

Comparing preschool education systems: Kyrgyzstan and Singapore in focus

Comparación de los sistemas de educación preescolar: un enfoque en Kirguistán y Singapur

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Abstract

Introduction: In Kyrgyzstan, preschool education has been offered in state and private schools since 2012, following the Montessori system with a curriculum of 240 or 100 hours. In Singapore, preschool education is structured as a three-year program (Nursery, Kindergarten 1-2), managed by the Early Childhood Development and SPARK programs, and offered as a private and international system. **Objective:** This study compares the preschool education systems in Kyrgyzstan and Singapore using a comparative education approach, examining them from social, cultural, and political perspectives. **Methodology:** A comparative and descriptive research design was adopted. Similarities and differences between the two countries were examined according to the following criteria: geographic areas, population, official languages, history of independence, literacy rates, educational budgets, and the number of educators and preschool education institutions. **Results:** The research findings show that Singapore has fewer teachers and institutions than Kyrgyzstan. However, Singapore's preschool education system is more developed, has a higher budget, and boasts an enrollment rate of over 90% compared to Kyrgyzstan. In contrast, Kyrgyzstan suffers from problems such as a lack of subsidies and reliance on state schools, while Singapore prioritizes private systems. **Conclusion:** It is recommended that Kyrgyzstan, which lags behind Singapore in particular, should increase education budgets for pre-school education, improve teacher salaries, and support low-income families.

Keywords: Comparative education, preschool education system, Kyrgyzstan, Singapore, education policy.

Resumen

Introducción: Desde 2012, Kirguistán ha ofrecido educación preescolar a través de programas estatales y privados con planes de estudio de 240 o 100 horas, adoptando ampliamente el sistema Montessori. El sistema de Singapur, gestionado por la Agencia de Desarrollo de la Primera Infancia (ECDA) y el programa SPARK, funciona mediante escuelas privadas y de sistemas extranjeros con una estructura de tres años (Maternal, Kindergarten 1-2). **Objetivo:** Este estudio compara los sistemas de educación preescolar de Kirguistán y Singapur utilizando un enfoque de educación comparada, analizando dimensiones sociales, culturales y políticas. **Metodología:** Se adoptó un diseño de investigación comparativo y descriptivo. Se analizaron las similitudes y diferencias entre los dos países según los criterios: áreas geográficas, población, idiomas oficiales, historia de independencia, tasas de alfabetización, presupuestos educativos y número de docentes e instituciones de educación preescolar. **Resultados:** Los hallazgos muestran que Kirguistán tiene más educadores e instituciones, pero el sistema de Singapur es más avanzado, con presupuestos más altos, subsidios y una matrícula superior al 90%. Kirguistán enfrenta desafíos como la falta de subsidios y la dependencia de escuelas estatales, mientras que Singapur prioriza los sistemas privados. **Conclusiones:** Las recomendaciones para Kirguistán incluyen aumentar los presupuestos educativos, mejorar los salarios docentes y apoyar a las familias de bajos ingresos, ofreciendo así aprendizajes útiles para países en desarrollo basados en el modelo de Singapur.

Palabras clave: Educación comparada, sistema de educación preescolar, Kirguistán, Singapur, política educativa.



INTRODUCTION

Comparative education has long been used as a systematic approach to understanding the processes of change in education systems under different historical, social, cultural, and political conditions. According to [Kandel \(1933\)](#), comparing the education systems of countries allows for the correction of systemic problems. Therefore, comparative studies not only describe educational structures but also aim to explain the underlying reasons and develop policies through international analysis ([Phillips, 2006](#)). Early childhood education, which is addressed in this study, is receiving increasing attention in research due to its important role in shaping cognitive, social, and emotional development during the formative years of life. According to [Bray \(2007\)](#), contemporary comparative education research often combines theoretical perspectives with contextual analyses of national education systems. Following this framework, this introductory section first summarizes the conceptual foundations of comparative education, discusses the developmental importance of preschool education, and finally establishes the analytical structure and rationale of the study by placing the preschool education systems of Kyrgyzstan and Singapore within their own historical and institutional contexts.

