Uncovering educational disparities in Sri Lanka,with an emphasis on analysing the school level factors influencing student performance across different regions and schools.

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***Abstract*— This study investigates the school-level factors influencing student exam performance in Sri Lanka, with a comparative analysis of national and provincial schools. By examining variables such as teacher qualifications, classroom resources, school facilities, and administrative support, we aim to identify key determinants of student success. Using data-driven analysis, we explore performance disparities between national and provincial schools to understand the extent to which these factors impact academic outcomes. The findings provide insights into the strengths and challenges of each school type, offering recommendations for policy improvements to enhance educational equity and student achievement across the country.**

Keywords— Educational Disparities, School-Level Factors, Educational Equity

I. INTRODUCTION

Regardless, education remains a central aspect of developing a nation and its quality strongly determines the future socioeconomic outcome of a country. Sri Lanka, a country praised for its high literacy stands at the bottom in comparison with other countries and suffers from wide gaps in educational performance within the provinces. Such differences do not come from socioeconomic background alone, as they are also deeply rooted in the differing levels of school facilities, access to teachers, and provision of modern resources to students. The purpose of this study is to assess the relationship between these important educational inputs and performance regarding the Grade 5, O/L, and A/L results and provide data-based recommendations that can assist policymakers in making decisions that will facilitate equal education for all children.

The regional inequality of education within Sri Lanka has become an issue of great concern in the last few years because, unlike some regions that have a good infrastructure such as science labs, libraries, advanced IT laboratories, other provinces are still suffering at an alarming level. Additionally, an important consideration that has certainly been shown to affect a student's ability to learn and be motivated greatly varies across provinces is the quantity and quality of teachers. These differences in educational inequalities give rise to basic issues about the poverty level. Such disparities pose fundamental challenges regarding how resources are distributed and how these distributions affect the performance of students. Therefore, constructing precise policies requires that the relationships among these factors be well understood.

Particularly, this research explores the intricate links between school infrastructure, teacher presence, technology, and their combined impact on student achievement. the study uses a random forest model, one of the most sophisticated machine-learning algorithms, because it is very effective at analysing the relationships, interactions, and nonlinearities that exist among many predictors. This is the best approach to find and analysis the relationships between different educational variables. This design allows the researchers to deal with educational inequality in a powerful way. Because the random forest model does not require pre-specifying the functional form, it will be used to determine what combination of factors influences student achievement and measure the significance of each factor and its influence on student performance.

In addition, this study does not only address the variances in student achievements per province, but also studies the level of concentration of educational resources in different schools. How resources such as IT labs, libraries, and science labs are allocated is an important aspect that could shed light on the social inequities that are being caused by the general infrastructure of these schools. The analysis is further enriched by the degree of teacher availability, and the willingness, as it is assumed that there always a need for a

learned person to engage the learner physically and technologically with the environment.

With the question, “In what ways does the difference in school infrastructure, teacher availability, and technology impact students’ performance in the various provinces of Sri Lanka?” This research tried to address the gaps in the literature regarding educational reforms. It is expected that the study will fill gaps by providing specific, resource driven, explanations for why achievement levels are low. In the end, these studies serve to inform educators and heads of education so that they will have the evidence needed to allocate resources more efficiently and improve the quality of education in Sri Lanka.

II. LITREATURE REVIEW

The impact of school infrastructure, instructor availability, and technological resources on student achievement has been extensively researched in various educational settings. In Sri Lanka, discrepancies in resource allocation and technological accessibility have a substantial impact on academic achievement. Gunasekera and Balasubramani (2020) investigated the use of Information and Communication Technology (ICT) among Sri Lankan school teachers, finding that barely half of the schools questioned had ICT labs. This limited access prevents both students and instructors from utilizing technology to enhance learning experiences. Furthermore, while many teachers demonstrated comfort in basic ICT usage, their use of advanced technological tools remained limited due to insufficient training and infrastructure. To improve educational quality, the study emphasizes the need for more funding for digital tools and teacher preparation (Gunasekera & Balasubramani, 2020). In a similar vein, Pierson (2014) emphasized that simply giving schools technology is not enough unless students can use it. The necessity for student-centered technological interventions is further supported by findings that indicate student exposure to digital technologies is a greater predictor of learning outcomes than instructor access alone (Pierson,2014).

