

# Comparative Analysis of Education System between Singapore and Finland

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**Abstract:** Recent years have witnessed the spur of economic globalization. We are in the era which is stepping forward without development boundaries. Hence, the need for talents with international capabilities is beyond real number in world. A bunk of countries rake their brains to develop effective education systems to cultivate countries' workforce. The spotlight is propelled into two countries-Singapore and Finland-which are renowned for their high performance in international assessments such as the Programme for International Student Assessment (PISA). The education systems of Singapore and Finland are often held up as exemplars of educational excellence, each with its own unique approach to nurturing talent and preparing students for the globalized world. While both countries have achieved high rankings in international assessments like PISA, their educational philosophies, cultural contexts, and societal values differ significantly, making direct comparisons challenging yet insightful. It's hard to tell whose education system is much more effective since there are difference and similarities in respective education system. For the sake of factors making it hard to compare education system of two countries and gives insights for other countries to improve education system by integrating respective effectiveness in education system. This comparative analysis examines the education systems of Singapore and Finland delving into the distinct educational philosophies, cultural contexts, and societal values that shape the effectiveness of these systems.

**Keywords:** Comparative Education, Singapore, Finland, Education Systems, International Education.

## 1. Introduction

In the current global environment, changes and disruptions are here to stay. Key forces driven by the multi-faceted and dynamic technological, economic, political, demographic, social and cultural imperatives will continue to have tremendous impact on the types of jobs that future-ready students will do.

Given this backdrop, a bunk of countries are obligated to renew teaching philosophy and objectives to fit in new social circumstances. Education systems in various countries evolve and some lands are maintaining the consistently high rankings in the international benchmark studies. The ten countries with the highest PISA (Program for International Student Assessment) scores in 2022 are Singapore, Macau(China), Taiwan (China), Japan, South Korea, Hong Kong (China), Estonia, Canada, Ireland, and Switzerland(OECD,2022). The PISA refers to a triennial survey run by the Organization for Economic Cooperation and Development (OECD) which assesses 15-year-olds' abilities in reading, mathematics, and science. Singapore takes the top spot with an impressive overall PISA score of 560 while Finland gets 495 overall PISA score. Finland is continuously praised for their quality of education. In the early 2000s Finnish students' good results in the earlier cycles of the OECD's PISA survey (2000–2012).Eventually all OECD members were recognized that Finland's education system was the best in the world because its educational policies were consistent for more than 40 years even though the governing party changed(Ashok Federick,2000).Understanding these influences can provide valuable insights for other countries seeking to improve their own education systems. Therefore, it is necessary to dig into high-performing Finnish and Singaporean education systems. This paper investigated factors that make it hard to compare the "effectiveness" of education system between Finland and

Singapore, endeavoring aligns with the evolving discourse on holistic education and underscores the need for a balanced approach to educational policies not only for the two countries but for all countries in the world.

## 2. Comparison between Two Education Systems

Indicator	Singapore Education System	Finland Education System
Educational Philosophy	Emphasizes selection and competition, focusing on academic achievement and exam scores.	Emphasizes holistic development and nurturing, focusing on student interests and individual development.
School System	Primary school : ~6 years Secondary school : 4years High school : 2 years Undergraduate : ~3-4 years	Primary school : ~7 years Secondary school : ~3 years High school : ~3 years Undergraduate : ~3-4 years
Curriculum	Uniform curriculum, focusing on foundational education, with division in high school.	Diverse curriculum, focusing on student interests and choices, with selective courses in high school.
Examination System	High school graduation exam is the university entrance qualification exam, with grades.	High school graduation exam is also the university entrance qualification exam, with grades, but more emphasis on student's overall quality.
Teacher Qualification	Teachers must have a master's degree and undergo 5 years of teacher education.	Teachers must have a master's degree and undergo 5 years of teacher education, emphasizing teaching enthusiasm and innovative thinking.
Educational Resources	Educational resources are centralized, with differences between schools.	Educational resources are balanced, with small differences between schools, focusing on educational equity.
Educational Goals	Emphasizes academic achievement and exam scores, focusing on competition.	Emphasizes the cultivation of student creativity, critical thinking, and lifelong learning abilities.
Educational Evaluation	Emphasizes exam scores and academic achievement.	Emphasizes student's overall development and comprehensive quality evaluation.