The first work on comparative education was the “*Esquisse et Vues Prelimmaires d’un Ouvrage sur l’Education comparee*” by Marc-Antoine Jullien. The work contained information about the methods and tasks of comparative education. The aim of comparative education is to reach more robust solutions by examining and comparing the educational philosophies and educational systems of different countries. Comparative education is a branch of science that is utilized in the processes of providing a unity and peace environment for international studies by revealing the similarities and differences in some or all aspects of the education systems implemented in different societies and countries in certain historical periods ([Fox, 2023](#)). UNESCO, one of the organizations that makes international encounters, defines comparative education as a science that examines the education systems of various countries from social, cultural and political perspectives and discusses the meaning of education levels ([Liu & Zang, 2023](#)). The advantages of comparative education are: the knowledge of different practices and approaches in different countries can enrich the approaches to education and training. It can contribute to the development of different solutions to problems in the field of education. It can be utilized by examining the relationship between education and the development of the country in different dimensions ([Wu, 2024](#)). Comparing the education systems of different countries will help both politicians and administrators in different fields to comment on and predict the future education system ([Cowen, 2023](#); [Elfert, 2023](#)).

The period from the postnatal period until the age of 6 is known as the preschool period. This period is considered one of the most important periods of human development. There are important developments in the areas of personality development and important processes such as the formation and development of personality, acquisition of basic knowledge and skills, language, cognitive, affective, social and physical show intensive development in this period. The social and physical environment in which the child is

born and raised affects the child either positively or negatively (Şahan Aktan & Önder, 2018).

The environment that equips the child, that is, the value attributed to educational institutions such as family, kindergarten and school, where the child grows up, is becoming increasingly important. Therefore, the growth of children in a healthy environment has become a need for both the individual and society, and with the increase in the importance of preschool education, preschool programs have been prepared, and education has started to be provided.

In Kyrgyzstan, education according to school readiness programs started to be provided since 2012 and it has been only 12 years since these processes have been carried out (Baytikova & Kamchibek, 2014). This is because until 1991 Kyrgyzstan was one of the 15 countries of the Soviet Union (Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, RSFSR, Tajikistan, Turkmenistan, Uzbekistan, Ukraine, Estonia) (Tretyakova, 2019). In 1991, after the collapse of the Soviet Union, Kyrgyzstan declared its freedom. However, along with freedom, Kyrgyzstan faced various difficulties in economic, social and educational aspects (Gül, 2015).

Singapore also ranked among the top performers in science and mathematics in the TIMSS (Trends in International Mathematics and Science Study) assessments between 1995 and 2015 (Mullis et al., 2016). In 2015, 72 countries participated in the PISA assessment and Singapore ranked first in all areas (OECD, 2016). When we look at the literature, there are studies comparing Kyrgyzstan with different countries. A comparison of the education systems of Germany, Kyrgyzstan and Turkey was made on primary and secondary education levels. In this study, comparisons were made between countries (Germany, Kyrgyzstan and Turkey) in areas such as who exercises authority and supervision, the ages of children at the beginning of compulsory education and compulsory education processes, student assessment exams (Erman & Boobekova, 2016). The teacher training systems of Germany and Kyrgyzstan were compared by Gül (2015) in terms of similarities and differences in teacher training for primary and secondary education levels.

There are also studies comparing Singapore with different countries with different criteria in the literature. Singapore, Japan, Turkey, Norway, Norway, Finland, Russia and England compared the educational philosophies, learning-teaching situations and assessment and evaluation situations of education systems (Özerbaş & Safi, 2022). These studies comparing Singapore with different countries follow different criteria. For example, the education systems of Singapore and Japan in basic and higher education were compared. The formal education system of Japan and Singapore was compared, but the pre-school education system was not included (Vicente et al., 2024). When comparisons were made between Singapore and Taiwan the criteria were media literacy education policies (Lin & Choy, 2015). A study was conducted by comparing the teacher training curricula of Canada, Denmark, Finland and Singapore (Rasmussen & Bayer, 2014).