In addition to technology, schools' overall infrastructure has a significant impact on how well students perform. Research on smart classrooms in Sri Lankan government schools highlights how they improve student performance, especially in courses connected to science and technology (International Journal of Scientific & Technology Research [IJSTR], 2020). Students' performance is greatly enhanced when well-equipped classrooms that support interactive learning are present.

Another major issue facing Sri Lanka's education system is the unequal distribution of physical resources including libraries, science labs, and contemporary classrooms. While rural schools suffer from resource shortages that hinder students' ability to do well on national exams, urban schools often have better-equipped facilities. Additionally, studies show how crucial both the quality and availability of teachers are to raising student achievement. Students perform better in schools with more qualified teachers than in those with regular teacher shortages, especially in disciplines like science and math (ResearchGate, 2022). Subject-specific teacher availability and teacher-to-student ratios are important variables influencing academic performance in various provinces.

ICT integration in Sri Lankan schools continues to be a crucial factor in determining educational fairness, along with infrastructure and teacher availability. Most schools in Sri Lanka still lack the ICT infrastructure necessary to facilitate digital learning, according to a study on technology-mediated education. This results in a disconnect between policy expectations and practical application (ResearchGate, 2022). Although the government has started ICT-based initiatives, problems including poor teacher preparation and erratic internet connection limit their efficacy.

Additionally, a study conducted by the Educational Resources Information Centre (ERIC) highlights the necessity of stronger infrastructure design and structured training programs to improve ICT adoption in schools (ERIC, 2021). When taken as a whole, these studies demonstrate how differences in Sri Lankan students' performance are greatly impacted by differences in school facilities, teacher availability, and technology resources. Reducing educational disparities and enhancing academic performance across provinces can be achieved by addressing these gaps through targeted resource allocation and policy reforms.

III. METHODOLOGY

This study uses a quantitative research approach to investigate how school infrastructure, teacher availability, and technology resources affect student performance in different provinces of Sri Lanka. The study used a cross-sectional methodology to examine data from several regions to identify differences in educational resources and how they affect academic performance. The Ministry of Education and the Department of Census and Statistics are two official sources of secondary data used in this study.

The dataset consists of key variables, where the dependent variables include student performance measured by the number of students passing the Grade 5, O/L, and A/L examinations, while the independent variables include the number of IT labs, libraries, science laboratories, national and provincial schools, and the availability of teachers in these schools. The table below provides a structured overview of the dataset’s key variables:

Column Parameter	Variable Type	Data Type	Exact Definition
Province	Feature	Categorical	Name of the province
Grade 5 results	Target	Numerical	Number of students passing the Grade 5 exam
O/L results	Target	Numerical	Number of students passing the Ordinary Level (O/L) exam

A/L results	Target	Numerical	Number of students passing the Advanced Level (A/L) exam
Numbers of IT lab	Feature	Numerical	Number of IT labs available in schools
Numbers of Libraries	Feature	Numerical	Number of libraries in the province
Numbers of Science Labs	Feature	Numerical	Number of science laboratories available
Numbers of National School	Feature	Numerical	Count of national-level schools
Numbers of Provincial School	Feature	Numerical	Count of provincial-level schools
Numbers of National Student	Feature	Numerical	Number of students in national schools
Numbers of Provincial Student	Feature	Numerical	Number of students in provincial schools
Numbers of National School Teachers	Feature	Numerical	Number of teachers in national schools
Numbers of Provincial School Teachers	Feature	Numerical	Number of teachers in provincial schools

Before beginning analysis, pretreatment and cleaning were done to guarantee data integrity. Boxplots and Z-scores were used to identify and deal with outliers, statistical imputation techniques were used to handle missing values, and numerical transformations were used to standardize the data. Descriptive statistics, correlation analysis, and visualizations were used in exploratory data analysis (EDA) to find patterns and connections among variables. Random Forest feature importance analysis, which ranks variables according to their contribution to prediction accuracy, was used to identify the most significant elements influencing student performance.

For predictive modeling, the study initially applied Linear Regression as a baseline model but found it unsuitable due to its poor predictive performance. Instead, a Random Forest Regression model was used, as it is more effective in capturing complex relationships and nonlinearities. The performance of the Random Forest model was evaluated using Mean Absolute Error (MAE), Mean Squared Error (MSE), and R^2 Score, which indicated a significantly better fit than the linear model.