Figure 1. Similarities and Difference education system in two countries

The "effectiveness" of an education system refers to its ability to achieve its intended goals and outcomes. These

goals typically include the development of students' knowledge, skills, and competencies, as well as their personal and social development. The effectiveness of an education system can be measured by various indicators and outcomes, such as Academic Achievement, Employability, Innovation and Adaptability, Policy and Governance and so on. The results find Singapore and Finland have similarities and difference in education system from the papers collected.(Figure 1).

From the Figure 2, we can analyze and conclude these two distinctive education systems in this way:

### **2.1. The Effectiveness of Singapore Education System**

Singapore's education system is separated into four levels: pre-school, primary, secondary, and post-secondary. The success of the Singapore educational system can be attributed to several key strategies that have been implemented over the years. These strategies, aimed at ensuring a high-quality and globally competitive education, include: Meritocratic System which is placing a strong emphasis on academic achievement and performance. Education systems are complex-historical, contextual, and cultural dimensions shape Singapore's trajectory (Shu-shing Lee et al., 2016). The success of this system can be attributed to several factors: the clarity of purpose of the decision-makers, with clear targets in cohort participation rate, commitment to significant funding for education and research, discipline of an intelligent and well-implemented governance system, flexibility in adjusting plans, and rapid and adaptive learning from overseas partners (Arnoud De Meyer & Jovina Ang, 2021).

The Singapore education system is highly effective in achieving academic excellence. Singapore places a keen focus on preparing students for the future economy by equipping them with skills relevant to the 21st century (Ruel S et al., 2024). This success is underpinned by a rigorous curriculum that prioritizes mathematics, science, and literacy, coupled with a competitive environment that encourages high standards. The system's emphasis on accountability through high-stakes national examinations ensures that students are well-prepared for higher education and the workforce and determine educational pathways and future opportunities. The Singapore education system is not only effective in academic achievement but also in preparing students for employability. The system encourages critical thinking, problem-solving, and innovation, which are highly valued in the modern job market. Singapore's education system also places a strong emphasis on vocational and technical education, ensuring that students have the skills needed for various industries. This is complemented by partnerships with industry players, which provide students with internships and practical experience. Moreover, the Singapore government's commitment to education is evident in its investment in infrastructure and resources, which support the development of employability skills. Ng (2007) contend that in Singapore, "the primary motivator to decentralisation is not to promote democracy per se, but to improve efficiency and effectiveness of governance"

### **2.2. The Effectiveness of Finland Education System**

The Finnish education system is structured into pre-primary, primary, secondary, and post-secondary levels, with a strong focus on academic achievement and performance.

The system is characterized by highly trained teachers, a lack of standardized testing, and a curriculum that encourages critical thinking and creativity. The Finnish education system is not only about academic achievement but also about fostering creativity, critical thinking, and social skills, preparing students for life in a rapidly changing world (Sahlberg, P, 2011).

The Finnish education system is renowned for its effectiveness, particularly in the areas of academic achievement and equity, ensuring that all students, regardless of their socioeconomic background, gender, or location, receive a high-quality education. This is achieved through a combination of policies and practices. For instance, Finland has a comprehensive system of free education from preschool to higher education, which eliminates financial barriers to education.

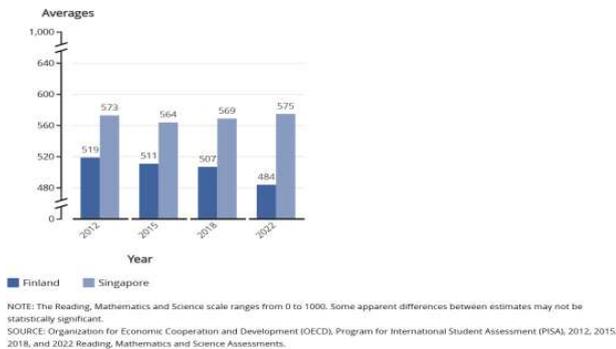
The curriculum is designed to be flexible and adaptable, allowing teachers to tailor their teaching to the needs of their students. Furthermore, the Finnish education system values the well-being of both students and teachers. There is a strong emphasis on work-life balance, with shorter school days and longer holidays, which helps to maintain a healthy and productive learning environment.

