited training opportunities has led to the fact that the quality of teaching has been unreliable nationwide (Cabus, 2021). This burden is further exacerbated by a lack of teachers, particularly in areas of concern, which include science, math, and technical secondary skills. This has been further exacerbated by the fact that the Philippines has been relying on low wages and working conditions for teachers, leading to high turnover and an inability to retain and attract well-qualified teachers (Herczog, 2021).

As the results of the study indicate, despite the fact that Philippines and Singapore have a common issue the implementation of the educational reforms, the issue itself, its shape, and its severity, along with the results, are very different due to the particular socio-political, economic, and institutional backgrounds in the two countries. In the Philippines, serious problems in the spheres of finance, infrastructure, and teacher preparation also exist and interfere with the successful implementation of the K-12 reform. On the other hand, Singapore, which also has a developed education system, is struggling to change its teacher force to accommodate the demands of the present education reform, especially regarding issues of inclusion in technology and the education system in general. These findings are also consistent with current research in the field of education reform worldwide, which identifies institutional capacity, resource allocation, and long-term professional growth as key drivers of successful change in the education system (UNESCO, 2023).

A lack of financing in the Philippines is one of the greatest obstacles to the successful execution of the K to 12 reform. Even when schools seek to allocate funds to the program, financial constraints restrain them from fully implementing it, as many schools still lack sufficient funds to do so (World Bank, 2024). According to Gonzales (2023), low financial investments in the public education sector, combined with limited funds reserved by rural schools, predetermine inequity in the quality of education provided to children in rural and urban areas, as the latter are more inadequately funded. This fiscal deficit has a direct impact on the acquisition of essential educational resources, infrastructure, and technology that are crucial for delivering a modern curriculum. Moreover, educational disparities are exacerbated by the issue of underdeveloped infrastructure (such as overcrowded classrooms and a lack of resources) that affects remote regions of the country (Cabus, 2022).

Teacher training is yet another sensitive issue in the Philippines. Although the K to 12 curriculum requires a more complex and multicultural teaching method, most teachers have not received the necessary professional development to implement the reformed curriculum (Herczog, 2023). Limon & Gregorio state that teacher training programs with inconsistent quality, together with the absence of opportunities for continuous professional development, resulted in difficulties adjusting to the new pedagogical approaches prescribed by the K to 12 framework (2022). Additionally, Almarinez (2022) notes that remote teachers are less trained and prepared than their urban counterparts, and that there is a significant disparity in the quality of education across the state.

2.2 Singapore: Infrastructure and Teacher Professional Development

Although unlike the Philippines, Singapore does not face as many challenges, it is not immune to any problems in implementing its educational reforms. The issue of funding is not the major limiting factor, as the government has been allocating most of its resources to education. The problem, however, is that the amount of money available must be well distributed to fulfill the various needs of its schools. Even minor disparities in educational resources exist, particularly considering the varying degrees of autonomy that individual schools are afforded by the same policy, as outlined in the 'every school a good school' approach (Lee & Ho, 2022). The government has been compelled to allocate equal funds to maintain a high-quality education system, as well as to support underprivileged schools with limited resources.

Another problem for Singapore is the continued development of its teaching manpower. Although the level of education provided in Singapore and the training of its teachers can be described as high, the educational process in this country is constantly evolving due to the global trend of developing educational trends, new technologies, and international standards of competency. The professional development programs in Singapore are among the most excellent in the world, although lifelong learning is the most vital for teachers. Educators will need to continually develop their skills to align with the model of holistic education, which focuses on critical thinking, creativity, and global perspectives (Kwek, Ho, & Wong, 2023). Digital education and personalised learning further enhance the curriculum as the domains become more integrated into the teaching process, and the challenge of all teachers having to possess the required digital literacy and innovative teaching skills remains a concern that Singapore is still addressing (Tan, 2022).