Since the research uses only publicly available data, ethical considerations are also considered, ensuring that no personally identifiable student information is used. To protect accuracy and reliability, steps were taken to reduce bias during data collection, model training, and interpretation. This study presents a data-driven approach to understanding regional educational differences and how they affect student outcomes using machine learning methods. The results provide policymakers with insights that can help them determine how best to allocate educational resources to improve educational equity in Sri Lanka.

IV. Result and Analysis

In this study, the predictive performance of two machine learning models, Linear Regression and Random Forest, was evaluated using three key metrics: Mean Absolute Error (MAE), Mean Squared Error (MSE), and R^2 Score. The results indicate that the Linear Regression model exhibited poor predictive capability, yielding an MAE of 11,409.66, an MSE of 240,512,576.15, and an R^2 Score of -8.93, signifying a weak fit to the data and a failure to capture underlying patterns. In contrast, the Random Forest model demonstrated significantly improved accuracy, achieving an MAE of 2,621.35, an MSE of 6,918,439.05, and an R^2 Score of 0.71, indicating a strong correlation between predicted and actual values. These findings suggest that the Random Forest model is better suited for this dataset, as it effectively captures complex relationships and generalizes well. As illustrated in Figure 1, the Random Forest model provides a more reliable approach for analyzing school-level factors influencing student performance, reinforcing its suitability for policy-driven educational research.

```
model_performance = {
    "Linear Regression": {"MAE": mae_lr, "MSE": mse_lr, "R2 Score": r2_lr},
    "Random Forest": {"MAE": mae_rf, "MSE": mse_rf, "R2 Score": r2_rf}
}
model_performance
```

```
{'Linear Regression': {'MAE': 11409.66210988765,
  'MSE': 240512576.14590776,
  'R2 Score': -8.931870769947647},
 'Random Forest': {'MAE': 2621.3500000000004,
  'MSE': 6918439.046600003,
  'R2 Score': 0.7143058228318754}}
```

Figure 1: Performance Comparison of Linear Regression and Random Forest Models

To enhance the predictive performance of the Random Forest Regressor, hyperparameter tuning was performed using GridSearchCV with five-fold cross-validation (cv=5). The tuning process optimized key parameters, including the number of trees (*n_estimators*: 50, 100, 200), maximum tree depth (*max_depth*: None, 10, 20), minimum samples required for a split (*min_samples_split*: 2, 5, 10), and minimum samples per leaf (*min_samples_leaf*: 1, 2, 4). The optimal combination of these parameters was selected based on the highest R^2 Score, ensuring improved accuracy, generalization, and model robustness. As shown in Figure 2, the tuned Random Forest model exhibited superior predictive performance, reinforcing its suitability for analyzing school-level factors affecting student performance.

```
# Final Model: Hyperparameter Tuning for Random Forest
param_grid = {
    'n_estimators': [50, 100, 200],
    'max_depth': [None, 10, 20],
    'min_samples_split': [2, 5, 10],
    'min_samples_leaf': [1, 2, 4]
}
```

Figure 2: Effect of Hyperparameter Tuning on Random Forest Performance

The Random Forest model exhibits a moderate level of predictive accuracy, as reflected in its performance metrics. The Mean Absolute Error (MAE) of 2,882.13 indicates that, on average, the model's predictions deviate by approximately 2,882 units from the actual values. The Mean Squared Error (MSE) of 8,586,249.89 emphasizes the magnitude of squared errors, penalizing larger deviations more significantly. Additionally, the R^2 Score of 0.645 suggests that the model explains 64.5% of the variance in the target variable, demonstrating a reasonably strong fit. As illustrated in Figure 3, these results highlight the model's effectiveness in capturing key patterns within the data, making it a valuable tool for analyzing school-level factors influencing student performance.

```
{'Best Random Forest Model': {'MAE': 2882.13,
  'MSE': 8586249.899400001,
  'R2 Score': 0.6454342397979933}}
```