In the present study, it was aimed to compare the official preschool education systems in Kyrgyzstan and Singapore. Within the framework of this purpose, kindergartens in formal education in Kyrgyzstan and kindergartens in Singapore were compared. The

reason for this is that there are very few scientific studies on Kyrgyzstan's preschool education system. In addition, Kyrgyzstan is one of the developing countries and has only 12 years of history of preschool education system. Kyrgyzstan's pre-primary education system continues to be developed and has been compared with Singapore, one of the most developed countries. This is because Singapore's population is close to Kyrgyzstan's, and Singapore, like Kyrgyzstan, has gone through difficult times, but has been able to make great progress. As a result of the comparison, not only Kyrgyzstan but also all developing countries can benefit from Singapore's experience.

Theoretical Background

Kyrgyzstan's Preschool Education System

In order to prepare children for school, the Ministry of Education of Kyrgyzstan adopted a pre-school education program on August 1, 2012. Within the framework of this program, 97% of children in the country started to receive education. The program consists of two types of educational programs. The first is a full-hour preschool program, i.e. 240 hours per week. Within the scope of this program, 43% (N=53000) children started to receive school preparation education. The second program is an abbreviated program of 100 hours of education per week. Since February 2012, school readiness has been provided five days a week for 3 hours a day. Preschool education in Kyrgyzstan aims to provide development in cognitive, social, physical and aesthetic areas (Baytikova & Kamchibek, 2014).

Today in Kyrgyzstan preschool education is provided according to the Montessori system. The Montessori system of education and upbringing is a pedagogical system that prioritizes teaching children to take responsibility and be independent, to concentrate on cognitive activities, and to emphasize personal development. The basic principles of the Montessori system are given below: Age diversity, this principle is based on children of different ages learning together. Thus, it aims to develop leadership qualities in older children and compassionate attitudes in younger children. Prepared environment, where the educational institution is equipped with different playrooms specially designed for the language, science, emotional development and practical life of the students.

The role of the teacher is a figure who tries to engage the children, rather than the teacher as a mentor. Compliance with rules, there are rules for children to be responsible and to maintain group order. Emotional and motor development, emphasis is placed on developing students' emotions, hearing, smelling, seeing, distinguishing tastes and developing their fine and gross muscles. Respect for mistakes, the principle of respect for mistakes allows children to make mistakes as part of their learning and development. Thus, children develop by learning from their mistakes. Independence, attention is paid to children growing up as independent individuals. Children's independence is tried to be developed by choosing tools such as toys and materials themselves (GeekBrains, 2023).

Finally, the Montessori system is based on inclusive education, and learning and development are ensured through active participation. It is a type of technique that provides an environment for the development of children's independence skills,

cooperation skills, fine and gross muscles. In addition, learning-teaching processes are realized through play and active participation of the student (GeekBrains, 2023).

Singapore's Preschool Education System

The education system in Singapore is managed by the Ministry of Education. The Ministry of Education is responsible for the performance of schools, national exams, curriculum and supervision of teachers. Each school is inspected by inspectors and school principals cooperate with school principals in the selection of teaching aids and materials (Karamert, 2024). In Singapore, children between the ages of 3 and 6 are educated in public and private sector nursery and kindergartens. In order to improve the quality of preschool programs, ECDA and the Ministry of Education (MOE) prepare national curricula and educate children. In Singapore, the Early Childhood Development Agency (ECDA) was established in 2013 by the Ministry of Social and Family Development to provide social support, financial assistance, affordability and access to quality education for children and families. ECDA has different assistance and support programs for low-income families to cover kindergarten fees. Within the framework of these assistance programs, 95,000 children will receive preschool subsidies in 2023.

To improve the quality of preschool education in Singapore, the Preschool Accreditation Framework (SPARK) program has been in operation since 2011. In addition, the KidSTART and Early Intervention programs, which invest in preschools, started to provide assistance to low-income families. Today, KidSTART provides assistance to more than 6200 children and Early Intervention to 7100 children. In addition to increasing the number of preschool educators, a national training institute was established to increase the professional development of educators and improve the quality of educators. The salaries of preschool educators increased by 20% to 30% in 2018 and are expected to increase by 10% to 30% in the following years (Ministry of Social and Family Development, 2023).

