UNICEF
Philippines
Early Childhood Education
Kindergarten to Grade 4 Longitudinal Study
Background

The Philippines ECCD Longitudinal Study was a major research investment by UNICEF, the Philippines Department of Education, and the Australian Government.

It was designed to investigate the impact of one of the most significant education reforms in Philippines history: the introduction of the Kindergarten year as part of the K-12 Basic Education System.

It offers useful insights into the impact of Philippines Mother Tongue-Based Multilingual Education (MTB-MLE) and key language transition points for students from Kindergarten to Grade 4.

Methodology

The Study answered four research questions that provided a comprehensive snapshot of early years learning across the Philippines.

1. How do cognitive, oral language, social, and emotional skills of young children develop/unfold in different contexts?
2. How does participation in pre-school/day-care relate to children's later cognitive, social and emotional development, learning experiences and performance in school?
3. How do factors related to a child's home, community, school and classroom, in different contexts, affect cognitive, social and emotional development in children?
4. How do children transition from ECCD settings in different contexts, and what part do schools play in supporting this transition?

The study used a mix of quantitative and qualitative research methods including explanatory case studies, student, teacher and school head questionnaires, and student assessments.

The study was longitudinal, following a cohort of 4,500 students from a range of public elementary schools over five years. Participants included students from all three main island groups of the Philippines. Schools were selected from a range of contexts including those classified as urban poor, disaster-prone and conflict-affected.
Literacy skills are essential for life. Reading, writing and communication skills are the building blocks that allow us to expand our knowledge and participate in society. Grade 4 is a well-known ‘make or break’ benchmark, as students move from learning to read to reading to learn – using the reading skills they have developed during the early grades to understand new content and concepts. A child’s reading skills at the end of grade three can accurately predict their likelihood of graduating from high school.

**Findings**

Students’ literacy skills improved each year, but not at the approximate pace of the curriculum. The gap between what is expected of students and what they can do became most pronounced at Grade 3, when reading skills are usually consolidated.

**What does this mean?**

Most students in this study are still learning to read at the end of Grade 4. The pace of teaching and learning did not appear to meet student’s needs. They likely required more time to practice and consolidate essential reading skills such as letter-sound relationships and decoding.

**Differentiated teaching**

Within each class there is a wide range of ability. Even at the end of Grade 4, some children were only able to read single words and others could read short passages of text. We need to ensure that teachers are provided with the guidance, training and opportunities to develop and use different strategies and resources to support different children’s learning needs.

**LITERACY RESULTS AND IMPLICATIONS**

75% of students assessed were still learning to read at the end of Grade 4, performing at Grade 3 level or lower.
Mathematics is everywhere. Understanding numbers starts at a very young age, as children engage with objects of different size, shape, weight, colour and quantity. Mathematics skills such as number, measurement, statistics and probability are essential for work, study and life.

Literacy and maths achievement are related; students with lower level reading skills are likely to struggle with word problems in mathematics. In addition, sequence is very important when teaching maths – one concept must be understood before moving to another. If students have gaps in their knowledge, it is likely that the pace of teaching and learning did not meet their needs.

Findings

Students demonstrated growth in mathematics, but not at the pace of the curriculum. The gap between curriculum expectations and student achievement became more pronounced at Grade 2, and progress appeared to plateau thereafter.

There was a wide distribution of mathematics skills at the end of Grade 4, which has persisted since Kindergarten.

What does this mean?

The results suggest that at Grade 2, children had not grasped certain key mathematics terms and concepts that were required to support their learning into Grade 3 and 4.

Almost all the students assessed demonstrated mathematics skills well below curriculum expectations for Grade 4.

Half of the students were approximately one year behind and the other half were approximately two to three years behind curriculum expectations.

Again, to support all children to grow, teachers and schools require the skills, knowledge and resources to implement different and specific strategies for different children’s learning needs. Homogenous approaches will not work for these diverse classroom cohorts.

Maths Results and Implications

The five domains of mathematics assessment were

1. Number and number sense
2. Patterns and algebra
3. Measurement
4. Geometry
5. Statistics and probability

Almost all students assessed have likely missed key maths concepts as they performed well below curriculum expectations at the end of Grade 4.

Maths skills at the end of Grade 4

- Approximately 30% demonstrated some skills associated with the beginning of Grade 3
- Approximately 20% of students demonstrated Grade 1 level mathematics skills
- Approximately 30% of students demonstrated Grade 2 level mathematics skills
- Approximately 20% of the students demonstrated Grade 3 mathematics skills

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Children with high social emotional skills start school half a year ahead of children with low SE skills.