Figure 3: Performance Evaluation of the Optimized Random Forest Model

The feature importance analysis of the Random Forest model highlights the key factors influencing its predictions. The most significant predictor is "Number of Provincial School Teachers" (0.206), followed closely by "Number of Libraries" (0.203), indicating that teacher availability and access to learning resources have the highest impact on student performance. Other important contributors include "Number of IT Labs" (0.149) and "Number of National School Teachers" (0.138), emphasizing the role of technological infrastructure and teaching staff in shaping educational outcomes. Meanwhile, features such as "Number of Science Labs" (0.097) and "Number of Provincial Schools" (0.089) exhibit lower importance, suggesting a comparatively minor influence on predictions. As illustrated in Figure 4, these findings provide valuable insights for policymakers, reinforcing the need to prioritize teacher allocation and resource distribution to improve educational performance.

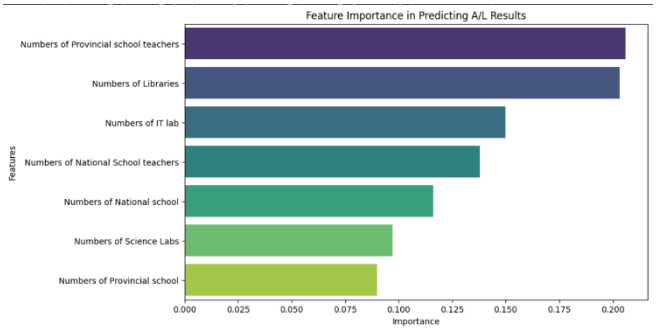

Figure 4: Feature Importance Analysis of the Random Forest Model

Figure 5 illustrates the correlation between the number of national schools and student performance across three educational levels: Grade 5, O/L, and A/L. The scatter plots reveal a positive relationship, suggesting that provinces with a higher number of national schools tend to achieve better academic results. Notably, the Western Province stands out with the highest number of national schools and superior student performance, whereas regions such as North Central and Sabaragamuwa exhibit moderate school numbers with varying academic outcomes. These findings underscore the critical role of school availability in shaping educational success, emphasizing the need for strategic resource allocation and infrastructure development to bridge regional disparities and enhance student performance nationwide.