METHODOLOGY

Research Model

This study adopts a comparative descriptive research design to examine the preschool education systems of Kyrgyzstan and Singapore. Unlike a systematic review, which requires adherence to PRISMA reporting standards (e.g., systematic search protocols, flow diagrams, and risk-of-bias assessments), this work is framed as a comparative analysis grounded in descriptive methodology. This approach allows for the identification and examination of similarities and differences based on predefined dimensions. It can also utilize secondary data to highlight structural, pedagogical, financial, and sociocultural similarities and differences between the two systems (Bray et al., 2014; Noah & Eckstein, 1969).

Selection criteria for documents and indicators

The study's data were selected according to inclusion and exclusion criteria to ensure suitability, reliability, and comparability. Inclusion criteria were: (1) Documents

and official sources (national ministries of education and statistical institutions), (2) Quantitative or qualitative indicators or demographic data on pre-school education in countries, and broader contextual factors such as budgets, (3) Publication in English, Russian, or Kyrgyz, (4) Inclusion of data from 2012 onwards, particularly in terms of compatibility with Kyrgyzstan's pre-school program. Exclusion criteria included primarily unofficial sources, data prior to 2012, and indicators that are not directly comparable between the two countries (region-specific curricula that lack national representation).

These indicators were selected based on their suitability for comparison between countries and their relevance to pre-school systems and were categorized into four dimensions: Primarily (1) structural category; geographic area, population, official languages, date of independence, literacy rates, number of institutions, enrollment figures. (2) In the pedagogical category; curriculum structure, duration, teaching approaches (e.g., Montessori in Kyrgyzstan; ECDA/SPARK frameworks in Singapore), number and qualifications of educators. (2) In the financial category; national budgets, education allocation percentages, subsidies and funding mechanisms. (2) In the socio-cultural category; enrollment rates, parental preferences, the effects of language diversity and equity programs for low-income families.

Data Collection

Data collection was carried out between January 2022 and December 2023 and focused on reflecting the current systems of the countries. Historical data were used only for contextual grounding. To minimize the temporal gap, resources were accessed through official websites, academic databases, and reports between October 2023 and March 2024.

The analysis of documents for the data used in the research was carried out as a primary qualitative data collection method, involving the systematic review and synthesis of printed and electronic texts, in line with O'Leary (2004) proposal. Accordingly, four different sources were selected for document analysis. These are: (1) Official national reports: Kyrgyz Academy of Education, Ministry of Education and Science of the Kyrgyz Republic, National Statistics Committee of Kyrgyzstan (STAT), Ministry of Social and Family Development (Singapore), Agency for Early Childhood Development (ECDA). (2) International assessments: TIMSS 2015, PISA 2015. (3) Peer-reviewed studies for additional context. (4) Primary data, as the focus is on secondary, verifiable indicators for international comparability.

Data Analysis

Descriptive analysis technique was used in the analysis of the data. With this technique, the findings were organized around predefined comparative variables to interpret the data (Yıldırım & Şimşek, 2013). In the analysis, tables were created to clarify similarities and differences. In these tables, quantitative data such as budgets and records were presented as percentages in comparable units. Qualitative data such as pedagogical principles were synthesized narratively. Some of the comparison categories are given in Table 1 to make it clearer visually.

Table 1.

Visual Summary of Comparison Categories

Category	Sub-Variables	Kyrgyzstan Example	Singapore Example
Structural	Institutions, enrollment, duration	1,834 institutions; 1-year program; 28,494 enrollments (2023)	344 institutions; 3-year program (Nursery, K1, K2); 23,859 enrollments (2023)
Pedagogical	Curriculum, teaching methods, educator qualifications	Montessori system; 240/100-hour programs; 9,796 preschool educators	ECDA/SPARK frameworks; play-based; 2,800 preschool educators; salary increases
Financial	Budget allocation, subsidies	22.5% of national budget; no subsidies	13.28% of national budget; ECDA, KidSTART, Early Intervention subsidies
Sociocultural	Language/policy influences, equity, parental involvement	State reliance (79% preference); Kyrgyz/Russian languages	Private/foreign emphasis; 4 languages; >90% enrollment; low-income support

This framework ensured balanced coverage of the two systems, facilitating evidence-based insights for policy transfer.

