

## **Teacher Shortages: What can be learnt from Countries without a Teacher Shortage?**

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The teacher shortage is a global challenge. However, some countries are less prone to teacher shortages. The aim of this study was to examine three countries with little or no teacher shortage to explore what these countries do to attract and retain educated teachers. The three countries selected for this case study were Finland (Europe), Singapore, and the Republic of Korea<sup>1</sup> (Southeast Asia). The data pertaining to these countries, as three specific case studies, come from policy documents, statistics, reports, and peer-reviewed articles. The themes in each case were thematically encoded and categorised by the described case context. The themes were identified deductively and strongly linked to the data. The results indicate that the teacher shortage and supply are related to teacher status and grounded in students' performance and results, teacher training/education, systems for incoming and graduated teacher students, and support during their first years in their profession. Teacher status is seen as a loop in which higher teacher status leads to a lower likelihood of a teacher shortage. The conclusion is that attracting and retaining teachers is a multifaceted and complex process that is the result of many interacting aspects in each specific country's context.

*Keywords:* Finland, multiple case study, Singapore, the Republic of Korea, teaching attractiveness.

### **Introduction**

Teacher shortages appear to be a challenge worldwide. In a recent report, the United Nations Educational, Scientific and Cultural Organization (UNESCO) reported the need for some 44 million new teachers to reach the Agenda 2030 targets (UNESCO, 2025). According to the Organisation for Economic Co-operation and Development (OECD), some countries are more prone to shortages than others, especially in certain geographical areas, such as around sub-Saharan Africa; in specific subjects; and due to requirements for teachers to be of certain genders and ethnicities (OECD, 2023, 2025; UNESCO, 2025). However, some countries do not appear to be affected by teacher shortages. Of the 21 countries with available data, 18 reported facing teacher shortages at the start of the 2022/23 academic year, with only Greece, Korea, and Türkiye not reporting any shortages (OECD, 2024).

There is no universally consistent definition of a teacher shortage (Gorard et al. 2024), but the term implies an insufficient number of individuals recruited into the profession. Eurydice (2021) revealed that 35 of the 43 education systems across

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<sup>1</sup>In this article, Korea, South Korea, and the Republic of Korea will be used interchangeably based on the various terms our references use.

Europe reported teacher shortages. Despite years of investment in recruiting and retaining teachers, the issue persists (McKinsley & Company, 2007). Teacher shortages can be general or specific to particular phases of education, subject areas, geographical locations (i.e., rural or high-risk areas), or types of school. Additionally, economic issues, such as salary, the prospect of bonuses, and understanding of the profession (e.g., required tasks, working conditions, student discipline) may be considered. What one individual or country perceives as a shortage of teachers may not be viewed as a shortage by others. In many developed countries, a teacher shortage is seen as a lack of qualified teachers to teach the subject that they are trained for. In some developing countries, the requirements to be a teacher are often less stringent. Unqualified or out-of-subject teachers might therefore be used without this being viewed as a sign of a teacher shortage (Gorard et al., 2024).

While many studies focus on teacher shortages in many contexts, the aim of this study is to examine countries with little or no teacher shortage. In contexts in which teacher shortages do not prevail, it is of interest to explore what these countries in their specific contexts do to attract and retain educated teachers, what specific aspects characterise these countries, and what can be learnt from them. The results of this study will therefore contribute to the broader literature on teacher shortages with its focal point on aspects that are important for attracting and retaining teachers.

This study begins with a presentation of research on teacher shortages worldwide and how teacher shortage is defined and understood. Following this, the cases of Singapore, the Republic of Korea, and Finland are highlighted due to their lack of teacher shortage, according to McKinsley and Company's report (2007). Next, the findings are discussed from each case and emphasise the quality of teachers and teacher education in ensuring teaching profession as an attractive profession. Implications for practice and important issues for future research are then presented.

## Background

Countries where education is reported to be significantly affected by a teacher shortage have high student-teacher ratios (STRs) and larger class size. Conversely, countries with low STRs and smaller class sizes may not report major issues with teacher shortages. However, there are countries with large class sizes but low STRs. These countries generally do not report serious teacher shortages (OECD, 2019b). Teaching hours are higher in England than in many other OECD countries. This means that teachers in England can teach more classes, so classes can be smaller.

One concern about the shortage of teachers is the relatively low status of teachers as perceived by the public (OECD, 2019b; Thompson, 2021). In 2018, the Teaching and Learning International Survey (TALIS) survey (OECD, 2019b) showed that countries where teachers are less valued by society, policymakers, and the media report being significantly affected by a shortage of qualified teachers. Countries such as Singapore, China (Shanghai), Korea, and Finland, where teachers are more appreciated by the government and the public, generally do not report persistent teacher shortages. In Finland and Korea, teaching is apparently a much-desired profession (OECD, 2023;2025). Besides status, pay, and workload, other

aspects such as job satisfaction and working environment need to be considered in explaining the absence or presence of a teacher shortage (Gorard et al. 2024). The massive increase in spending on education reforms in almost every country in the world has barely decreased the teacher shortage (McKinsley & Company, 2007).

Due to the many aspects that can describe teacher shortages and how important they might be in themselves, this study has been limited to the examination of the relation between the status and the attractiveness of the teaching profession in the selected countries.

The teacher shortage is a complex issue with many facets. To outline the structure of this study, a conceptual framework is used to connect it to existing knowledge of the area. Predictors of teacher shortages from UNESCO's (2024) Report on Teachers include teachers' working conditions, training, and social status. The framework does not focus on aspects that are general or specific to certain areas of teacher shortages. According to Gorard et al. (2024), issues such as *phases of education*, *subject areas*, *geographical locations (rural or high-risk areas)*, or *types of school* can also be of importance but are not in focus in the study. The distinction between *unqualified* and/or *out-of-subject teachers* is not distinguished as the requirements to be a teacher differ so much among countries.