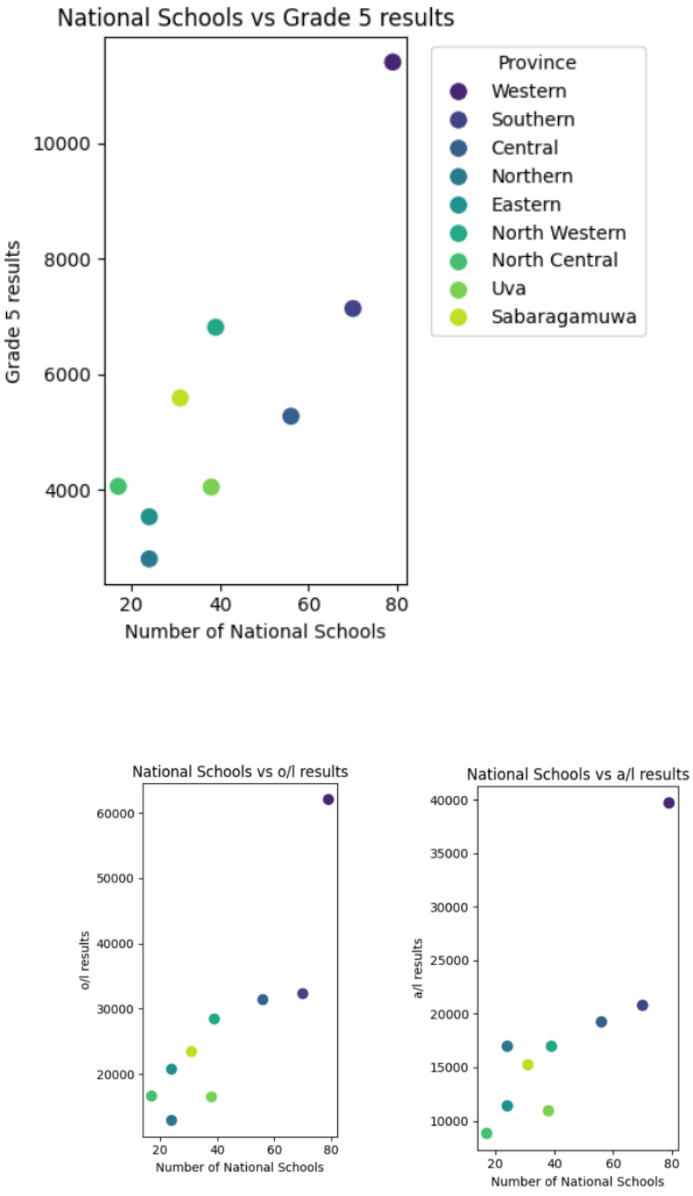

Figure 5: Relationship Between National Schools and Student Performance

Figure 6 presents a district-wise comparison of O/L and A/L results, illustrating student performance across various regions. In the chart, blue bars represent O/L results, while red bars indicate A/L results. The Western Province demonstrates the highest performance in both exams, significantly outperforming other districts. A common trend emerges where O/L results generally surpass A/L results, except in the Northern Province, where A/L performance is slightly higher. This distribution underscores regional disparities in educational achievement, highlighting the need for targeted interventions and policy measures to support underperforming districts and promote educational equity nationwide.

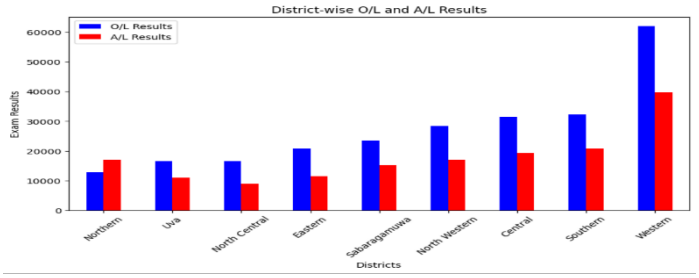

Figure 6: District-wise Comparison of O/L and A/L Results

Figure 7 illustrates the correlation between the number of national schoolteachers and Grade 5 examination results. The scatter plot indicates a positive relationship, suggesting that an increase in the number of teachers is generally associated with improved student performance. The red regression line highlights this trend, while the pink shaded area represents the confidence interval, capturing variations in the data. Although the blue scatter points largely follow an upward trajectory, some regions deviate from the predicted values, indicating that while teacher availability plays a crucial role, other factors may also contribute to Grade 5 performance.

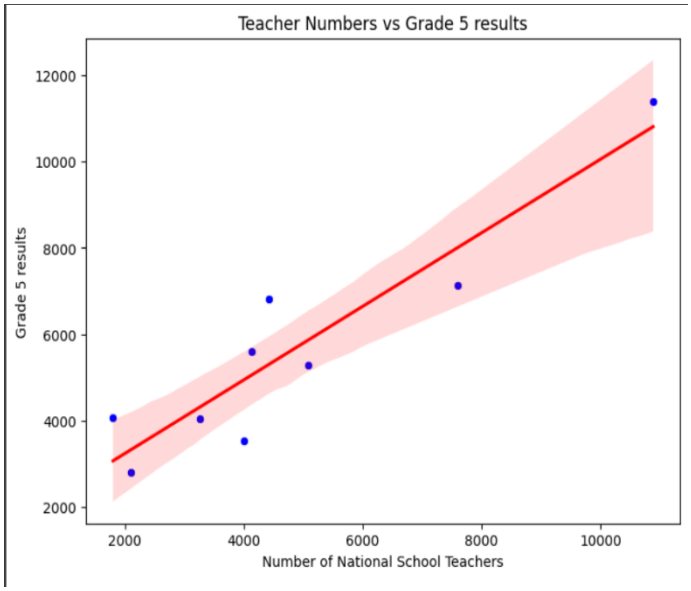

Figure 7: Relationship between the Number of National School Teachers and Grade 5 Results

Figure 8 illustrates the distribution of Provincial and National schools across different provinces, emphasizing the decentralized nature of Sri Lanka's education system. Provincial schools significantly outnumber National schools in most regions, with the Eastern Province displaying a sharp increase in Provincial schools, possibly due to educational initiatives or higher rural demand. While the number of National schools fluctuates, it remains consistently low across all provinces. This disparity in educational infrastructure highlights potential areas for policy intervention, emphasizing the need for strategic resource allocation to ensure balanced access to quality education.

