Introduction

In recent years there has been widespread acknowledgement that enrolling children in school is not sufficient to ensure that they learn. Low levels of learning outcomes among children who are accessing schooling are now so widespread that a global ‘learning crisis’ has been declared. Further, while much progress has been made in raising enrolment, in many countries some children are still out of school or fail to complete even the primary school cycle.

Part of the problem may stem from the ways in which modern systems of formal education are organised. In most countries, schooling is designed around the age-grade principle. Children are expected to enter the system at a specified age (usually around age six). They proceed through a structured sequence of formal schooling at a specified pace, usually in single-year packages of content deemed to be age-appropriate. They are expected to leave school, again at a specified age, having acquired the knowledge and skills that are defined in the curriculum.

The age-grade organising principle assumes that grouping same-aged children together in the same class enables the learning needs of the majority to be met, since same-age children are thought to be at a broadly similar stage of social, emotional, and cognitive development. Teaching and curricular standards are age related, and learning progress is measured against benchmarks that all children in a particular age-grade are expected to reach. However, the enormous expansion in enrolment in many countries has increased diversity within each cohort of children. In practice, many dimensions of the age-grade system are inefficient.
This Evidence Brief presents data from the People’s Action for Learning (PAL) Network and shows that many children do not progress through school according to prescribed age-grade norms, with important implications for learning. We also show that because being ‘left behind’ in terms of age-grade progression within schooling is often associated with other forms of disadvantage, it has disproportionate effects for some children, and is therefore also an equity concern.

Given the rapid expansion of school systems around the world, understanding the ways in which basic organizing principles such as the age-grade structure can be deeply inimical to children’s learning progression is key to achieving SDG 4, which aims to ‘ensure inclusive and equitable quality education and promote lifelong learning opportunities for all’, and to achieving the principle of Leaving No One Behind (LNOB).

About the People’s Action for Learning (PAL) Network

The PAL Network is a South-South collaboration between thirteen countries working across three continents to assess basic reading and numeracy competencies of all children, in their homes, through citizen-led assessments. Data sets generated through the PAL member country assessments are unique in several respects:

- **Coverage**: Citizen-led assessments are conducted in children’s homes, not in school, in order to include children who are not in school; those who are in private or unregistered schools; and those who are absent from school on the day of the assessment.

- **Assessment of foundational skills**: Citizen-led assessments focus on foundational reading and maths abilities of all children, regardless of age, grade, or schooling status, via oral one-on-one assessments. In each member country the skills to be assessed are based on national curriculum expectations for early primary grades.

- **Environment**: Because the assessment is conducted in children’s homes, contextual data on children’s households, villages, and schools are also collected, enabling analyses of inclusion and equity using different lenses.
This Evidence Brief uses assessment data from six PAL Network countries: India and Pakistan in South Asia; Kenya, Tanzania, and Uganda in East Africa; and Mexico in North America.

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Coverage</th>
<th>Age group</th>
<th>Number of sampled children enrolled in Grade 1 or higher</th>
<th>Grades included in the primary school cycle</th>
<th>Prescribed age of entry to Grade 1</th>
<th>Automatic promotion through primary grades?</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>2016</td>
<td>Nationwide, rural</td>
<td>3-16</td>
<td>427,506</td>
<td>1-5</td>
<td>6 *</td>
<td>Yes</td>
</tr>
<tr>
<td>Pakistan</td>
<td>2016</td>
<td>Nationwide, rural **</td>
<td>3-16</td>
<td>151,896</td>
<td>1-5</td>
<td>5</td>
<td>Yes</td>
</tr>
<tr>
<td>Kenya</td>
<td>2015</td>
<td>Nationwide</td>
<td>5-16</td>
<td>105,832</td>
<td>1-7</td>
<td>6</td>
<td>Yes</td>
</tr>
<tr>
<td>Uganda</td>
<td>2015</td>
<td>Nationwide</td>
<td>5-16</td>
<td>82,943</td>
<td>1-7</td>
<td>6</td>
<td>Yes</td>
</tr>
<tr>
<td>Tanzania</td>
<td>2015</td>
<td>Nationwide</td>
<td>6-16</td>
<td>78,846</td>
<td>1-7</td>
<td>7</td>
<td>Yes</td>
</tr>
<tr>
<td>Mexico</td>
<td>2015, 2016</td>
<td>Six states **, ***</td>
<td>5-16</td>
<td>11,832</td>
<td>1-6</td>
<td>6</td>
<td>In Grades 1-3</td>
</tr>
</tbody>
</table>

* According to national norms, as reflected in the Right of Children to Free and Compulsory Education (RTE) Act, 2009. However many states in India permit entry to Grade 1 at age 5.
** Estimates not weighted by population.
*** Includes 3 states covered in 2015 and 3 covered in 2016.