In Singapore, funding is not as much of an issue as it is in the Philippines; however, the key challenge is the effective allocation of the resources at its disposal. According to Seah (2022), the Singapore education system faces challenges in providing educational opportunities that cater to the unique needs of its students, particularly in a rapidly changing educational environment where a paradigm shift towards personalizing learning and developing 21st-century skills is necessary. Its difficulty lies in achieving equity among schools that may have varying degrees of resources. Its attempts to decentralize the educational governance have been manifested in the so-called Every School a Good School, yet the differences in the degree of autonomy and resource base among schools continue to exist and are capable of affecting the overall quality of education in schools with a lesser amount of resources (Lee & Ho, 2022).

One additional outstanding issue in Singapore is that educators should be able to continually adapt to the rapidly evolving educational paradigm, particularly with the

introduction of digital technologies. Although Singapore has an excellent reputation in the global community with its high-quality teacher professional development, the ever-changing landscape of education, including the emergence of artificial intelligence, data analytics, and the aspect of digital literacy, necessitates the fact that teachers need to take steps to keep their skills relevant and adequate (Tan & Chan, 2023). The OECD (2024) finds that the effective use of technology in education requires not only enabling teachers who possess digital skills but also having the capacity to use and interpret pedagogy, which can be best supported by digital technology. This task is especially prominent, considering that the nation is actively promoting new practices in educational settings to foster creativity, critical thinking, and digital skills (Tan, 2022).

2.3 Comparison of Challenges in the Philippines and Singapore

Both nations encounter problems concerning financing, infrastructure and training their teachers, but the scale and effects of the problems in the Philippines are bigger. Although the Philippine government has invested funds in making the K to 12 program effective, several factors hinder its effectiveness due to the lack of uniformity between infrastructure development and teacher education in urban and rural communities. This situation is further exacerbated by the constant professional development of teachers, which is often neglected and contributes significantly to the inability to ensure the quality of education (Herczog 2021). However, in contrast, Singapore has a well-established institutional background that enables an even distribution of resources and a methodical approach to teacher development. Nevertheless, Singapore has yet to overcome the barrier of meeting the evolving global education needs related to adapting the teaching workforce, specifically in terms of integrating technology and promoting holistic education (OECD, 2024).

The effectiveness of the way people are governed and the performance of governmental systems in formulating and implementing policies will primarily influence whether these two countries can overcome these challenges. Although Singapore has a good governance mechanism and invests sufficiently in education, its focus on continually improving teacher quality and aligning with international trends is a problem. Conversely, there is a need to address system-wide inequities in infrastructure, budget allocation, and teacher quality in the Philippines so that the K-12 program can meet its full potential (Cabus, 2021).

The issues that hinder the implementation of educational change in the cases of the Philippines and Singapore depend on variations in resources, governance, and infrastructure. Whereas the Philippines is struggling with the lack of resources, unequal access to resources in the educational area, poor teacher training, Singapore is facing issues connected mostly with making sure that the highly trained teaching staff is able to maintain adapting to new events, and able to incorporate new trends that are arising in the education sphere of the whole world. The results of this study suggest that proper funding, fair resource allocation, and continuous professional development are crucial to ensuring that education reforms can be effectively developed and nurtured.

According to the findings, both the Philippines and Singapore have faced challenges in implementing educational reforms. However, the factors that determine the success of the reforms are closely intertwined with the country's governance, funding mode, and resource allocation. The lack of education funding in the Philippines and the inequitable allocation of resources in the education sector, both in urban and rural schools, are among the major factors that hinder the desired outcome of the K to 12 reform.

According to Gonzales (2023) and Cimino & Cifuentes (2020), established barriers cannot be easily overcome. Not only is the construction of physical infrastructure needed, but also the training of the teacher population must be in accordance with the requirements of modern pedagogy. The results of Almarinez (2022) and Limon & Gregorio (2022) support this opinion, stating that the effectiveness of implementing the K to 12 reforms among teachers is highly dependent on professional development and curriculum support.