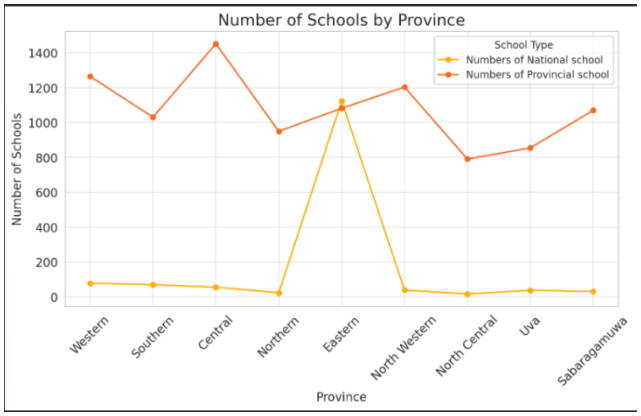

Figure 8: Number of Schools by Province

Figure 9 presents a comparison of teacher distribution between Provincial and National schools. Provincial schools exhibit a wider distribution of teachers, reflecting variations in school sizes and teacher-to-student ratios. In contrast, National schools have a lower median number of teachers, though the presence of outliers suggests a few exceptionally large institutions. The interquartile range (IQR) for Provincial schools is significantly larger, indicating greater disparities in teacher allocation compared to National schools. These insights highlight the need for policy adjustments to promote a more balanced and equitable distribution of teachers across school types.

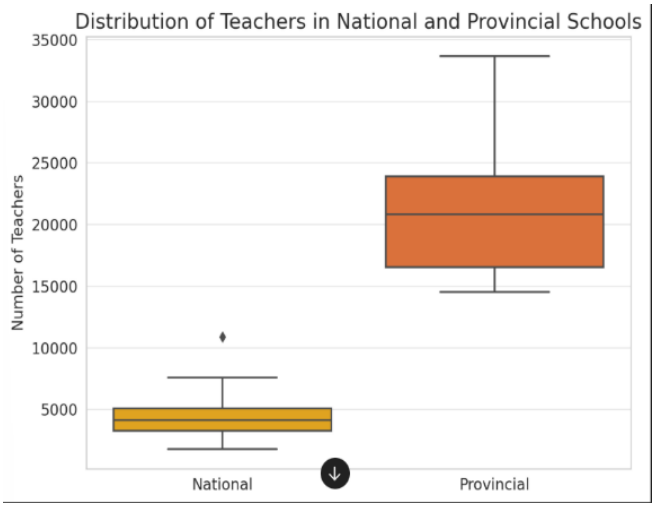

Figure 9: Distribution of Teachers in National and Provincial Schools

Figure 10 illustrates the distribution of Provincial and National schools across different provinces, emphasizing that Provincial schools constitute the majority in every region. In contrast, National schools make up only a small fraction, highlighting the need for targeted interventions in school classification and resource allocation. The Eastern and Northern provinces have the highest total number of schools, suggesting a strong educational network in these regions. The stacked bar chart offers a comparative provincial overview, providing valuable insights into regional disparities and potential areas for strategic educational investment.

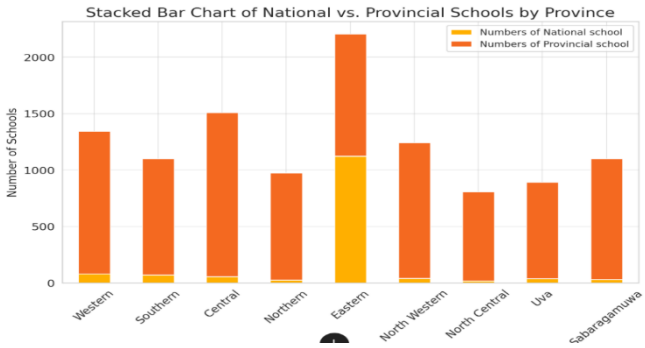

Figure 8: Stacked Bar Chart of National vs. Provincial Schools by Province

V. Discussion

Education plays a crucial role in shaping the destiny of a country, and granting equal access to quality education to all regions is a minimum necessity for a country's development. The findings of this study indicate vast disparities in academic achievement between the provinces in Sri Lanka, with the Colombo district invariably topping other regions. This is attributed mainly to better school infrastructure, a greater number of quality teachers, and greater access to modern education facilities like IT labs, science labs, and libraries. Still, most of the other districts, particularly rural and backward ones, have worse student performance due to their lack. This indicates a high correlation between educational infrastructure and student achievement, suggesting that investment in school buildings across all the provinces could lead to aggregate improvement in the country's education system.