Table 1. Sample description and key national policy parameters

Three types of variables are used to characterise children’s personal characteristics, home background, and learning outcomes:

- Variables that are directly comparable across countries, such as children’s age, gender, and grade
- Variables that have been recoded using a common scale, such as mothers’ education level (never attended versus ever attended school) and house construction material (permanent versus other wall construction material)
- Learning assessment data, where items are not directly comparable across countries, but instead are pegged to a common norm (e.g. Grade 2 level reading, as defined by each country).
What proportion of children enrolled in primary school are in the correct grade-for-age?

Figure 1. Proportion of children enrolled in Grades 1-5 who are underage, of the correct age, and overage for their grade

Note 1: For each country, ‘correct’ age for grade is calculated based on the prescribed age of entry to Grade 1 (see Table 1) plus one year. For example, children who are 6 or 7 years old in Grade 1 are at the correct grade for age in all countries except Pakistan, where they should be 5 or 6 years old; and Tanzania, where they should be 7 or 8 years old. Similarly, the correct age for Grade 5 is 10 or 11 years in all countries except Pakistan, where it is 9 or 10 years; and Tanzania, where it is 11 or 12 years. In the case of India, these calculations are based on national rather than state policy.

Note 2: Due to small sample sizes, Mexico is excluded from subsequent analyses exploring disaggregated patterns.

In the East African and South Asian countries covered by this analysis, large proportions of children in primary school are not in an age-appropriate grade. This contrasts with Mexico, where more than 90% of enrolled children are in the age-appropriate grade throughout primary school (Figure 1).

In the East African and South Asian countries covered by this analysis, large proportions of children in primary school are not in an age-appropriate grade. This contrasts with Mexico, where more than 90% of enrolled children are in the age-appropriate grade throughout primary school (Figure 1).

Across the East African countries of Kenya, Tanzania, and Uganda, only around 60% of children in Grade 1 are of the appropriate age. Nearly all of the remaining children in Grade 1 are ‘overage’, i.e. older than the prescribed age for grade. Despite a policy of automatic grade promotion in all three countries, in each successive grade the proportion of age-appropriate children decreases and the proportion of overage children increases. This trend is most pronounced in Uganda, where just 22% of children in Grade 5 are of the appropriate age.

Large proportions of children not in the age-appropriate grade are visible in both South Asian countries as well: the proportions for India and Pakistan are around a third and half, respectively. In the case of Pakistan, the pattern of grade-for-age are similar to the East African countries. But the case of India differs in two important ways: first, the proportion of children in an age-appropriate grade remains fairly stable across the primary school grades; and second, many children are younger than the age prescribed for the grade in which they are studying. About a fifth of all children in Grades 1-5 in India are ‘underage’ according to national norms, reflecting the fact that children in many states are permitted to enter Grade 1 a year earlier than national policy recommends, at age 5 rather than age 6. However, there is a contradiction, because the national curriculum framework and expected learning outcomes for each grade remain the same regardless of the age at which the child enters school.
Are some children more likely than others to be in the correct grade for age?

In all five countries included in this analysis, boys are more likely to be overage than girls in the primary school years (Figure 2). This gap is larger in east Africa, where by Grade 5, the gap is 8 percentage points in Tanzania, 6 in Kenya, and 4 in Uganda. Gender disparities in age-for-grade among in-school children are less apparent in India and Pakistan.

![Figure 2. Proportion of children enrolled in Grade 5 who are underage, of the correct age, and overage for their grade, by gender](image)
In Kenya, Tanzania, Uganda, and Pakistan, children in government schools are less likely to be in an age-appropriate grade (Figure 3). By Grade 5, the starkest gaps appear in Kenya (41% in government schools, compared to 62% in private or other schools) and Uganda (17% compared to 34%). But in India the opposite trend is visible (69% in government schools, compared to 65% in private or other schools).

