

Global Lessons from Top-Performing Countries in the Programme for International Student Assessment (PISA)

April A. Camiador¹, Dr. Gladys S. Escarlos²

¹Central Mindanao University, Graduate Studies, Musuan, Maramag, Bukidnon, Philippines
april.camiador001@deped.gov.ph

²Central Mindanao University, Graduate Studies, Musuan, Maramag, Bukidnon, Philippines
f.escarlos.gladys@cmu.edu.ph

Abstract:

The Programme for International Student Assessment (PISA) is a triennial international survey that evaluates the educational systems of countries by assessing the knowledge and skills of 15-year-old students. This article examines the characteristics and best practices of countries that consistently excel in PISA, including Singapore, Finland, Japan, and South Korea. Through a review of their methodologies, curricula, teacher development, and support systems, this article highlights the critical factors contributing to their educational success. The findings provide valuable insights for policymakers and educators seeking to improve educational outcomes globally.

Keywords — Programme for International Student Assessment (PISA), Top performing countries

I. INTRODUCTION

The Programme for International Student Assessment (PISA), administered by the Organisation for Economic Co-operation and Development (OECD), is a benchmark for evaluating educational systems worldwide. Conducted every three years, PISA assesses the reading, mathematics, and science literacy of 15-year-old students in over 80 countries and economies (OECD, 2023). The results offer evidence-based insights for policymakers, identify effective educational practices, and facilitate international collaboration. By providing comparable data, PISA helps countries understand their strengths and weaknesses and informs reforms aimed at improving student outcomes and fostering global competitiveness.

II. METHODS

This article synthesizes data from the most recent PISA 2022 results and reviews literature on the educational systems of top-performing countries. The analysis focuses on the following nations, which achieved the highest overall scores in PISA 2022: Singapore, Macau, Taiwan, Japan, South Korea, Hong Kong, Estonia, Canada, Ireland, and Switzerland (OECD, 2023). Key factors examined include teacher selection and training, resource

distribution, curriculum design, learner development, teacher professional development, and student support systems. Comparative analysis identifies commonalities and unique strategies that contribute to educational excellence.

III. RESULTS

The analysis of top-performing countries in the PISA 2022 assessment reveals several key factors that contribute to their educational success. First, rigorous teacher selection and training are fundamental. These countries prioritize teacher quality by requiring high academic qualifications—typically a bachelor's or master's degree—and providing ongoing professional development and support. This ensures that teachers are well-prepared to deliver effective instruction. Second, equitable distribution of resources plays a critical role. High-performing countries strive to provide all students, regardless of socio-economic background, with equal access to quality education, including free meals, transportation, and learning materials, as seen in Finland.

Curricula in these countries emphasize critical thinking, problem-solving, and creativity, moving beyond rote memorization to foster deeper understanding and application of knowledge.

Cultural attitudes that value academic achievement and discipline also influence student performance positively. Countries like Japan and South Korea reflect societal respect for education as a key driver of success, which motivates students to excel.

The top-ranking countries, including Singapore, Macau, Taiwan, Japan, South Korea, Hong Kong, Estonia, Canada, Ireland, and Switzerland, demonstrate diverse but effective approaches to education. For example, Singapore's system is known for its academic rigor and strong teacher training programs, while Finland emphasizes equity, inclusivity, and student-centered learning. Japan focuses on discipline and STEM education, and South Korea maintains a highly competitive academic environment with a strong emphasis on teacher quality and student achievement.our with restorative practices (Sahlberg, 2018).

IV. DISCUSSION

The governance and management of education systems in high-performing countries reveal common best practices that underpin their success. Teacher certification and qualification standards are notably high, with many teachers holding advanced degrees and specialized training in areas such as special education or language instruction, as seen in Finland. Competitive salaries, job security, and clear career pathways attract and retain talented educators in countries like Singapore and South Korea. Furthermore, ongoing professional development opportunities ensure that teachers continuously refine their skills and stay abreast of best teaching practices. Curriculum development also varies but shares important features. Finland's curriculum offers schools autonomy to innovate and adapt, fostering creativity and inclusivity. In contrast, Singapore and South Korea emphasize academic rigor and a strong foundation in core subjects such as math, science, and language. Japan's curriculum reflects cultural values of respect and discipline, with a strong focus on STEM education and problem-solving skills. These curricular approaches highlight the balance between foundational knowledge and critical thinking skills necessary for success in PISA.

Learner development strategies differ across these countries but commonly prioritize holistic growth. Finland's student-centered approach emphasizes equality, well-being, and personalized learning, with

shorter school days and more extracurricular activities. Singapore and South Korea focus on academic excellence and discipline, while Japan balances academic rigor with character development and respect for authority. These tailored approaches align with each country's cultural context and societal expectations.

Teacher development is another critical pillar. Finland's teachers enjoy autonomy and engage in ongoing professional development, while Singapore employs a rigorous selection process and offers structured career development. Japan's collaborative lesson study and mentorship programs foster continuous improvement, and South Korea's competitive teaching profession emphasizes comprehensive training and professional growth. Investing in teacher quality is clearly a shared priority.

Finally, robust student support systems contribute significantly to educational outcomes. Finland provides equitable access to education and prioritizes student well-being. Japan promotes parental involvement, community building, and anti-bullying policies. South Korea balances a structured curriculum with growing attention to emotional well-being, and Lithuania's rapid digitalization efforts during the pandemic ensured equitable access to learning technology. These support systems create environments conducive to student success.

Hence, while the top-performing countries in PISA share common elements such as high teacher quality, equitable resources, strong curricula, and comprehensive support, their unique cultural and historical contexts shape their distinct approaches. Policymakers should consider these nuances when adapting best practices to their own educational settings.

V. CONCLUSIONS

The analysis of top-performing countries in PISA demonstrates that educational excellence is achieved through a combination of rigorous teacher preparation, equitable resource allocation, innovative curricula, and robust support systems. Societal values that prioritize education further reinforce these efforts. While there is no one-size-fits-all model, the experiences of countries like Finland, Singapore, Japan, and South Korea offer valuable lessons for nations seeking to enhance their

educational outcomes. Continuous investment in teacher development, curriculum innovation, and student support is essential for sustained success.

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