## Aim and Research Questions

The overall aim of this study was to investigate characteristics of countries without teacher shortages through the study of three specific country cases. The following research questions were posed: 1) *Which aspects characterise countries lacking teacher shortages?* and 2) *What can be learnt from countries without teacher shortages?*

## Methodology

### Multiple-Case Study

In this research, a multiple-case study (Stake, 2005; Yin, 2014) is used to achieve a deep understanding of differences in teacher shortage and teacher supply among countries. The major advantage of multiple-case studies lies in its cross-case analysis. A multiple-case study shifts the focus from understanding a single case to the differences and similarities among cases. With a multiple-case study, an in-depth analysis of several cases is conducted, starting with an investigation of individual cases. Later, these individual results are combined, and similarities and differences are studied (Stake, 2005; Yin, 2014).

### Case Selection

Based on the literature, three countries with little or no teacher shortage were selected for this study. Using UNESCO's (2024) *Global Report on Teachers*, three countries were selected: Finland, Singapore, and Korea. These countries are highlighted specifically regarding the lack of teacher shortage in McKinsley and Company's

report (2007) and their high results in international measurements such as the Programme for International Student Assessment (PISA), Progress in International Reading Literacy Study (PIRLS), and Trends in International Mathematics and Science Study (TIMSS).

## Materials and Methods

For this research, international and national policy documents and statistics have been studied in combination with international reports and studies on teacher shortage, supply, recruitment, working conditions, and status. Peer-reviewed articles were also selected by a broad search in Scopus and a manual search for other suitable and reliable articles examining relevant areas.

The search terms (with their tautological terms) used were “Teacher supply AND Finland”; “Teacher supply” AND “Singapore”; “Teacher supply AND South Korea”; “Teacher shortage AND Finland”; “Teacher shortage AND Singapore”; and “Teacher shortage AND South Korea”. The SCOPUS search was limited to peer-reviewed academic articles in English during the period of 2000–2024, resulting in 19 articles identified. After a review, nine were excluded as being out of scope—for example, covering the wrong country or wrong topic. A total of 10 articles were considered relevant for the study. The articles identified are enclosed in Appendix 1.

## Data Analysis

A thematic case analysis (Creswell, 2013) was conducted for each country. After several readings of policy documents and selected articles, statements were coded into categories to form descriptions and broad themes (Creswell, 2013). The initial codes were deductively chosen from OECD’s (2011) report, *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*, a list of general pointers to serve as the understanding and analysis of the teacher shortage: *Working conditions*; *Teacher training/education*, and *Teacher status*. These aspects therefore served as the deductive codes of the analysis of the results and are illustrated in Table 1.

*Table 1.* Framework based on Attractiveness of the Teacher Profession (OECD, 2011)

| Framework layers           | Issues relevant to attractiveness                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Working Conditions         | Salary<br>STR/school size<br>Educational support personnel<br>Continuous professional development (CPD)<br>Job satisfaction |
| Teacher training/education | Selection system<br>Teacher education certificate                                                                           |
| Teacher status             | Students' learning, performance, and results<br>Society and mass media                                                      |

The themes identified across the cases were then determined inductively. In this study, the coding was conducted manually and individually. Firstly, an open reading of each document was conducted individually to gain an overall understanding of the contents in the articles. After that, the codes were identified, analysed, and labelled into the subthemes under which the results were organised. Following this, categories based on themes emerging during the coding process were compared and discussed collaboratively. Acknowledging that it may be difficult to isolate one code from another because they often tend to overlap, the codes have been presented and discussed separately.

To generate a comprehensive and accurate description of our cases, a mixed methodological approach was employed in line with Creswell (1999). Thus, the study contains both quantitative and qualitative data. The study combines literature, the themes that emerged, as well as descriptive statistics to illustrate the three cases chosen for study.

## Results

In the next section, the findings from the three cases will be presented. First, the articles will be discussed. Thereafter, the three cases of Finland, Singapore, and the Republic of Korea will be analysed.

### The Articles Identified

In total, 10 articles were identified as relevant for the study. The country, number of articles, and references are illustrated in Table 2.

Table 2. Articles identified per Country

|                         |    |                                                                                                                                                       |
|-------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finland                 | 3  | Koskinen Sandberg, P. (2021); Nislin, M., & Pesonen, H. (2019); Roponen, H., Fonsén, E., Ukkonen-Mikkola, T., & Ahtiainen, R. (2024).                 |
| Singapore               | 1  | Yang, W., & Lim, S. (2023).                                                                                                                           |
| South Korea             | 5  | Binnie, C. & Wedlock, J. (2022); Lee, J.-A., Kang, M.O., Park, B.J. (2019); Dos Santos, L.M. (2020).; Dos Santos, L.M. (2022). Santos, L.M.D. (2022). |
| Finland and South Korea | 1  | Kang, J., Kim, H., Lee, B., ... Viljaranta, J., & George, S. (2024).                                                                                  |
| Total                   | 10 |                                                                                                                                                       |

Three articles were identified concerning the Finnish context. Roponen et al. (2024) examined the organisational structure of an early childhood education centre and how it affects roles and responsibilities. They found that that centralisation and decentralisation are balanced, although there is a lack of clarity in roles and decision-making. A shortage of qualified teachers negatively impacts organisations. Focusing on salaries, Koskinen and Sandberg (2021) investigated the 2018 social movement in Finland calling for higher salaries that emerged in response to wage-suppression agreements among municipalities despite a teacher shortage. The case highlights how feminist activism and wage politics can successfully question and change institutionalised practices in feminised professions. Nilsin and Pesonen (2019) studied the relationships among self-perceived competence, sense of belonging, and well-being among preservice and in-service special education teachers. The data revealed high engagement and low-to-moderate burnout. The findings highlight the need for a deeper understanding of how teachers can better meet diverse needs, with practical implications for teacher education.