Girls outperformed boys in social-emotional skills and the gap is large and grew over time.

What does this mean?

These findings suggest that while many students demonstrate mid-level and high social-emotional skills, they are not improving over time. Students come to school with a certain level of social-emotional skills. It is likely that there is a limited focus and lack of opportunity for social-emotional skill development in classroom environments. Teachers may have limited understanding of students’ social-emotional skills in tightly managed classrooms and their value in supporting learning. It is also possible that teachers rated compliance with classroom rules and behavioural expectations rather than the range of described behaviours in the assessment, such as collaboration or empathy.

What are the implications?

Better ways of measuring and intervening to support children’s social-emotional skills are required.
Impact of preschool and day care

The early years are a crucial period where behaviours and skills essential for lifelong learning and development are established. High quality early childhood education that focuses on children’s individual current and future needs can support them to develop these skills.

When children start school ready to learn they are more likely to succeed than children who do not. We now understand school-readiness in a holistic sense, extending far beyond familiarity with the routine, structure and academic language of school. It incorporates the social, emotional, physical and cognitive skills the child has developed to date and how these skills support the child to take on new learning challenges.

Findings

This Study found preschool and day care made a positive difference to learning for the first five years. Even at the end of Grade 4, students who attended preschool and day care prior to attending Kindergarten outperformed those who did not in literacy, mathematics and social-emotional skills. Equally important was the duration of attendance. However, as students generally performed below curriculum expectations for literacy and mathematics, pre-school attendance did not necessarily support high achievement – attendance merely gave students an advantage over students who did not attend pre-school.

The quality of preschool and day care teaching and learning remains unclear. In the case studies, no mention was made of explicit teaching of social-emotional skills and general cognitive skills. These skills were an implied by-product of attending preschool and day care and interacting with other children.

Duration of preschool and day care attendance

Students who attended preschool or day care more frequently outperformed students who attended less frequently on all three domains and the difference was significant.

The positive impact of preschool was sustained over five school years.
Philippines was the first nation in the region to implement a national policy requiring mother tongue language education for all students up to the end of Grade 3 before transitioning to Filipino and English in Grade 4. It is unique in its ambitious parameters – the Philippines Department of Education produces teaching and learning resources in 19 mother tongue languages which covers 80 percent of the population. However, performance across language groups differs, as our Study showed.

**Literacy findings**

Students’ literacy skills continued to develop from Grade 3 to Grade 4, despite shifting from mother tongue instruction to learning in Filipino and English. Students tested in Filipino scored higher than students tested in English. Competency in Filipino is generally higher as for many students in the study, Filipino is their mother tongue language. Performance in English is not far behind, which is impressive, especially when many students come from multilingual backgrounds where English may rarely be spoken at home.

**Mathematics findings**

Students who undertook the mathematics test in Filipino and Sinubuanong Binisaya obtained similar scores, with students assessed in Filipino scoring the highest of all groups. Students tested in Maguindanaon achieved an average score which is approximately one year behind other students in the study and approximately two years below approximate curriculum expectations. Students tested in Maguindanaon demonstrated skills approximating Grade 2 curriculum expectations at the end of Grade 4.

It is important to note that Filipino is an official language of the Philippines and Sinubuanong Binisaya one of the eight major dialects. This means there are far more highly proficient speakers (including teachers) and teaching resources in these languages compared with those available in Maguindanaon.

**Teachers’ language fluency**

Children in conflict-affected school communities are far less likely to have a teacher that is fluent in the language of instruction.

Not all local languages are created equal. Learning in Maguindanaon did not support children to gain foundational skills. They need more time, resources, and teaching support.

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**LEARNING IN DIFFERENT LANGUAGES**

There are over 180 languages in the Philippines

<table>
<thead>
<tr>
<th>Language</th>
<th>Percentage of teachers fluent in the language of assessment of the school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filipino</td>
<td>90%</td>
</tr>
<tr>
<td>Sinubuanong Binisaya</td>
<td>90%</td>
</tr>
<tr>
<td>Maguindanaon</td>
<td>36%</td>
</tr>
</tbody>
</table>

Achievement in mathematics by language of instruction at the end of Grade 4

<table>
<thead>
<tr>
<th>Language</th>
<th>Achievement in mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>690</td>
</tr>
<tr>
<td>Filipino</td>
<td>723</td>
</tr>
<tr>
<td>Sinubuanong Binisaya</td>
<td>707</td>
</tr>
<tr>
<td>Maguindanaon</td>
<td>628</td>
</tr>
</tbody>
</table>

Our study assessed student performance in 4 languages
We have long known that where you live is a significant predictor of success at school and beyond. Students in non-metropolitan areas are more likely to achieve lower test scores and leave school early, and are less likely to participate in post-secondary education than learners in metropolitan areas. This study builds on these understandings by exploring how learners develop and grow in contexts classified as disaster-prone, conflict-affected, and urban poor.