One of the points made by the analysis is that while the Southern Province also reflects relatively high student performance, it still lags Colombo district, which remains Sri Lanka's education center. This can be attributed to a greater prevalence of national schools and more teachers for each student in Colombo. National schools, better funded by the government and with better educational resources, are similarly patchily distributed across provinces. The figures reveal that the Western Province, home to Colombo, has a very much higher concentration of national schools compared to other provinces. This advantage offers Colombo students greater exposure to quality teachers, well-equipped classrooms, and extracurricular learning activities, all of which contribute to better student performance in Grade 5, O/L, and A/L exams. The evidence also suggests that students from provinces with a greater number of national schools achieve better results in national exams, justifying the need to increase well-equipped schools to target areas.

Another crucial factor influencing student performance is the availability of teachers, particularly in provincial schools. The analysis shows that provinces with a higher number of national schoolteachers tend to achieve better academic results. This is because national schools attract more experienced and well-trained educators, often with better qualifications than those in provincial schools.

However, in many rural areas**,** the shortage of qualified teachers remains a pressing issue. Some provinces face high teacher turnover rates, lack of subject-specialized instructors, and unequal distribution of teaching staff, all of which contribute to lower student performance. The feature importance analysis conducted in this study highlights that the number of provincial schoolteachers is the most influential factor affecting student outcomes**,** suggesting that addressing teacher shortages and improving teacher training in rural areas could significantly enhance educational quality**.**

Additionally, the study shows that student achievement is significantly influenced by technical resources like IT laboratories. In the national exams, the district of Colombo, which has the most IT laboratories per school, performs the best overall. There is a digital divide between urban and rural schools, as seen by the worse educational achievements in provinces with fewer IT facilities. Due to restricted access to digital learning resources and internet connectivity, students in less developed provinces are at a disadvantage considering the growing significance of technology in contemporary education. This disparity might be closed by increasing IT infrastructure and incorporating technology-driven learning strategies into the curriculum, giving kids in every province an equal chance to acquire critical digital skills.

Science labs and libraries have also been found to be important components of student achievement. The findings highlight the significance of having access to learning resources outside of the classroom by demonstrating a large positive link between the number of libraries and student outcomes. The distribution of libraries varies by province, nevertheless, with the Southern Province and Colombo having better-equipped school libraries than rural locations. More books, research resources, and peaceful study areas are available to schools in these areas, which might improve students' academic engagement and retention of information. Since practical experiments and hands-on learning are crucial parts of science education, the availability of science labs also significantly affects A/L performance. The lack of science labs in certain districts limits students' ability to develop practical skills, which could affect their performance in science-related Expanding library and science lab facilities in underprivileged areas could therefore lead to more balanced educational opportunities across Sri Lanka**.**

Disparities in education are further demonstrated by contrasting national and regional schools. Despite their smaller numbers, national schools routinely outperform provincial ones in terms of student results, according to the data. This is because national schools have better facilities, more qualified teachers, and greater finance. However, as provincial schools make up most of the educational system, raising their standard is crucial to the advancement of the entire country. The Western Province may do better on tests because of its well-balanced national and provincial school ratio. Rural provinces with a large provincial school population, on the other hand, find it difficult to match this achievement. Therefore, governments should prioritize strengthening infrastructure, hiring more skilled instructors, and upgrading provincial schools with greater resources.

These findings have important policy implications for maintaining educational equity in Sri Lanka. The findings unequivocally show that improving technological resources, boosting teacher availability, and investing in educational infrastructure may all greatly raise student achievement in areas that are performing poorly. To guarantee that all children, wherever they may be, have access to high-quality education, the government should give priority to allocating funds to provinces that fall behind Colombo and the Southern Province. This entails increasing the number of national schools, recruiting and keeping qualified educators, developing IT infrastructure, and making certain that each school has a state-of-the-art library and scientific lab.