One article focused on the context of Singapore. Yang and Lim (2023) examined a non-profit childcare centre in Singapore that achieved an emerging quality certification despite limited resources and a teacher shortage. Amid ongoing early childcare and education policy reforms, the article explores how centre-based conditions affect teachers' distributed pedagogical leadership and community of practice development. Three key themes were identified: the impact of national workforce context, organisational culture and power dynamics, and the shaping of a shared pedagogical vision. The findings highlight the complexities of quality improvement in early childcare and education and emphasize the importance of understanding teachers' lived experiences during reform.

Five articles were found in the South Korean context. Binnie and Wedlock (2022) explored the self-directed professional development (PD) of native English-speaking teachers (NESTs) in South Korea and whether their actions align with their beliefs. Data from 56 questionnaires and 11 interviews showed that only 35 teachers had engaged in self-directed PD in the past year. Barriers included lack of ambition, perceived need, limited career prospects, and the impact of COVID-19; they concluded that most NESTs did not engage in sufficient PD to enhance student learning outcomes.

Dos Santos (2022) explored the motivations and career decisions of native English teachers who chose to work in South Korea during the COVID-19 pandemic despite quarantine requirements. This article identified three key motivations: unique life experiences, ease of employment, and interest in Korean culture. Findings offer insights for school leaders and policymakers to better support foreign teachers and address long-term teacher shortages, especially as pandemic-related restrictions ease.

Santos (2022) reported on why foreign-language university instructors chose to remain in South Korea for over 15 years at the same institution. Findings reveal that personal and financial considerations are key motivators for long-term career commitment. The article highlights the importance of supporting foreign teachers' PD and addresses broader issues of teacher shortage while emphasising East Asia's appeal as a destination for international career growth.

Dos Santos (2020) investigated why foreign language teachers in Korea often leave after their first year. Based on the Model of Retention, Turnover, and Attrition, negative experiences with school environments, including discrimination, poor management, and disrespect from parents and students, were key aspects. The findings highlight the need for educational and HR reforms to improve support and retention of foreign teachers in Korea's education system.

Lee et al. (2019) examined motivations of 903 preservice teachers based on demographics. Findings showed differences between secondary and elementary preservice teachers in qualification fit, desire to teach, and task return. Male teachers valued qualification fit and influencing others more than female teachers, whereas STEM majors valued these aspects more than non-STEM majors. This article suggests that to improve teacher recruitment in countries facing shortages, policymakers should focus on enhancing task returns and benefits for teachers based on these insights.

Finally, one of the studies identified was a comparative study between Finland and Korea. Kang et al. (2024) explored and compared the motivations and perceptions of science preservice teachers (PSTs) in Finland and Korea, focusing on gender and subject differences. The results show that Korean PSTs have lower confidence and satisfaction in their career choice than Finnish PSTs. The article highlights the importance of prior science content study and the need to monitor preservice teachers' motivations, especially among women and non-biology majors, to support teacher recruitment and retention.

### **The Three Cases: Finland, Singapore, and the Republic of Korea**

#### **Finland**

Finland is a small country in the north of Europe with some 5.6 million inhabitants (density 18.4/km<sup>2</sup>) and an area of 338,145 km<sup>2</sup>. The capital, Helsinki, contains 684,589 inhabitants, or about 12% of the total population. Finland is a parliamentary republic within the framework of a representative democracy. National spending on education compared to the total gross domestic product (GDP) in 2021 was 6.5% (UNESCO, 2025). Most pre-tertiary education is arranged at the municipal level.

Around 3% of students are enrolled in private schools (mostly specialist language and international schools). Formal education usually starts at the age of 7 and is compulsory between the ages of 7 and 18. Primary school generally takes six years and lower secondary school three years. The curriculum is set by the Ministry of Education and Culture and the Education Board. After lower secondary school, graduates may apply to trade schools or gymnasiums (upper secondary schools).

Finnish comprehensive school consists of nine years of basic education, divided into primary education (years 1–6) and lower secondary education (years 7–9). In primary schools, class teachers typically teach the same group of pupils for several years. Often, some teachers specialise in the early learning phase (years 1–2), and others focus on teaching the remaining four levels of primary education. Besides class teachers, primary schools usually employ a few teachers for language instruction. Lower secondary education follows the subject-teacher model, although each class of approximately 25–30 pupils is assigned a teacher who acts as their coordinator. Primary and lower secondary phases are technically part of a unified comprehensive school, although in most cases, primary and lower secondary schools operate in different buildings and have their own headteachers. Most municipalities have more primary schools, which are also located closer to most pupils' homes than the lower secondary schools (Malinen et al., 2012).

#### Teachers' Working Conditions

Finnish teachers' salaries are 85% or more of the salaries of similarly educated workers (OECD, 2018). In 2024, the starting salary for primary school teachers was just above the OECD average of \$42,176. For lower secondary school teachers, it was \$45,306, compared to the OECD average of \$43,484. The salary for primary school teachers with 15 years of experience was \$51,740, compared to the OECD average of \$56,753, and \$55,579 for lower secondary school teachers, compared to the OECD average of \$58,596 (Table 3). Compared to the OECD average, Finnish teachers have about the same starting salary but a lower salary after 15 years of teaching.

In Finland, there are 13 students per teacher in primary education and nine students per teacher in lower secondary, which is fewer than the OECD average (Table 4) (OECD, 2025; OECD, 2024). Finland primary and lower secondary schools average 19 students per class, compared to the OECD average of 21 and 23, respectively (Table 5) (OECD (2024; 2025).

Finland has an inclusive educational system for students with special educational needs (SENs). Support is provided in mainstream schools in separate groups or with special support in regular classrooms, but special schools are also available. These students require special needs teachers and assistants. Concerning social difficulties at school, local authorities employ school health care services, student welfare officers, and school psychologists. School secretaries deal with office duties relating to school operations, such as tasks related to pupil welfare services and staff administration. Staff who assist teachers and students include, for example, IT support specialists, librarians, and school attendants (Eurydice, 2025).