RESULTS

In line with the aim of this study, the Results section presents a systematic comparison of the preschool education systems of Kyrgyzstan and Singapore based on structural, pedagogical, financial, and sociocultural indicators. The findings are organized to highlight both quantitative and qualitative differences between the two countries, including demographic characteristics, institutional structures, enrollment models, budget allocations, human resources, and government support mechanisms. By presenting this comparative data in a tabular and descriptive manner, this section aims to provide an empirical basis for understanding how different policy priorities and governance models shape preschool education outcomes in developing and developed contexts. The results presented here form the basis for further discussions and policy-oriented interpretations.

Table 2.

Comparison of Kyrgyzstan and Singapore's Basic Knowledge

Country	Surface area	Population (2023)	Official Language	Independence History	Literacy Rate (2023)
Kyrgyzstan	199 900 km ²	7,037,000	Kyrgyz Russian	1991 (33yıl)	%99.52
Singapore	734.3 km ²	6,014,723	Malay, Chinese (Mandarin), Tamil, English	1965 (59yıl)	%97.6

As seen in [Table 2](#), the area of Kyrgyzstan is 2.7 times larger than the area of Singapore. According to the data of 2023, the population of Kyrgyzstan is 1.022.277 people more than the population of Singapore. In Kyrgyzstan, Kyrgyz is the main language, and

Russian is the official language. In Singapore, 4 official languages; Malay, Chinese (Mandarin), Tamil, English are used. When the independence dates of the countries are analyzed, it is determined that Singapore gained its independence in 1965 and has a longer independence history than Kyrgyzstan, which has 59 years of independence. Kyrgyzstan gained its independence in 1991 and has a 33-year independence history. Literacy rates were compared according to the data of 2023, and it is seen that there is a difference in the comparison. While the literacy rate in Kyrgyzstan is 99.52%, it is observed that Singapore has a lower rate of 97.6%.

Table 3.
Comparison of Preschool Education in Kyrgyzstan and Singapore

Kyrgyzstan	Singapore
Education is Not Compulsory	
Public and Private Sector Schools School readiness/zero grade	Private Sector and Foreign System Schools Nursey Kindergarten 1 Kindergarten 2
Total 1 year	Total 3 year

As can be seen in Table 3, pre-school education in Kyrgyzstan is provided by the state and private sectors. It is called school preparatory classes or classes zero and provides one year of education. In Singapore, preschool education is provided in foreign system schools and in the private sector. Kindergartens, called Kindergarten, are divided into three as Nursey, Kindergarten 1 and Kindergarten 2. Each step is one year, totaling 3 years.

Table 4.
Comparison of Kyrgyzstan and Singapore's Budgets Allocated to Education from the State Treasury, Number of Educators, Number of Preschool Educators

Country	Annual Budget 2022	Annual Budget Allocated to Education	Number of trainers 2022	Number of pre-school educators 2022
Kyrgyzstan	307360,6 milion som	%22,5	89962	9796
Singapore	466,79 billion dolar	%13,28	15085	2800

According to the data for 2022, the annual budget in Kyrgyzstan amounted to 307360.6 million soms. 22.5% of the state treasury of Kyrgyzstan is allocated to education. The amount of the budget allocated to education increases by 1% every year. The annual budget of Singapore is 466.79 billion dollars, which is significantly higher than the annual budget of Kyrgyzstan. 13.28% of this budget is allocated to education. However, the number of educators in Kyrgyzstan (n=89962) is higher than the number of educators in Singapore (n=15085), with 9796 preschool educators. The number of preschool educators in Singapore is 2800. Table 4 shows this comparison.

Table 5.

Comparison of Preschool Education Institutions in Kyrgyzstan and Singapore

Country	State Preschool Institutions (2022)	Private Preschool Institutions (2022)	Total	Preschool enrollment numbers Kindergarten 2023
Kyrgyzstan	1583	251	1834	28,494
Singapore	324	120	344	23,859

In Kyrgyzstan, a total of 1,834 institutions provide preschool education, with 1,583 being state-run and 251 privately operated. In contrast, Singapore has a lower total of 344 preschool institutions, comprising 324 state-run and 120 private institutions. Each year, parents in both Kyrgyzstan and Singapore register their children for preschool education. As can be seen in [Table 5](#), while 28,494 preschool enrollments were recorded in Kyrgyzstan in 2023, approximately 5,000 fewer children were registered in Singapore, with 23,859 children.