Conversely, the problems facing Singapore are primarily centered on ensuring that its teachers are adaptable enough to work within a changing educational environment. Hattie (2022) emphasizes that teacher quality remains one of the primary predictors of educational success. As educational requirements shift towards digital literacy and holistic education, a single skill will no longer be sufficient, and changes will need to occur constantly. It is also revealed in the findings that, although the education system of Singapore is very effective, the personalization of learning and comprehensive development require constant innovation and adaptability from educators and administrators. This continuous mobility is necessary to maintain Singapore's position as one of the leading education centers, as Chang & Teo (2023) claim.

These results suggest that educational reform cannot be successful without continuous investment in teacher training and the equitable allocation of resources, regardless of a country's economic stability. The Philippines needs to address systemic issues, including fair funding, teacher retention, and infrastructure development. In contrast, Singapore should maintain the quality and flexibility of its teaching resources amid continuous changes in education.

The findings provided reflect the role that governance structures and policies, financial administration, and the establishment of human capital can play in facilitating the success of educational innovations. This information is useful in comparative development administration. Despite the well-endowed and highly efficient governance system that has led Singapore to achieve excellence in most of its major educational reforms, in the Philippines, issues relating to funding, inequity in resource allocation, and teacher preparation standards have not received adequate attention. These findings reveal the necessity of considering development policies based on a country's socio-political and institutional peculiarities, and ensuring that the country's development distributes funds equally, constantly reskills professionals, and rebuilds its system. Due to the comparative analysis of other countries undertaking similar reforms, it can be indicated that effective educational reform implies that it should have extensive and systematic policies, which take into consideration structural inequality and global trends, focus on local solutions, and acknowledged that long-term and sustainable incarnation of reforms lie on the establishment of the institutional capability.

3. The impact of these changes on the achievements of a student, critical thinking, and equipping with the necessary competence to compete in the global arena

The findings on the impacts of education reforms in the Philippines and Singapore on student achievement, learning outcomes, academic performance, critical thinking, and readiness to meet the world are presented. The results define the failures and successes of haunting the overall educational experience and equipping students with the required abilities, leading to prosperity in the present global economy in every country.

3.1 Philippines: K-12 Program and the Student Outcome of the Philippines

The implementation of the K to 12 Program in the Philippines was meant to promote academic excellence and prepare students to enter higher education or the workforce. Although the program has led to an expansion of the curriculum and increased time spent in school, the results have not been very clear regarding improvements in academic performance. DepEd (2021) notes the visible increases in literacy levels and the growth in the number of high school graduates, which are directly attributed to the additional years of schooling.

Nevertheless, issues persist regarding the maintenance of student numbers and the overall level of learning outcomes in various areas. Gonzales (2023) notes that students residing in rural and underserved communities often face significant achievement gaps due to disparities in the quality of teaching and access to resources. This means that, with more years of schooling, education outcomes remain imbalanced, with urban students consistently scoring higher than their rural counterparts.

Moreover, the curriculum change in senior high school, which emphasized vocational studies, was intended to increase students' readiness to join the workforce. Bautista (2022) documents, however, that many students struggle with the transition between vocationally oriented (academic emphasis) and more academic curricula, which, according to him, is due to a lack of ample vocational training opportunities and company contacts in some areas. Consequently, although this has enhanced the academic rigor in the K-12 program, the implications for students' ability to execute tasks practically and be workforce-ready are yet to be determined.

The program's effect on critical thinking has been more positive, especially in senior high school, where students are encouraged to solve problems, conduct research, and engage in problem analysis. Nevertheless, Santos (2023) points out that a change in curriculum and teaching methods has not always been carried out consistently, and it appears that teachers in under-resourced schools continue to use rote learning extensively, which hinders the development of higher-order thinking skills. The teacher training level can be considered a significant setback in ensuring consistency in developing critical thinking and problem-solving skills across the board.