Additionally, measures like professional development initiatives, teacher incentives for rural placements, and more government support for provincial schools could aid in closing the educational gap between urban and rural areas. Promoting public-private partnerships, in which businesses and non-governmental organizations assist underprivileged schools with digital learning projects and infrastructure development, may also be a successful strategy.

In summary, this study reveals notable regional differences in Sri Lanka's educational system, with the Colombo district performing better than other areas because of improved technology, teacher availability, and infrastructure. Even though the Southern Province does quite well as well, many rural and undeveloped areas still face difficulties because of a shortage of qualified teachers, inadequate school facilities, and restricted access to technology. The findings emphasize that addressing these gaps by increasing investments in educational resources across all provinces can lead to a more equitable and high-performing education system**.** By expanding national school facilities, enhancing provincial school infrastructure, providing more teacher training opportunities, and integrating technology into classrooms**,** policymakers can ensure that every student in Sri Lanka receives a quality education, regardless of their geographic location. A well-balanced education system will not only enhance student academic achievement but also contribute to the overall socioeconomic development of the country**,** creating a skilled and knowledgeable workforce capable of driving Sri Lanka’s future growth.

VI. Conclusion

This study provides an in-depth examination of the inequalities in Sri Lanka’s education system, highlighting how infrastructure, teacher availability, and technology impact student achievement. The results show that the Colombo district consistently scores higher than other provinces, largely due to improved school infrastructure, better-prepared instructors, and easier access to science labs, IT labs, and libraries. On the other hand, academic outcomes in rural and poor areas are poorer due to lack of resources, teacher shortages, and limited access to contemporary teaching resources.

The strong relationship between student accomplishment and school infrastructure is a major finding of this study, highlighting the fact that educational facility investment can greatly improve learning results in all provinces. Because provinces with more national schoolteachers typically have better student performance, the study also emphasizes the significance of teacher availability. Improving incentives, training initiatives, and teacher distribution in provincial schools could be crucial to raising the standard of education across the country.

The study also emphasizes how technical resources, especially the availability of IT labs and digital learning resources, affect students' success. By increasing technology-driven education programs and enhancing internet accessibility in underdeveloped areas, the digital divide between urban and rural schools can be lessened, which is a major concern. The necessity for better-equipped schools in underprivileged communities was further supported by the discovery that science labs and libraries were important factors in academic performance.

To guarantee educational parity throughout Sri Lanka, this study strongly suggests making targeted expenditures in underperforming areas. Increasing national school infrastructure in underprivileged communities is one of the main policy recommendations. Improving provincial schools' facilities and teacher preparation. Increasing government funding and promoting public-private partnerships; improving access to technology and digital learning materials; and offering incentives to educators to work in remote districts

Addressing regional education disparities through resource allocation and strategic policy initiatives can lead to a more balanced and effective education system. Prioritizing equitable access to high-quality education will help Sri Lanka establish a workforce that is knowledgeable and skilled and contributes to the country’s overall economic success. In addition to improving students’ academic performance, an inclusive, technologically advanced and well-organized education system will ensure a better future for the next generation.

REFERENCES

- Educational Resources Information Center (ERIC). (2021). *Identification of a framework for implementing ICT in Sri Lankan schools*. Retrieved from https://files.eric.ed.gov
- Gunasekera, C., & Balasubramani, R. (2020). *Use of Information and Communication Technologies by School Teachers in Sri Lanka for Information Seeking*. *Library Philosophy and Practice*. Retrieved from https://digitalcommons.unl.edu
- International Journal of Scientific & Technology Research (IJSTR). (2020). *The impact of smart classrooms on the academic success of Sri Lankan government school students*. Retrieved from https://www.ijstr.org
- Pierson, E. (2014). *The impact of school technology infrastructure on teachers' technology integration: A survey in thirteen countries*. *ResearchGate*. Retrieved from https://www.researchgate.net
- ResearchGate. (2022). *Technology mediated education in Sri Lanka: Expectations, challenges, and strategies*. Retrieved from https://www.researchgate.net
- Department of Census and Statistics, 2023. *Annual School Census of Sri Lanka Summary Report 2023.* Ministry of Education. https://www.statistics.gov.lk/Resource/en/Education/School_Census/Annual_School_Census_SummaryReport_2023.pdf

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