Finland has no specific legislation governing continuing teacher education and training. Teachers are obligated to participate in CPD training for one to five days a

year, according to the relevant statutes and collective agreements. Teachers have the right to participate in this obligatory training with full salary benefits. On the other hand, employers have the right to assign all full-time teachers to training. Employers also decide which training programmes and forms of education can be accepted as CPD training, conforming to the collective agreement. The primary responsibility for CPD lies with education providers, and local authorities support it within their financial limits and with financial support from the state (Eurydice, 2025).

Teachers' job satisfaction is high in Finland. Teaching was the first-choice career for 59% of teachers, compared to 67% overall according to the OECD. At least 66% of teachers in Finland report joining the profession because of the opportunity to influence children's development or contribute to society as a major motivation. Ninety-seven percent of teachers in Finland agree that students and teachers usually get on well with each other in the classroom.

In Finland, only 14% of teachers report experiencing a lot of stress in their work, which is lower than the OECD (2025) average (18%). Ninety-two percent of Finnish teachers feel that the advantages of being a teacher clearly outweigh the disadvantages (OECD 2025; TALIS, 2018).

### Teacher Training/Education

Finnish teacher education is based on a five-year (bachelor + master) degree programme. There are different teacher education programmes for primary-school class teachers and subject teachers, which reflect the structure of the Finnish school system (Malinen et al., 2012). Requirements are mostly master-degree level: Early Childhood Education and Care (ECEC) teachers require 180 European Credit Transfer and Accumulation System (ECTS) credits over three years, class teachers require 300 ECTS credits over five years, and subject teachers require 300 ECTS credits over five to six years. Less than 20% of those who applied were accepted into Finnish teacher education in 2022 for class teacher education and 10%–50% for subject teacher education (Finnish National Agency of Education, 2023). Finnish PSTs usually spend half a year or more in school for the practicum (Kang et.al. 2024).

Top-performing school systems globally recruit teacher students from the top third of the cohort; Finland recruits from the top 10%. Students are selected through two-phase entrance exams that emphasise, in addition to academic qualifications, the candidates' personal suitability and motivation for teacher's work (Malinen et al., 2012). The entrance exams include tests on literacy, vocabulary, numeracy, problem-solving, strong interpersonal and communication skills, willingness to learn, and motivation to teach (McKinsley & Company, 2007).

There is no probationary period for new teachers in Finland. Teachers who have completed a rigorous initial teacher education programme, which includes extensive practical teaching experience, are fully qualified to start teaching independently as soon as they obtain their certificate. They continue to receive support to learn the fundamentals of the profession during their first years (OECD, 2024). Graduates in Finland are eligible to apply for teaching positions in all Finnish schools upon successful completion of their master's degree. Nevertheless, it is quite challenging

for fresh graduates to secure a permanent position immediately after graduation, especially in larger towns. Instead, graduates typically begin as substitute teachers or seek short-term teaching contracts for approximately one to three years after graduation (Kang et al., 2024).

### Teacher Status

The results of international tests (PISA, PIRLS, TIMSS) show that Finnish students have good test scores compared to the OECD average, despite declining a little since 2015 (the OECD average has also declined) (see Table 6-10).

Finnish teachers feel highly valued in society; 58% of teachers believe that the teaching profession is valued by society, compared to 26% in OECD countries (OECD, 2025; TALIS, 2018). The percentage of Finnish teachers reporting that the teaching profession is valued has remained stable since 2013 (OECD, 2025).

### Teacher Shortage?

For a long time, primary school teacher education has been one of the most popular study programmes in Finland, typically attracting applicants with excellent secondary school diplomas. Recent years have seen one admitted student per approximately 12 applicants for class teacher education programmes nationwide. The popularity of class teacher education is further illustrated by the large number of previously unsuccessful applicants who apply to these programmes year after year. Once students are admitted to class teacher education, they rarely drop out or transfer to other programmes. Another indication of class teacher students' commitment is their average graduation time of five years, which is shorter than in many other fields. It is also noteworthy that after graduation, teacher retention in the profession is high compared to many other Western countries. It is estimated that only 10%–15% of Finnish educators switch to other occupations during their entire career (Malinen et al., 2012).

## Singapore

Singapore, in South-eastern Asia, has a total area of 735.6 km<sup>2</sup> and over 6 million inhabitants. Singapore's population has grown from 1.8 million in 1965 to 5.1 million in 2011, and about 80% live in the capital. The country has the third highest population density of any country (7,804/km<sup>2</sup>). Singapore is a parliamentary republic with a legal system based on common law. There has been political stability in Singapore since its independence in 1965 under the leadership of the People's Action Party (PAP), the main political party in Singapore.

The Singapore brand of education, particularly its policymaking, differs from those found in educational systems in other developed (especially multi-party) Western democracies. In such democracies, general elections often lead to changes of governing party, with attendant and concomitant changes of educational values and ideology underpinning government policy. In contrast, educational policy in Singapore has been under the control of one political party (PAP) since 1965.

Consequently, Singapore leadership and policymaking have become renowned for consistency and coherence (Tan & Dimmock, 2014). The percentage of national spending on education compared to the country's total GDP in 2022 was 2.2% (UNESCO, 2025).

Education is structured into three stages: primary, secondary, and pre-university education, with primary education being compulsory. Pupils start with six years of primary school, consisting of a four-year foundation course and a two-year orientation stage. After these six years, pupils take the Primary School Leaving Examination (PSLE), which determines their secondary school placement. Secondary school lasts between four and five years and is divided into Express, Normal (Academic), and Normal (Technical) streams based on the pupil's ability level. National examinations are standardised across all schools, with tests taken after each stage. Education at all levels is predominantly state-supported, and Singaporean schools are closely regulated by the Ministry of Education (MOE), traditionally known for its top-down, command-and-control centralised system. All educational institutions, both public and private, must be registered with the MOE. Mainstream schools in Singapore follow a national academic curriculum in which the MOE outlines the aims, goals, visions, and, most importantly, the learning outcomes (Lee & Ho, 2021).