In terms of global competitiveness, the Philippines struggles to equip students to thrive in an increasingly integrated and competitive world. The K to 12 reform aligns with international education standards in terms of time and curriculum coverage. However, due to the inequality in education quality and access to educational resources, pupils are unlikely to compete effectively in the global market. Students in urban centers are more likely to have the opportunity to be internationally exposed, which places students in rural regions at a disadvantaged position (Herczog, 2021).

3.2 Singapore: Impact of Educational Reforms on Student Outcomes

In Singapore, the reforms aimed at achieving a whole-person education have had a significant impact on the education sector, whether positive or negative. Academic performance, critical thinking, and global competitiveness concepts are some of the areas that have been greatly influenced. The Education Blueprint 2025 focuses on developing students who are both academically competent and well-rounded, with high skills in creativity, collaboration, and lifelong learning. With the implementation of 21st-century competencies, such as critical thinking and problem-solving, into the curriculum, as noted by Kwek, Ho, and Wong (2023), the levels of student engagement



and academic achievement in mathematics and science have increased. The academic reforms in Singapore are highly effective, as the country consistently ranks among the top performers in international rankings, such as the PISA tests (OECD, 2024).

The focus on individualization and learners' welfare has also led to increased academic resilience in students. Those aimed at social-emotional support of students have also resulted in improved engagement and retention rates among students, especially at the secondary level (Tan, 2022). It has also positively affected critical thinking, as whole-child development in Singapore promotes project-based learning, debates, and problem-solving in real-world contexts (Seah, 2022). Students in Singapore have been shown to possess innovative capacities to think critically and become digitally literate, which is crucial for succeeding in a knowledge-based economy as the world continues to become increasingly interconnected.

The students in Singapore are well-prepared to face global competitiveness. The country's rigorous curriculum, combined with the high priority placed on critical thinking and global awareness, has enabled students to excel in international competitions, including the International Mathematical Olympiad and World Skills Competitions (Lee & Ho, 2022). Another feature of Singapore that contributed to the success of its educational reform is the quality of its teachers, which ensures that students receive high-quality instruction that helps them become critical thinkers and global citizens. In addition, global competency skills such as adaptability, creativity, and communication have enabled Singapore to become a leader in global education, and its students are well-prepared to join international universities and compete in the international labor market (Tan, 2022).

3.3 Comparison of Impact on Student Outcomes

The argument between Philippine and Singaporean student achievements highlights the role of institutional capacity in determining the success of education reforms. Educational reforms in Singapore, which are strong indicators of management resources, governance, and teacher development, have led to a significant improvement within the nation in areas such as academic performance, critical thinking, and global competitiveness. On the contrary, although the Philippines has improved access to education through the K to 12 program, educational inequity based on teacher training, infrastructure, and access to resources remains a significant challenge that significantly affects student performance, particularly in critical thinking and job market preparedness.

The results indicate that before educational reforms begin to deliver tangible results to students, particularly in developing nations such as the Philippines, a comprehensive reform must be in place, involving not only curriculum change but also addressing obstacles inherent in equal resource access, teacher preparation, and inadequate infrastructure. According to Hattie (2022), the key to increasing student success and readiness to enter the competitive and globalized world is associated with teacher quality and the equitable distribution of resources.

The effectiveness of the educational reforms in the cases of the Philippines and Singapore indicates that education in both countries has improved its rates, yet their outcomes differ significantly. Due to the comprehensive reforms concerning education in Singapore, a high level of academic work, critical thinking, and global competence has been achieved, and students are well-trained and able to perform in the international world. Meanwhile, the Philippines lingers on the issues of teacher preparation,



allocation of resources, and quality education in the path to achieving the targeted result of the K to 12 program in the assimilation of students. The findings reveal the importance of human capital investment, the imbalance between resources, and equal access to quality education as crucial concerns when planning for students to enter new spheres in the future.

