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Despite ensuring equal access to education, many students struggle to meet learning standards. In 2019, 90% of ten-year-olds were unable to read and understand a simple text in various Southeast Asian (SEA) countries. This learning crisis is explained by the differences in the educational performance of students due to varying backgrounds, known as educational achievement inequality. Using SEA-PLM 2019 data, ordinary least squares regression was conducted to identify significant factors of educational achievement in the Philippines, Malaysia, Vietnam, Cambodia, Myanmar, and Lao PDR. The predicted values from the OLS regression are used to determine the contribution of each factor to educational achievement inequality using a regression-based inequality decomposition model. Our results revealed that socioeconomic factors, such as family background and household environment, are primary contributors to educational achievement inequality. These findings can inform governments in establishing policies that reduce achievement inequality arising from students' varying socioeconomic backgrounds across SEA.

Policy Recommendations

1. Involving Parents in Children's Education

Based on the findings from our decomposition analysis, parental engagement emerged as one of the leading contributors to educational achievement inequality in all countries. These findings call for programs that promote the involvement of parents in their children's learning. A key approach is to strengthen the role of the Parents-Teachers Association (PTA) by building consistent communication between parents, especially of low-performing students and teachers. This includes regular face-to-face meetings and calls or messages between teachers and parents to update families regarding children's

performance in school and to deeply involve parents in their children's learning process and development. At the start of the school year, parents should be oriented about the school curriculum to give a better understanding of what is required from their children so that parents can provide children with the support they need and the prescribed learning environment at home. Parental involvement in children's learning strengthens the connection between home and school.

2. Enhancing Existing National Parenting Programs

In the Philippines where parental engagement emerged as the largest contributor to achievement inequality, enhancing existing parenting programs like the Family Development Session (FDS) of Pantawid Pamilyang Pilipino Program (4Ps) for low socioeconomic status families can establish stronger involvement of parents in their child's education. This can be done by including an additional module to FDS that is focused on orienting parents on their roles and responsibilities in creating a conducive and supportive home environment for their children's learning. Family development programs in other countries can be expanded by adding a dedicated initiative for empowering parental and family support for children's learning.

3. Promoting a Conducive Learning Environment at Home

Parental engagement and cultural capital, captured by books and learning materials at home, are the key contributors to educational inequality in all participating countries. This suggests that a home environment is crucial in promoting the educational achievement of children since learning at school is supplemented by learning at home. As such, policies that promote flexible working hours enable parents to spend more time with their children and create a supportive home learning environment where parents are more involved in their children's learning, and in return, children feel motivated in their studies. This should be supplemented with programs that provide educational resources such as books, toys, and other learning materials that can aid in making homes more conducive to children's learning. Home-based programs based on the best practices from Myanmar, where the government provides educational resources and support for parents on promoting children's development, can be adopted by other participating countries. In this initiative, parents are mentored by other volunteer parents in facilitating child development activities, such as interactive games and book reading sessions. Participating families are also given government-funded and donated supplies (i.e., story books, simple games, flashcards) that can aid their children in educational activities, such as storytelling, which improves the child's reading comprehension.

4. Improving Skills and Increase Human Capital of Parents

One of the consistently significant contributors to educational inequality from the decomposition analysis is parents' educational attainment. This is less straightforward than addressing issues related to parental engagement, as parents are less likely to undergo more years of schooling due to their household responsibilities. With these in mind, we recommend policies that offer skill-based training programs to parents as they increase human capital while taking significantly less time. It can also prompt the role model effect, where it motivates students to be like their parents who are willing to develop their skills. The GPOBA: Vietnam Education Project, Myanmar: Education Consortium, and Malaysia: Basic Financial Assistance Programs are programs that are currently providing subsidies to students in higher education. These programs can be expanded to also provide skill-based training programs to parents.