### Teachers' Working Conditions

Compared to most other TALIS countries, Singapore has a high proportion of teachers (72%) who are satisfied with their salary (OECD, 2025).

As of 2023, Singapore averaged a class size of 33.6 students in primary school and 32.6 students in secondary school (Table 5), which is much higher than the OECD average. The number of students per teacher was 15.2 in primary school and 12.6 in secondary school, which is a little higher than the OECD average (Table 4).

Singapore has systems of inclusive education and separate special education schools. Children with mild SENs are enrolled in mainstream schools as part of the Compulsory Education (CE) framework. As of December 2019, 80% of students with SENs were enrolled in mainstream schools (Lee & Ho, 2021). These students include those with learning difficulties such as dyslexia, attention deficit hyperactivity disorder (ADHD), autism, or physical and sensory impairments.

Affordable government-funded special education schools catering to pupils with moderate-to-severe SENs are top priorities, with extensive specialised support and training for life and work provided to students. To promote inclusivity among all pupils, various interactions are fostered between mainstream pupils and those with SENs. Out of 32,000 employed teachers and school managers, 2,200 (14%) are allied educators who provide instructional support (Lee & Ho, 2021).

Teachers in Singapore have many opportunities to continually develop their professional skills and knowledge both individually and collectively. The Academy of Singapore Teachers (AST), various academies, and language centres offer workshops conducted by master teachers or by teachers for their peers. In addition to workshops, which can be face-to-face, online, or blended, the AST supports schools in establishing professional learning communities. Most schools allocate weekly scheduled time for staff to participate in professional learning teams, in which student

learning and instructional matters are discussed. This aligns with a nationwide effort to enable Singaporeans to continue learning and upgrading their skills beyond formal education. International reviews of teacher quality and teaching in Singapore have understandably been very positive (e.g., McKinsey & Company, 2007).

Beyond preservice training, in-service teachers' PD is a priority in Singapore. Teachers are encouraged to pursue postgraduate studies and attend various workshops and seminars to deepen their expertise. The government provides funding for teachers to attend workshops and conferences as well as opportunities for collaborative learning through networks and communities of practice (Ngozi Elems-Ikwegbu, 2023).

One notable initiative in evaluating and enhancing teacher effectiveness is identifying teachers' strengths and areas for improvement to target PD opportunities. The effectiveness of Singapore's teachers is measured through various means, including student achievement scores, feedback from students and parents, and classroom observations. Teachers are expected to continually reflect on their practice and adjust based on feedback from their peers and supervisors. The government also conducts regular reviews of the education system to ensure it remains effective and relevant (Ngozi Elems-Ikwegbu, 2023).

Job satisfaction is high. Teaching was the first-choice career for 71% of teachers in Singapore compared to 67% in OECD countries participating in the TALIS. Ninety-five percent of teachers in Singapore claimed that they joined the profession based on the opportunity to influence children's development or contribute to society as a major motivation (OECD, 2025).

The relations between students and teachers in the classroom are positive overall; 98% of teachers in Singapore agree that students and teachers usually get on well with each other. Regarding principals, only 4% of them report regular acts of intimidation or bullying among students, which is much lower than the OECD average of 14% (OECD, 2025).

### Teacher Training/Education

An education system is as good as its teachers, who are the ultimate implementers of any educational policy. In Singapore, quality is controlled by the MOE, mainly through its teacher recruitment and PD.

As one of the top-performing school systems in the world, Singapore recruits teacher trainees from the top third of each Primary One cohort. This means that teachers are graduates with good A level results or top-tier Polytechnic Diploma graduates. All applicants are interviewed by a panel of senior educationists, including senior principals.

Teachers in state-funded schools must hold a teaching qualification from the National Institute of Education (NIE). University graduates who decide to pursue teaching undergo 16 months of training at the NIE, which includes 14 weeks of field experience or teaching practicum. Upon passing, they are awarded a Postgraduate Diploma in Education (PGDE) to teach at primary, secondary, or junior college levels. These levels are predetermined by the MOE before the teacher enters the NIE; the MOE determines teacher recruitment in terms of numbers, levels, and subject specialisations. Trainees are typically prepared for two teaching domains

and undertake numerous courses in educational psychology, language skills, classroom management, the use of ICT in teaching, home–school relations, and more. The NIE works closely with the MOE to ensure that the training provided aligns with and supports major MOE policies (Lee & Ho, 2021).

NIE offers a Diploma in Education programme for primary school educators and a Bachelor of Arts/Science in Education for secondary school educators. Student teachers are required to undergo teaching practicums to apply the theoretical concepts they acquire in the classroom context (Ngozi Elems-Ikwegbu, 2023). Upon completion of training, beginning teachers continue to receive support for the first two years after graduation through the Beginning Teachers Learning Programme, led by the AST and various school-level structured mentoring programmes (Lee & Ho, 2021).

There is a strong culture of mentoring and coaching among teachers, with experienced teachers often taking on the role of mentors for new teachers (Ngozi Elems-Ikwegbu, 2023). Singapore is unique in that preservice teachers are considered employees of the MOE and therefore are salaried. Attending the NIE implies being hired as a teacher without the need to “search” for employment after graduation (Lee & Ho, 2021).

### Teacher Status

Singaporean students have performed at or near the top of international achievement tests in mathematics and science (PISA and TIMSS) for many years, justifying the system’s rating as one of the best performing in the world (Table 6-9). Teacher professionalism in Singapore is strongly encouraged. Official recognition is also provided through award ceremonies for teachers (Lee & Ho, 2021).

In Singapore, 72% of teachers believe that their profession is valued in society, which is higher than the average across OECD countries and economies participating in the TALIS (26%). Between 2013 and 2018, the percentage of teachers in Singapore reporting that the teaching profession is valued in society also has increased by four percentage points (OECD, 2025).