Conclusion and Future Research

Innovation in the Philippines and Singapore in basic education reforms, including the scope of the reforms, the problems they aim to resolve, the challenges they present, and the results they have achieved, is studied in this paper. The evidence has shown that these two countries have been working to ensure significant progress in educational reform in line with international education standards. The Philippines introduced the K to 12 program, which lengthens the education tenure up to 12 years, similar to international education systems. However, the nation is facing some critical challenges, including insufficient funding, resource inequity, and inadequate teacher training, which hinder the full implementation of these reforms and prevent achieving the intended success in education. The Singapore reform, on the other hand, has been highly successful due to its good governance and investment in education, where more attention is given to the development of 21st-century skills, such as critical thinking and creativity. An even more impressive indication of how well Singapore has succeeded in matching global standards is that its education system has risen to become a center of excellence in terms of academic and workforce capabilities worldwide.

The paper also highlighted the major issues faced by the two states in implementing their education reviews. The Philippines suffers from irregularity in the resource allocation process, especially in rural settings, and inadequate teacher training, which constrains the full use of the K to 12 curriculum. These difficulties are further compounded by financial pressures, particularly in matters of infrastructure and the availability of teaching materials. On the other hand, Singapore has fewer financial limitations; yet, it must ensure that its institutions of learning remain fair in resource allocation and that instructors are always prepared to address rapidly evolving educational requirements. Although professional development of teachers in Singapore is one of its strong points, the modern development of digital education and various forms of holistic learning also presents challenges, requiring constant innovation and flexibility in teaching approaches.

The two countries have experienced mixed success in terms of student outcomes. The reforms have been successful in Singapore, improving academic performance, thinking skills, and competitiveness in the global market. Students consistently perform well in international examinations, such as PISA. Singapore's focus on personal learning, critical thinking, and global awareness has equipped students with the skills required to succeed in a competitive global economy. Meanwhile, the Philippines has achieved some success in academic achievement and graduation rates due to its prolonged schooling program, K to 12; however, educational inequality and unequal quality persist, largely due to regional disparities in access to schools. The issues of critical thinking and workforce readiness are still areas that require closer attention, as the effects of the reform have been disproportionately widespread throughout the country. It can be concluded that the findings have revealed the need for a comprehensive approach to education reform, which must encompass sufficient

funding, teacher training, and the equitable distribution of resources to achieve significant and lasting improvements in student performance.

Among the main limitations of the research must be mentioned the fact that this kind of study was based on document analysis and secondary data, and could not necessarily provide the researchers with the experiences of the educators, students, and policymakers who were participating in the educational reforms. Although the research is useful and provides insights based on policy documents and scholarly reports, it does not utilize any primary data collected through interviews or surveys of the subjects actively involved in the reforms. Additionally, the research overlooks the dynamic nature of educational systems, as the effects of reforms can be both short-term and long-term, which have not yet been recorded. It also visits only two countries, thereby limiting its findings in drawing a broader conclusion regarding educational reform in multidimensional consulting nations worldwide. Lastly, the study addresses the issues with the reforms, but it does not delve into the details of the local or grassroots impediments to change, especially in low-resource and rural areas.

In the future, researchers may undertake comparative studies of larger numbers of countries, enabling them to compare various issues and approaches to implementing educational changes. Particularly, research can be conducted to collect primary data from educators, students, and policymakers, offering a more vivid picture of how the reforms are perceived at the ground level. They could also be conducted longitudinally to determine the long-term effects of the K to 12 program in the Philippines and holistic education reforms in Singapore on student outcomes, including employment, lifelong learning, and competitiveness in the global economy. It would also be crucial to study the concepts of technology integration, digital literacy, and teacher professional development in conjunction with their effects on future education reforms, as the world continues to evolve to meet the needs of a digital economy driven by globalization.

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