Across the five countries of Kenya, Tanzania, Uganda, India and Pakistan, children whose mother went to school are more likely to be in the age-appropriate grade. The gap between those children whose mother never attended school and those whose mother did was 7 percentage points in Uganda (17% and 24%); 12 percentage points in each of India (62% and 74%), Kenya (34% and 46%), and Tanzania (44% and 56%); and 14 percentage points in Pakistan (39% and 53%).
Figure 5. Likelihood of being the correct age for grade: Grade 5 students in Kenya

In each of the five countries included in this analysis, inequalities in age-for-grade rates compound one another. This situation is most visible in Kenya. Taking Grade 5 children in Kenya as an illustration, while girls are a little more likely than boys to be of the grade appropriate age (47% compared to 41%), the disparity widens when focusing on girls in private/other schools and boys in government schools (65% to 38%), and widens further when comparing girls in private/other schools whose own mother went to school with boys in government schools whose mother did not (65% to 29%) (Figure 5).

Patterns of compounded inequalities play out differently in each country. Continuing with the example of children enrolled in Grade 5, in four of these five countries, boys in government schools whose mother never attended school are far less likely to be of the prescribed age for grade than girls in private/other schools whose own mother went to school. Although smaller than in the case of Kenya, this gap is visible in Pakistan (22 percentage points), Uganda (21 percentage points) and Tanzania (18 percentage points). In India, in contrast, a different pattern of compounded inequality is visible. In Grade 5, 76% of girls in government schools whose own mother went to school were in the grade appropriate age, compared to 54% of boys in private/other schools whose mother did not go to school.

Similar analyses for all five countries are available at: [https://palnetwork.org/publications/pal_network_publications/info-briefs/](https://palnetwork.org/publications/pal_network_publications/info-briefs/)
Are children in the correct grade for age more likely to be learning?

Across these five countries, children who are not in the age-appropriate grade are less likely to have acquired foundational reading and arithmetic abilities by Grade 5.

Similar analyses for all five countries are available at:
https://palnetwork.org/publications/pal_network_publications/info-briefs/
Taking Uganda as an example, children who are of the correct age (22% of children in Grade 5) are the most likely both to be able to do a Grade 2 arithmetic problem (63%) and to read a Grade 2 text (62%)(Figure 6). Among the large number of children who are overage (74% of children in Grade 5), rates of learning are slightly lower in arithmetic (60%) and significantly lower in reading (45%). Among the smaller proportion of underage children (3% of children in Grade 5), levels of learning are 10 percentage points lower in both arithmetic and reading. Another example is India, the country with the largest proportion of underage children among the six countries under study (15% of children in Grade 5). A far smaller proportion of these underage children acquire foundational abilities in arithmetic (44%) and reading (42%) as compared to their peers of the appropriate age.

Conclusion

Data from the PAL Network countries included in this Brief show that many children in primary schools are not in the correct grade for their age. Across five of these six countries, large numbers of children are older than the prescribed age – the single exception being Mexico. While the presence of overage children in school systems is perhaps well known, our data also show that in terms of national norms, significant proportions of children are underage for the grade in which they study, especially in India. This is an under-reported aspect of age-grade distribution which has implications for the development of early grade curricula and learning standards.

Examination of patterns in age-grade distributions across these diverse country contexts is important for three main reasons. First, these data provide evidence that many of the assumptions at the heart of the design of teaching-learning – reflected in curriculum, textbooks, and teacher education – are not borne out in practice. Even in monograde classrooms, teachers are often required to transact curriculum content with children who are not homogenous in terms of age and are therefore at different stages in their cognitive, emotional and social development. Second, among school-going children in East Africa, disparities in who is in the correct grade for age are gendered; and also often reflect educational disadvantage experienced by mothers. Third, in all five countries, children who are of the incorrect age for the grade they are in are less likely to be learning than their peers.

These patterns direct concern towards the implementation of automatic grade promotion policies without simultaneously ensuring that children receive the support they need to attain the prescribed learning goals. They also call into question the efficiency of organizing progress through school based on children’s age, rather than enabling children to progress as and when they are ready to move ahead.

By presenting data that link grade, background and learning, this Brief has shown that age for grade needs to be understood not only as an efficiency issue, but also as an equity issue with consequences for learning inequalities. Children who are not enrolled in school are ‘left behind’ in ways that are clearly visible to education policy makers. But the problem of children enrolled in school but left behind in terms of progress requires serious attention.
About the LNOB Evidence Brief Series

The research for this Evidence Brief was funded by the University of Leeds Impact Acceleration Account, award # 65010301. This Brief was written by:

Caroline Dyer  
University of Leeds, UK

Suman Bhattacharjea  
ASER Centre, India

Benjamin Alcott  
University of Cambridge, UK

Steffi Elizabeth Thomas  
ASER Centre, India

Waqas Imran  
ITA-ASER Pakistan, Pakistan

David Loyo  
Medición Independiente de Aprendizajes (MIA), Mexico