### Teacher Shortage and Teacher Supply

Teacher shortages and supply do not appear to be an issue at present (OECD, 2019b).

## **The Republic of Korea**

Located in South-eastern Asia, Korea has more than 51 million inhabitants and a population density of 507/km<sup>2</sup>. About 50% of its citizens live in the capital city, and the country’s total area is 100,363 km<sup>2</sup>. The political system is a unitary presidential republic. National spending on education compared to the country’s total GDP in 2021 was 4.9% (UNESCO, 2025).

Regarding the school system, a centralised administration in Korea oversees the education process from kindergarten to the third and final year of high school. The formal education system in Korea consists of elementary (six years), secondary (three years of school and three years of high school), and higher education (four

years). Although only six years of elementary and three years of middle school are compulsory, 96% of Korean students graduate from high school (KEDI, 2023).

### Teachers' Working Conditions

Teachers in Korea have a lower starting salary of \$36,639 compared to \$43,000, the OECD average, and a higher salary after 15 years of teaching at \$64,699 compared to the OECD average of \$43,000 (Table 3). Teachers in Korea receive a yearly salary, as opposed to similarly educated workers who are paid hourly. Korean class sizes have been shrinking since 2000 (Table 5). In 2000, the distribution of the total number of students was as follows: 35.8% of students attended elementary school, 38% middle school, and 42.7% high school. Three years later, in 2023, of the total number of students there were 20.7% in elementary school, 24.6% in middle school, and 22.9% in high school, which is higher than the OECD average.

The STR has also decreased (Table 4). In 2000, the STR was 28.7 in elementary school, 20.1 in middle school, and 19.9 in high school. In 2023, there were 13.3 in elementary school, 11.6 in middle school, and 9.8 in high school, which is about the same as the OECD average.

Korea has both an inclusive school system and special schools for students with SENs, all with special needs teachers. Since 2000, the number of both has increased. In 2023, there were 194 special schools with 11,038 teachers and 11,701 special education classes within general schools containing 56,380 students (KEDI, 2023).

There has been rapid growth in Korean teachers' CPD participation since 2000, and Korean teachers' CPD participation rate was higher (91.9%) than the average for OECD countries (88.5%). Korea also ranked second among 23 countries in the number of days (30) spent participating in CPD. These data reflect policymakers' increasing efforts to promote CPD and strengthen in-service teachers' professionalism in Korea (Lee et al. 2019). Thirteen percent of teachers in Korea report participating in collaborative professional learning at least once a month (OECD average: 21%), and 19% engage in team teaching with the same frequency (OECD average: 28%) (OECD, 2025).

Teaching was the first-choice career for 80% of teachers in Korea and for 67% in OECD countries and economies participating in the TALIS. In terms of why they joined the profession, at least 80% of teachers in Korea cite the opportunity to influence children's development or contribute to society as a major motivation (OECD, 2025).

Korean teachers claim that relations between students and teachers in the classroom are positive overall, with 94% of teachers in Korea agreeing that students and teachers usually get on well with each other. No principals (0%) report regular acts of intimidation or bullying among their students, which is lower than the OECD average of 14% (OECD, 2025).

Eighteen percent of Korean of teachers report experiencing stress in their work "a lot", which is the same as the OECD average (18%). However, the proportion of primary education teachers for whom having too much administrative work is a source of stress is especially low in Korea (42.4%) (OECD, 2025).

## Teacher Training/Education

According to the MOE in Korea, there are 13 elementary teacher education programmes in the country, and the majority of these programmes are highly centralised by the national and municipal/provincial governments. Secondary education is not as centralised as elementary education. Teacher education programmes offer very similar four-year courses following nationally accredited curricular standards that prepare teacher candidates for licensure upon graduation. Upon admission to university, although many courses are offered as electives, students are encouraged to take courses with their cohort to build cooperative relationships. After two years of required general education classes, preservice teachers in elementary and secondary programmes take courses on content-specific and pedagogic knowledge during their junior and senior years. Students in public teacher education programmes are mostly traditional college students aged 19–24 and are ethnically extremely homogeneous (Lee et al., 2019). Korean preschool teacher students have only four weeks of school practicum during their four years of study. Furthermore, Korean teacher education requires a four-year bachelor's degree (Kang et al., 2024).

With one of the top-performing teacher recruitment systems in the world, Korea recruits the top 5% of each graduating cohort (McKinsey & Company, 2007). To teach in a public school, teacher candidates must take an exam proctored by the provincial/metropolitan Offices of Education. Under the leadership of the Korean Institute for Curriculum and Evaluation (KICE), the provincial/metropolitan Offices of Education organised a consortium to develop the first-round written exams that assess teacher candidates' general education and content/pedagogic knowledge. Each provincial/metropolitan Office of Education is responsible for the second round: in-depth individual interviews covering teaching aptitudes, lesson planning, teaching demonstration, and performance/lab as needed. The public school teacher exams are extremely competitive. Although both public and private schools in all states and metropolitan education offices use identical salary tables, public schools tend to offer better benefits and working conditions (Lee et al., 2019).

Teacher education graduates in Korea need to apply for the national teacher employment test if they want permanent teaching positions in the public school sector. Competition is very high in Korea, although it varies depending on the provincial area (Kang et al., 2024). Teachers are required to renew their teaching certificates every five to seven years to demonstrate that they are still meeting performance standards. In Korea, teacher students are guaranteed a teaching position in a school after completing their training (Lee et al., 2019).

## Teacher Status

Korean students' scores on national tests such as the PISA and TIMSS are well above the OECD average. On TIMSS tests, students' scores have decreased somewhat for middle-class students since 2015 but are still higher than the OECD average, as illustrated in Table 6-10.

In Korea, 67% of teachers "agree" or "strongly agree" that their profession is valued in society. This is a higher level than the average across OECD countries (26%), and this level has remained stable since 2013 (OECD, 2025).