## **3. Challenges in Comparing Effectiveness**

Each system has its strengths and weaknesses, and what may be efficient for one country may not be the same for another, given their unique cultural, social, and economic contexts. Imagine two chefs, each renowned for their unique culinary styles. Chef A specializes in intricate, Michelin-starred dishes that require precise techniques and ingredients, while Chef B is celebrated for their rustic, farm-to-table approach that emphasises the natural flavors and health benefits of the food. Now, if you were to compare the effectiveness of these chefs, you would face challenges. Chef A's efficiency might be measured by the number of dishes served per hour or the complexity of the techniques used, while Chef B's efficiency could be assessed by the freshness of the ingredients or the sustainability of the cooking methods. Similarly, comparing the effectiveness of Singapore's and Finland's education systems is like comparing these chefs. Singapore's system, with its focus on academic rigor and high performance in standardised tests, is akin to Chef A's meticulous and high-pressure kitchen. Finland's system, with its emphasis on holistic development and student well-being, is like Chef B's approach, where the quality of the educational experience is paramount.

There are no common standards to weigh in education system. In recent years, Finland's ranking in PISS has not been as good as in the past, even declining, while Singapore's ranking in PISS is firmly in the top ten. (Figure 2) If the standards of PISS are used as an indicator of the effectiveness of the education system, can it be considered that Singapore's education system is superior to Finland's? If the overall development of students and the uniform distribution of educational resources are the indicators of the effectiveness of the education system, can the Finnish education system be considered better than the Singapore education system? Just as comparing the efficiency of these chefs would require understanding their distinct goals and methods, comparing the efficiency of the two education systems requires an appreciation of their different educational philosophies,

cultural contexts, and the outcomes they value. There are some factors that make it hard to compare the effectiveness of the two countries based on table analysing from papers collected. The grounds behind it are as follows: Societal and Cultural Factors, Educational system and management and Teacher quality as well as professional development.



**Figure 2.** Scores Comparison Between Singapore and Finland

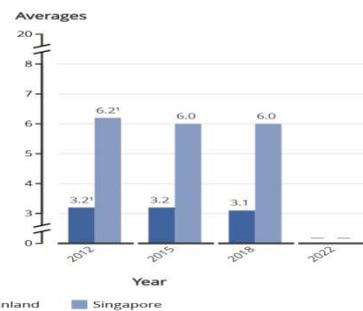
### 3.1. Societal and Cultural Factors

Comparing the effectiveness of Singapore and Finland's education systems is challenging due to their distinct social backgrounds. Notably, the reasons for the lack of successful implementation were inextricably tied to the contexts of the Finnish and Singaporean systems (Brand, 2021). Singapore's system, shaped by its multicultural society and economic focus on high-tech industries, emphasizes academic achievement and competition, reflecting its values and economic needs. In contrast, Finland's system, rooted in its egalitarian culture and innovation-driven economy, prioritizes holistic development and creativity, aligning with its societal values and economic structure. Labaree (2010) might discuss how education systems serve as vehicles for cultural transmission, teaching students the norms, values, and knowledge that are deemed important by the society. This includes not only academic content but also the cultural practices and beliefs that are considered essential for social cohesion and continuity. The differing educational resources and policies in both countries also play a role; Singapore's centralized resources and efforts to reduce educational disparities contrast with Finland's emphasis on educational equity and student well-being.

### 3.2. Divergent Educational Philosophies and Objectives

The effectiveness of Singapore and Finland's education systems is challenging to compare due to their divergent educational philosophies and objectives. Singapore's system, rooted in a competitive and academically rigorous approach, aims to prepare students for a globalized economy and to excel in international assessments. Students are assessed through a rigorous examination system, and the results play a crucial role in determining educational pathways and future opportunities (Ruel S et al., 2024). From Singapore's multi-ethnic beginnings as a trading outpost for the British empire, examinations were instituted in the country in 1863 to "create a healthy spirit of rivalry among the schools and promote higher standards of education" (Tan et al., 2008). We can tell the number of tests is much higher than the one in Finland. (Figure 3) This focus on academic excellence and high-stakes examinations may lead to a strong emphasis on rote learning and test preparation, potentially overlooking the development

of critical thinking and creativity. On the other hand, Finland's education system is built on a philosophy that values each student's individuality and well-being. The idea of the new curriculum is competency-based instead of having a sole focus on teaching different subjects. The new national curriculum for basic education in Finland has seven different competency areas closely related to 21st century competencies: thinking and learning to learn, cultural literacy, communication, and expression, managing daily life, taking care of oneself and others, multiliteracy, ICT-skills, entrepreneurial and work life skills and participation and building a sustainable future (FNCBE, 2014). The Finnish approach prioritizes holistic development, creativity, and lifelong learning, with a curriculum that allows for more flexibility and choice. This focus on student-centered learning and a more balanced approach to education may better equip students for the future, where adaptability and problem-solving skills are increasingly important. Hence, different education philosophies lead to distinct education systems aiming at different focus parts. It is not accessible to compare two diverse education systems culturally.