**Findings**

Children in conflict-affected school communities performed the lowest of all learning contexts in literacy, mathematics, and social-emotional skills, and the difference was significant in terms of foundational skills.

The achievement gap between children learning in different contexts is increasing at the end of Grade 4.

At the end of Grade 4, children in conflict-affected school communities demonstrated performance levels on par with the remainder of the sample at the start of Kindergarten. This is indicative of an approximate two-year achievement gap between students in conflict-affected and non-conflict-affected school communities. This trend continued throughout the study.

Without substantive targeted interventions, these children continue to be at risk of dropping out of school altogether.

**What does this mean?**

Students learning in conflict-affected school communities and students from low SES backgrounds start schooling far behind students in other contexts, with much lower level literacy, mathematics and social-emotional skills.

At the end of Grade 1, students in conflict-affected school communities demonstrated performance levels on par with the remainder of the sample at the start of Kindergarten. This is indicative of an approximate two-year achievement gap between students in conflict-affected and non-conflict-affected school communities. This trend continued throughout the study.

**Home school, community and classroom factors**

**Socio-economic status**

The results showed that there were significant differences in literacy, mathematics and social-emotional skills between children from low-, middle- and high-SES backgrounds. This trend was consistent across each year of the study.

Students from high SES family backgrounds achieved closest to curriculum expectations for literacy and mathematics at the end of Grade 4 compared with any other group. This suggests this group has the best chance at success at school of all groups in the study.

Maguindanao, the home of some of the students in this Study, is the site of one of the world’s longest running armed conflicts.

Students in conflict-affected communities experienced much more educational disadvantage than students in disaster-prone or urban poor settings.
The findings from this study support a strong case for high quality early learning interventions. How children started their education ‘race’ predicted the winner – students with lower scores at the beginning of Kindergarten still had lower scores than their peers at Grade 4. Without interventions in place, we risk an achievement gap widening over time between lower and higher performing students.

The Study aimed to understand the most significant factors that influence children’s learning at school in different contexts, to inform policy and practice. The study found these were:

- Preschool attendance
- Family socio-economic status
- Learning in conflict-affected, disaster prone and urban poor school communities.

CONCLUSION

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- Preschool attendance
- Family socio-economic status
- Learning in conflict-affected, disaster prone and urban poor school communities.

RECOMMENDATIONS

Literacy and maths
- Support teachers and schools to develop and use different strategies and resources to address the large percentage of students with little or no literacy skills in any language.
- Early grade teachers appear to require additional support to assist children to develop key literacy and mathematics competencies at key points including at Grade 2. The findings of this study should inform ongoing revisions to the K-12 curricula and pre-service teaching in literacy and mathematics.

Social-emotional skills
- Investigate whether teachers have the skills, resources, and opportunities to assist children to develop their social-emotional skills in the classroom. This includes pre- and in-service training on identifying and supporting children’s social-emotional skills development, the support of school leadership and peers, and resources and policy advice provided by district and regional Departments.

Preschool and day care
- The benefits of preschool and day care attendance can be observed up to Grade 4. Continue to promote the value of preschool to communities where attendance is lower than desirable.
- Continue to review and evaluate the quality of education and care at preschool and the training and opportunities for educators to foster children’s holistic skills.

Mother tongue language learning
- Work with teachers and schools to conduct action research studies to sustain learning in one core language for low achieving students until they are ready to transition, and match the pace of learning to student needs.

Mitigating the impact of context
- Design and implement targeted programs to support the lowest performers at risk of school dropout, including children learning in conflict-affected school communities, and children from low SES backgrounds.
- Continue to leverage the skills and knowledge of highly qualified teachers and school heads through mentoring and cluster based training and networking.
- Provide teachers and school staff with professional learning or other support to implement mother tongue language policies and differentiated teaching.
- Continue to monitor boys’ school attendance, learning achievement and growth as evidence to inform gender-sensitive pedagogical practices, in cooperation with stronger partnerships with parents of boys.
- Address family SES-related disadvantages with programs that go beyond instructional measures. These include conditional cash transfers, school feeding, access to clean water and sanitation facilities, scholarships and bursaries, free transportation and livelihood opportunities for parents.
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- ECCD Council Secretariat
- DSWD
- ACTRC

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