## Teacher Shortages

Teacher shortages are not a concern in Korea. Although Korea shares an East Asian, Confucian, collectivist culture with China (Lin et al., 2012), Korean teachers possess unique socio-cultural and economic characteristics that attract highly qualified individuals to teacher education programmes and the teaching workforce (Lee et al., 2019). On the contrary, an oversupply of teacher candidates is a national issue, particularly for secondary teacher candidates graduating from as many as 333 secondary education programmes. Oversupply is also a concern for elementary teacher education programmes (Lee et al., 2019). However, there has been a gradual decline in the popularity of the teaching profession in Korea (Kang et al., 2024). In Korea, the teaching profession is highly competitive due to the Confucian emphasis that affords teachers' job security and respect (Lee et al., 2019).

## Similarities and Differences Between Countries Related to Themes on Teacher Shortages and Supply

### Working Conditions

Teachers' working conditions are claimed to be one predictor of teacher shortages. In this study, the focus has been on salary, class size, student–teacher ratio, and workload compared to OECD averages. A basic predictor is countries' spending on education. Note that statistics on national spending on education are expressed as a percentage of the GDP. These figures can be compared to other international figures: The worldwide percentage of education spending compared to GDP for 2022 was 3.8%. In 2021, OECD countries overall spent 5.0%; Greece spent 4.1%, the USA 5.4%, and Sweden 7.6% (UNESCO, 2025). Increasing expenditure per student typically correlates with improved outcomes up to a point, after which additional investment shows little impact on performance. For instance, Japanese 15-year-olds' mathematics scores are higher than those of their US peers, even though Japan spends about 30% less per student aged 6 to 15 than the USA (OECD, 2024).

Teachers' salaries are also claimed to predict teacher shortages. Increasing teachers' salaries or having a steeper ladder for salary increase in relation to years working in the profession is often an argument for decreasing teacher shortages. The salary for teachers in the countries studied, not including Singapore, are shown in relation to the OECD average in Table 3.

Table 3. Salary in USD per country and school level

| Country      |          | Primary  | Lower secondary |
|--------------|----------|----------|-----------------|
| Finland      | Starting | \$42,176 | \$45,306        |
|              | 15 years | \$51,740 | \$55,579        |
| Korea        | Starting | \$36,639 | \$36,639        |
|              | 15 years | \$64,699 | \$64,699        |
| OECD average | Starting | \$42,062 | \$43,484        |
|              | 15 years | \$56,753 | \$58,596        |

Source: (OECD, 2024)

Table 3 illustrates that the salary in studied countries do not differ much from the OECD average.

Class sizes and STRs are much-discussed aspects of education and are among the determinants of demand for teachers, along with students' instruction time, teachers' working time, and the division of teachers' time between teaching and other duties. Together with teachers' salaries, class sizes and STRs also have a considerable impact on the level of expenditure on education through teacher salary costs (OECD, 2024), as illustrated in Table 4.

*Table 4. Student per Teacher Ratio*

| Country             | Primary | Lower secondary |
|---------------------|---------|-----------------|
| <b>Singapore</b>    | 15.2    | 12.6            |
| <b>Finland</b>      | 13      | 9               |
| <b>Korea</b>        | 16      | 13              |
| <b>OECD average</b> | 14      | 13              |

Source: (MOE, 2023; OECD, 2024)

Regarding class size, Singapore's classes are larger than the OECD average, whereas Finland's is lower and Korea is in line with the OECD average. This is illustrated in Table 5.

*Table 5. Class Size*

| Country              | Primary | Lower secondary |
|----------------------|---------|-----------------|
| <b>Singapore</b>     | 33.6    | 32.6            |
| <b>Finland</b>       | 19      | 19              |
| <b>Korea</b>         | 22      | 26              |
| <b>OECD average.</b> | 21      | 23              |

Source: (MOE, 2023; OECD, 2024)

In conclusion, smaller classes demand more teachers with lower salary, and larger classes may lead to fewer teachers with higher salary, with the same amount of national spending on education.

Singapore, China, and South Korea are able to maintain low STRs despite larger-than-average class sizes, probably because they teach fewer classes (fewer hours teaching). These countries also tend not to be affected significantly by a shortage of qualified teachers. All of this suggests that, in isolation, class sizes and STRs may not be good indicators of teacher shortage (Gorard et al., 2024).

According to this study, students with SENs are taught by special teachers, either in special schools or special classes within mainstream schools. This approach differs widely among countries worldwide but is established for the countries included in this study. These countries' schools also employ support personnel to help teachers with tasks concerning students and other school-related issues. CPD programmes are highly developed and steered by the MOE in the countries of this case study.

### Teacher Training/Education and Screening

Top-performing school systems globally recruit teacher students from the top third of the cohort. Singapore (30%), Korea (5%), and Finland (10%) all recruit their teacher students from the higher third of the cohort. Based on these figures, only Singapore recruits from approx. the top third, whereas Korea and Finland select from much smaller groups. Low-performing school systems rarely attract ideal teachers (the lower third of the cohort). All of the countries studied screened prospective teacher students' characteristics before admitting them to teacher training. The selection system consists of written tests and interviews on literacy, vocabulary, numeracy, problem-solving, interpersonal and communication skills, willingness to learn, and motivation to teach. Further, they are given support during their first years in the profession, and processes are in place to remove low-performing teachers from the profession.

### Student Performance and Results

A school system's ability to attract teachers may be linked to the status of the profession. Good student learning performance supports the general public's view that teachers contribute to society, which in turn leads to high status for the teaching profession. The tables below illustrate students' performance and results on various tests according to the latest measurements.

