Data Perspective on the Evolution of Education for Children under 5 in Zimbabwe

Introduction

This report presents an analysis of educational performance trends for children aged 4-5 years in Zimbabwe, utilizing data from the 2019 Zimbabwe Multiple Indicator Cluster Survey (MICS6). The focus is on understanding how educational performance evolves month by month, considering both general education and specific subjects like literacy, math, physical development, and socio-emotional development.

Data and Methodology

The data used in this analysis is derived from interviews with mothers or caregivers of children under 5. Specifically, the analysis focuses on children aged 3-4 years at the time of the interview. The key variables analyzed include literacy and numeracy skills (EC6, EC7, EC8), physical development (EC9, EC10), learning abilities (EC11, EC12), and socio-emotional development (EC13, EC14, EC15).

Data Cleaning and Transformation:

- Missing values and unusual entries were identified and handled appropriately.

- The variables were transformed into binary indicators, with 'Yes' coded as 1 and 'No' coded as 0.

- Composite indices for Literacy + Math, Physical Development, Learning Abilities, and Socio-Emotional Development were created by averaging the relevant indicators.

Weighting Strategy:

Given the imbalance in the distribution of interviews across months, a weighting strategy was applied to ensure that each month's data was appropriately represented in the analysis.

Findings

Monthly Trends in Educational Indicators

The monthly trends for each of the four educational indicators—Literacy + Math, Physical Development, Learning Abilities, and Socio-Emotional Development—were analyzed both with and without weighting. The results indicate:

Figure 1: Monthly Trends in Educational Indicators - Weighted
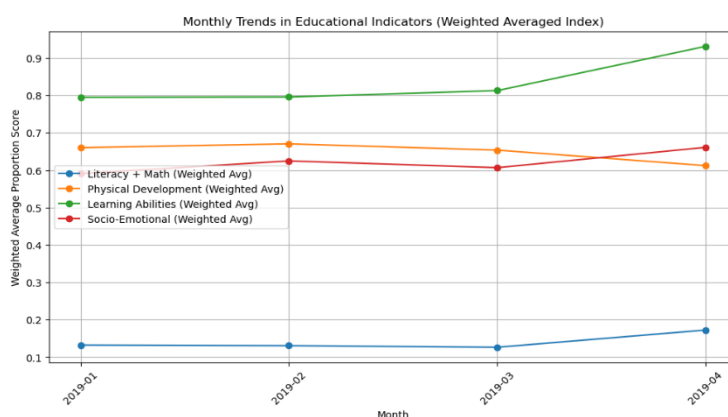
1. **Learning Abilities:** This indicator consistently showed the highest average scores across all months, indicating strong performance in tasks involving following directions and completing activities independently.

2. **Physical Development:** Scores in this category remained relatively stable,

reflecting consistent physical capabilities and health among the children.

3. **Socio-Emotional Development:** While stable, there were slight fluctuations in socio-emotional scores, indicating varying social and emotional behavior across months.

4. **Literacy and Math:** This category consistently had the lowest scores, highlighting ongoing challenges in literacy and numeracy for children in this age group.

Age-Specific Analysis

Further analysis was conducted to compare the educational performance trends between 3-year-olds and 4-year-olds.

Figure 2: Monthly Trends for 3-Year-Olds and 4-Year-Olds

- **3-Year-Olds:** There was a noticeable improvement in Learning Abilities over time, while Literacy and Math skills remained low with minimal variation.

- **4-Year-Olds:** The trends for 4-year-olds mirrored those of the 3-year-olds but showed a slightly higher overall performance, especially in the Socio-Emotional and Learning Abilities categories.

Conclusion and Recommendations

The analysis revealed significant disparities in educational performance across different developmental areas, with Literacy and Math consistently lagging behind other indicators. The weighted analysis provided a more accurate reflection of trends, accounting for the temporal imbalances in data collection.

Recommendations:

1. **Targeted Interventions:** Given the low scores in Literacy and Math, targeted interventions focusing on early literacy and numeracy should be prioritized.

2. **Consistent Monitoring:** Continuous monitoring of these indicators is essential to track progress and adjust educational strategies as needed.

3. **Further Research:** Additional research into the factors contributing to the variations in socio-emotional and physical development scores is recommended.