**Figure 3:** Number of Classes Periods and Tests

### 3.3. Teacher Quality and Professional Development

Teacher professionalism may be discussed within two different paradigms, one that focuses on accountability issues such as teachers and students performance and another that focuses more on teacher agency and autonomy. Both of these paradigms can be identified in different education systems but often one of them predominates. The Finnish system places the onus of professionalisation on the individual teacher thus emphasizing professional accountability, whereas the Singapore system introduces measures to regulate the professionalization of teachers, focusing on performative accountability. For example, Singapore focused more on training in mathematics than Finland. (Figure 4). Within Singapore education system, teachers' professionalism becomes defined in terms of skills and competences, which have the potential for being measured and rewarded, rather than a form of reflection, as a relationship between principles and judgement. One scholar noted how reflection among teachers in Singapore schools is based on "the conception of reflection advocated by the state ... and focuses on specific and proximate matters within the academic and social efficiency traditions" (Tan, 2008). Singaporean society values efficiency, numerical performance and productivity. School leaders and teachers are used to taking orders from the top, neither are school leaders used to listen to, or take initiatives from the teachers (Hairon & Dimmock, 2012).

Finnish teacher education has roots in the German system where the didactical approach, and the important role of theory and research in teachers' professionalism were

introduced right after the birth of the basic education in Finland. The teacher education emphasizes lifelong learning principles. Highly regarded in Finland, the teaching profession has claimed socio-ethical status and often voted as the most admirable profession in the society (Sahlberg, 2015). Today, Finnish teachers are described as professionals with high levels of autonomy. Their work is guided by the three levels of curriculum frameworks: national, regional and school based, but teachers have a certain level of freedom to implement the curriculum. In a sense, the Finnish system exhibits greater professional accountability when compared with the Singapore system.

Mathematics teacher training (WLE), age 15 years Difference in averages between jurisdictions, for all students [TOTAL] = All students 2022		
	Finland (-0.32)	Singapore (0.87)
Finland (-0.32)		< Diff = -1.18 (0.062) P-value = 0.0000
Singapore (0.87)	> Diff = 1.18 (0.062) P-value = 0.0000	

**LEGEND:**  
 < Significantly lower.  
 > Significantly higher.  
 x No significant difference.

NOTE: Within country comparisons on any given year are dependent with an alpha level of 0.05.

Figure 4. Mathematics Teacher Training

## 4. Discussions and Findings

The comparative analysis of the education systems in Singapore and Finland has revealed several key insights into the effectiveness of each system, highlighting the complexities involved in comparing educational models across different cultural, historical, and socio-economic contexts. The findings suggest that while both countries have achieved high rankings in international assessments such as PISA, their educational philosophies, cultural contexts, and societal values differ significantly, making direct comparisons challenging yet insightful. The comparative analysis of Singapore and Finland's education systems underscores the importance of considering the unique cultural, historical, and socio-economic contexts when evaluating the effectiveness of educational models.

## 5. Conclusion and Implications

The comparative analysis of Singapore and Finland's education systems reveals that their effectiveness cannot be easily compared due to their unique cultural, historical, and socio-economic contexts. Singapore's system, with its emphasis on academic rigor and high performance in standardized tests, is akin to a meticulous and high-pressure kitchen, while Finland's system, with its emphasis on holistic development and student well-being, is like a kitchen that prioritizes the quality of the educational experience. The distinct educational philosophies, cultural contexts, and outcomes valued by each system make it challenging to compare their effectiveness. Understanding these differences is crucial for other countries seeking to improve their own education systems. The key lies in appreciating the distinct

educational philosophies, cultural contexts, and outcomes valued by each system. The paper suggests that the best practices from each system can be integrated to enhance the overall quality of education, emphasizing the need for a balanced approach to educational policies. The comparative analysis of Singapore and Finland's education systems underscores the importance of considering the unique cultural, historical, and socio-economic contexts when evaluating the effectiveness of educational models. It also highlights the potential for cross-cultural learning and the integration of best practices to improve educational outcomes worldwide.

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