*Table 6. PISA 2022 Results*

|                    | <b>Singapore</b> | <b>Korea</b> | <b>Finland</b> | <b>Mean</b> |
|--------------------|------------------|--------------|----------------|-------------|
| <b>Mathematics</b> | 575              | 527          | 484            | 472         |
| <b>Reading</b>     | 543              | 515          | 490            | 476         |
| <b>Science</b>     | 561              | 528          | 511            | 485         |

*Table 7. PISA 2018 Results*

|                    | <b>Singapore</b> | <b>Korea</b> | <b>Finland</b> | <b>Mean</b> |
|--------------------|------------------|--------------|----------------|-------------|
| <b>Mathematics</b> | 569              | 526          | 507            | 489         |
| <b>Reading</b>     | 549              | 514          | 520            | 487         |
| <b>Science</b>     | 551              | 519          | 522            | 489         |

*Table 8. PISA 2015 Results*

|                    | <b>Singapore</b> | <b>Korea</b> | <b>Finland</b> | <b>Mean</b> |
|--------------------|------------------|--------------|----------------|-------------|
| <b>Mathematics</b> | 564              | 524          | 511            | 490         |
| <b>Reading</b>     | 535              | 517          | 526            | 493         |
| <b>Science</b>     | 556              | 516          | 531            | 493         |

The following tables illustrate the TIMSS and PIRLS results (OECD 2023, 2019a, 2016).

Table 9. TIMSS Results

|                    | Singapore | Korea | Finland |
|--------------------|-----------|-------|---------|
| <b>2023 year 4</b> | 615       | 594   | 529     |
| <b>2023 year 8</b> | 605       | 596   | 504     |
| <b>2019 year 4</b> | 625       | 600   | 532     |
| <b>2019 year 8</b> | 616       | 607   | 509     |
| <b>2015 year 4</b> | 618       | 608   | 535     |
| <b>2015 year 8</b> | 621       | 606   | -       |

Source: TIMSS (2024, 2020, 2016)

Table 10. PIRLS Results

|             | Singapore | Korea | Finland |
|-------------|-----------|-------|---------|
| <b>2021</b> | 587       | -     | 549     |
| <b>2016</b> | 576       | -     | 566     |
| <b>2011</b> | 567       | -     | 568     |

Source: PIRLS (2023, 2017, 2012)

Students in Finland, Singapore, and Korea perform better than the world average on all international tests (PISA, TIMSS) which is also true for Singapore and Finland (PIRLS).

## Discussion

The overall aim of this study was to investigate characteristics of countries with no teacher shortages through the study of three specific country cases to determine what characteristics prompt teacher shortages. The following research questions are posed: 1) *Which aspects characterise countries lacking teacher shortages?* and 2) *What can be learnt from countries without teacher shortages?*

The focus of this study was to investigate aspects related to teacher shortage in context which do not have teacher shortage. When investigating the number of articles, a few were identified for the three countries. This result appears to support the idea that these countries lack teacher shortages at present. Therefore, the identification of these countries as lacking teacher shortages is reflected in low number of identified articles.

According to this study, a country's investment in education does not appear to affect teacher supply. In this study there are differences between the three countries' spending on education. However, none of these countries appear to have teacher shortages at present. Therefore, it could be argued that larger investments in school systems would not solve teacher shortages. There are also differences in teacher salary, class size, and student-teacher ratio among the country cases themselves and the OECD average. Even though these aspects are mentioned in many references (OECD, 2011, 2024), they do not seem to be important for the countries examined in this study.

In this study, within the three country contexts, it appears that student performance influences teacher shortages and STRs (OECD, 2019b). Therefore, these aspect may be seen to be a similarity and of interest to take note of. This may be the result of student performance influencing teacher status and, in turn, attractiveness of the profession (Gorard et al., 2024; McKinsley, 2017).

Limiting or controlling the number of open places in teacher training is also important to the status of the profession. With no teacher shortage, the lower need for teachers leads to a more stringent selection processes, which leads to a more attractive and high-status profession. As noted in this study, the selection processes in all these countries appear to be conducted using several methods and considering various perspectives, which appears to affect teacher status (OECD, 2019b; OECD, 2023; 2025). The possibility to achieve and maintain more stringent selection processes, appears to be a similarity between these three country contexts, and could be said to be the result of a lack of teacher shortage. Countries with teacher shortages may not have the possibility to select teacher students under such stringent condition in order to fill study places hopefully teacher shortages.

Inevitably, in Finland, the Republic of Korea, and Singapore, higher status for the teaching profession leads to less likelihood of a teacher shortage (Gorard et al., 2024; McKinsley, 2017). Furthermore, there seems to be a link between a lack of teacher shortage and higher status for teachers and the teaching profession. However, it is also important to note the cultural and national differences in history, religion, philosophy, politics, and governance among these countries—for example, contextual differences between Confucian East Asia and Western democracies. These differences must be acknowledged, as well as the complexities involved in comparing these countries.

Finally, teacher training and education are important to the status of the teaching profession, as well as support for new teachers (Gorard et al. 2024; UNESCO, 2023). A low-status teacher education leads to teaching being a low-status profession, functioning as a negative spiral that is unlikely to alleviate teacher shortages, according to the intentions of policy (UNESCO 2024; OECD, 2109b). The overall conclusion is that attracting and retaining teachers is a multifaceted and complex process and is the result of many interacting aspects in each specific country context.

## **Conclusions and Future Research**

In conclusion, this study of three countries has highlighted some important aspects that may be related to teacher shortages. However, as noted, recommendations are difficult to make because the specific needs and structural realities of country contexts and educational systems vary. The results of this study may help policymakers, politicians, and heads of educational institutions in various countries better understand the importance of the status of the teaching profession and its underlying causes, helping to deal with teacher shortages in their own education systems. For policy makers it is of importance to support and promote teacher students' opportunities and to attract students to the teacher profession. For politicians, support for teacher students and teacher will be necessary to retain and development opportunities in

the teacher profession, through supporting teacher status and work environment issues. Finally, educational institutions will need to continue to support teacher students during their studies as well as providing high quality professional development for teachers in service. Thus, it appears that a key issue is appointing qualified and competent teachers; no educational system is better than the quality of its teachers.

Future research will be necessary to follow the development of these three countries in relation to teacher education, attractiveness, and retention over time.

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