Table 6.

Comparison of State Subsidies for Preschool Education in Kyrgyzstan and Singapore

Country	State Subsidies for Preschool Education
Kyrgyzstan	---
Singapore	Early Childhood Development Agency (ECDA), KidSTART, and Early Intervention

As shown in [Table 6](#), Kyrgyzstan does not provide subsidies for preschool education. In contrast, Singapore offers support through programs such as the Early Childhood Development Agency (ECDA), KidSTART, and Early Intervention, which provide financial assistance and additional subsidies for preschool education.

DISCUSSION

In Kyrgyzstan, preschool education is provided by both state and private institutions, with a predominant preference for state-run schools. A 2019 study on parental school preferences in Kyrgyzstan found that 79% of parents opted for state schools, 19% chose private schools, and 2% enrolled their children in both state and private institutions ([Abdubaetova, 2019](#)). These findings indicate a strong reliance on state schools for preschool education. A key reason for this reliance is the high cost of private schools. While private schools offer high-quality education, their fees are also quite high. Family income is a primary factor in school selection. Therefore, high-income families tend to send their children to private schools, while low- and middle-income families predominantly prefer state schools ([Abdubaetova, 2019](#)).

Despite Kyrgyzstan's high literacy rate, broader socio-economic indicators suggest that this advantage has not translated into comparable levels of overall development. This finding aligns with previous research indicating that literacy alone is insufficient to drive national development outcomes without parallel investments in educational

quality, institutional capacity, and effective governance structures. In contrast, Singapore's comparatively lower literacy rate does not undermine its educational performance or development trajectory, as reflected in its consistently high outcomes in international assessments such as PISA and TIMSS (Mullis et al., 2016; OECD, 2016). These differences suggest that the effectiveness of education systems is shaped not only by access and basic literacy, but also by policy coherence, resource allocation, and the integration of education within broader social and economic frameworks.

In Kyrgyzstan, 22.5% of the state treasury was allocated to education in 2022, with an annual increase of approximately 1% (STAT, 2024). By contrast, although Singapore allocates a smaller proportion of its national budget to education (13.28%), the absolute size of its state treasury—USD 466.79 billion—results in a substantially higher level of per-capita and per-student educational expenditure. This structural difference is reflected in the distribution of human resources: Kyrgyzstan employs a considerably larger number of educators overall and in preschool education, while Singapore operates with fewer educators supported by higher levels of financial investment, institutional capacity, and salary expenditure per teacher. Taken together, these figures indicate that the inequality between the two countries' education systems is not primarily a matter of budgetary share, but rather of fiscal capacity and spending efficiency, which shape the scale, quality, and sustainability of educational provision.

Beyond numerical differences in enrollment and institutional capacity, the contrast in state subsidy policies reveals important social implications for the future of preschool education in both countries. In Singapore, extensive subsidy schemes function not only as financial support mechanisms but also as tools for promoting early educational equity, ensuring that children from low-income families can access structured and high-quality preschool environments. This early intervention approach is likely to contribute to more balanced cognitive, linguistic, and social development across socioeconomic groups, reinforcing long-term educational outcomes and social mobility. In contrast, the absence of public subsidies in Kyrgyzstan places the financial burden of early childhood education largely on families, which may deepen existing inequalities by limiting access to quality preschool education for disadvantaged groups.

Over time, disparities in education risk reproducing social inequality through the education system, as unequal starting conditions in early childhood can persist into later stages of schooling and adulthood. From a broader perspective, these findings suggest that preschool subsidy policies play a critical role not only in enrollment rates but also in shaping the inclusiveness and developmental effectiveness of national education systems.