Introduction

Southeast Asian students are failing to meet global learning standards. Even with significant educational investment in SEA, insufficient and unequal learning outcomes persist. For instance, the recent SEA-PLM 2019 survey revealed that only 10% of grade five students in the Philippines have reached the minimum reading standard, comparable to that of Cambodia's and Myanmar's 11%, and pales in comparison to Malaysia's 58% and Vietnam's 82% (SEA-PLM, 2020). Only Lao PDR's 2% rate is lower than that of the Philippines. One of the reasons for this underperformance is the existence of educational achievement inequality, where students have varying achievement levels based on certain characteristics like their socioeconomic status (Ferreira & Gignoux, 2011). This undermines the effort of countries to leverage education for socioeconomic mobility and overall economic growth. In investigating this problem, the crucial first step is understanding achievement factors and how they contribute to achievement inequality.

As such, this paper determines factors of educational achievement and decomposes their contributions to the achievement inequality of one of the SEA's worst academic performers–the Philippines. Furthermore, it draws comparisons to the rest of the SEA-PLM 2019 participating countries Malaysia, Vietnam, Myanmar, Cambodia, and Lao PDR using reading test scores and student information from SEA-PLM 2019 data.

Model Specification and Results

Using SEA-PLM 2019 data, which contains 31,200 Grade 5 student responses across the Philippines, Vietnam, Malaysia, Cambodia, Myanmar, and Lao PDR, this study conducted an OLS regression analysis followed by a regression-based inequality decomposition analysis.

The OLS regression analysis regresses the individual reading test score of students per country against various student characteristics, which include (1) socioeconomic factors, comprising gender, parental occupation, parental education, number of meals a day, number of books at home, parental engagement, (2) individually-controlled factors, comprising student ability and effort, and (3) school-related factors, comprising school type, school location, numbers of books in the library, teacher qualifications, and teacher training. Diagnostic tests on multicollinearity and endogeneity are conducted afterward.

After the estimation stage, we take the variance of predicted test scores, which is our measure of educational inequality. From here, we conducted Fields' regression-based inequality decomposition analysis, which decomposes the total variance in predicted test scores (or achievement inequality) by the contribution of each achievement factor (Fields, 2003). To test the robustness of the results acquired from the estimation and decomposition analyses, a hierarchical linear regression model is conducted to compare estimates of models.

The significant factors affecting educational achievement in most SEA-PLM 2019 participating countries are parental occupation, parents' highest educational attainment, gender, number of books at home, and teacher qualifications. Teacher training, the number of books in school libraries, and school location are significant predictors in some countries.

Educational achievement is most unequal in the Philippines and least unequal in Cambodia. Among the participating countries, the three largest economies—the Philippines, Vietnam, and Malaysia—are also the most unequal in terms of educational achievement.

Most of the educational achievement inequality in all countries comes from socioeconomic factors such as parents' highest educational attainment, parental occupation, and parental engagement. Student-controlled factors are significant contributors in some countries. In most countries, school-related factors contribute the least to educational achievement inequality.

Conclusion

In conclusion, Southeast Asian nations, particularly the Philippines, have been largely lagging in terms of learning standards. Given this, our estimation analysis helped provide key insights regarding what factors cause this learning crisis in the region.

In terms of the decomposition analysis, it is evident that socioeconomic factors contribute the most to inequality in educational achievement in all countries, emphasizing the notion that learning begins at home. Another notable insight is that student-controlled variables, which are ability and effort, are significant contributors to some countries

To mitigate achievement inequality among the participating countries, governments must direct resources toward addressing issues rooted in the primary contributor of inequality, which is socioeconomic status. Achievement inequality that is due to other factors can also be indirectly resolved through this.

Overall, policy recommendations based on this study's findings revolve around bridging the connection between homes and schools to develop a cohesive learning environment.

For future research, the study recommends investigating the channels or mediating variables by which socioeconomic status affects educational achievements because the impact of socioeconomic factors may not directly translate to educational achievement. In doing so, more tailored policy recommendations can be generated.

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