Taken together, the comparative analysis of Kyrgyzstan and Singapore demonstrates that the effectiveness of preschool education systems cannot be understood solely through enrollment rates, institutional numbers, or budgetary shares, but rather through the interaction of governance models, fiscal capacity, and policy priorities. While Kyrgyzstan exhibits broad access and a strong state presence in early childhood education, the findings reveal structural constraints related to funding mechanisms, equity-oriented support, and long-term system sustainability. In contrast, Singapore shows that system

coherence and early policy intervention may matter more than institutional scale in shaping equitable preschool outcomes.

Theoretically, this study contributes to comparative education by reinforcing the argument that early childhood education outcomes are shaped by systemic design rather than scale alone. Comparatively, it offers one of the few structured analyses of Kyrgyzstan's preschool system alongside a high-performing reference case. Practically, the findings highlight the importance of early intervention policies, subsidy frameworks, and spending efficiency for countries seeking to reduce educational inequality from the earliest stages. In this respect, the study provides not only a descriptive comparison but also an analytical framework that may inform evidence-based reforms in Kyrgyzstan and other developing education systems.

CONCLUSION

This study set out to compare the preschool education systems of Kyrgyzstan and Singapore through a comparative education perspective, focusing on structural, pedagogical, financial, and sociocultural dimensions. The findings indicate that, despite having a larger number of institutions and educators, Kyrgyzstan faces persistent challenges related to funding mechanisms, limited state support, and unequal access to quality preschool education.

In contrast, Singapore demonstrates how targeted subsidies, strong institutional coordination, and sustained investment in early childhood education can lead to higher enrollment rates and more coherent system outcomes. Overall, the objective of the research was met by systematically identifying key differences and similarities between the two countries and by illustrating how policy choices and governance models influence preschool education systems. By situating Kyrgyzstan and Singapore within a shared comparative framework, the study provides empirically grounded insights that may inform future policy development, particularly for developing countries seeking to strengthen their early childhood education systems through evidence-based and context-sensitive reforms.

Limitations and Future Directions

This study presents a structured comparison of preschool education systems in Kyrgyzstan and Singapore. However, it has some significant limitations. Firstly, the analyses rely heavily on document review and secondary sources. This limits its capacity to reflect recent policy adjustments and daily institutional practices. This limitation is particularly pronounced in the Kyrgyzstani context, where publicly available statistical data are not only limited but also uneven in quality and temporal coverage. As a result, the study may overlook discrepancies between formal policy frameworks and their practical implementation at the preschool level.

A more substantial limitation lies in the absence of primary empirical data. Without direct engagement with preschool teachers, administrators, parents, or policymakers, the analysis cannot fully account for how policy intentions are interpreted, negotiated, or selectively applied within institutions. This constraint is especially relevant in

comparative research, where similar policy instruments may produce markedly different outcomes depending on local administrative capacity and professional culture. Furthermore, the comparison relies on a relatively narrow set of indicators, which limits deeper engagement with qualitative dimensions such as curriculum enactment, teacher education pathways, and classroom-level pedagogical practices.

Future research should move beyond document-based comparison by combining policy analysis with systematic primary data collection in both countries. Interviews, surveys, and classroom-level observations involving early childhood educators and families would enable a more grounded understanding of how preschool systems operate in practice.

Broadening the analytical scope to include pedagogical processes and child-level outcomes would also allow for a more meaningful assessment of system effectiveness, rather than policy alignment alone. In addition, the use of more recent and internationally comparable datasets, supplemented by field-based qualitative evidence, would strengthen the analytical robustness of comparative studies in this area. Finally, further research should critically examine not whether, but under what specific institutional and socio-economic conditions selected elements of Singapore's early childhood support mechanisms could be adapted to Kyrgyzstan, acknowledging the structural constraints that limit direct policy transfer.

FINANCING

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CONFLICT OF INTERESTS

No potential competing interest was reported by the authors.

AUTHOR'S CONTRIBUTION

Yavuz-Ercan Gül: Conceptualization, Methodology, Investigation, Data curation, Formal analysis, Writing – original draft, Writing – review & editing, Supervision.

Ramazan Tahsin Keser: Data curation, Investigation, Visualization, Writing – original draft, Writing – review & editing.

Gülnur Ismanova: Literature review, Data curation, Validation, Writing – review & editing.

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