# IMPROVING O-LEVEL PERFORMANCE: SCHOOL RESOURCES MATTER

It is well accepted that a highly-skilled well-educated workforce is essential for Sri Lanka to remain competitive. While the country has achieved commendable school enrollment and literacy rates, there are mounting concerns regarding the quality of education, as reflected in poor academic achievement. In 2015, close to half the students (45%) either failed or only conditionally passed the General Certificate in Education (GCE) Ordinary Level (O-Level) examination - a pre-requisite for most further education courses, including the GCE Advanced Level (A-Level) exam - due to failing mathematics (Ministry of Education of Sri Lanka (MOE), 2016).

Poor academic performance is often attributed to low government spending on education. But how effective is such spending in improving academic performance? This policy brief based on an on-going IPS study examines whether, and to what extent, school-level resources - including school, teacher, and principal characteristics - have an impact on student performance at the O-Levels. In the study, student performance was measured as the share of students who sit for the O-levels that qualify to proceed to A-Level classes. Three econometric models were estimated: (1) a standard ordinary least squares (OLS) estimation; (2) a hierarchical linear modelling (HLM) technique; and (3) an ordered logit (ORL) model. Data was obtained from the annual School Census of government schools conducted by the MOE for the year 2016.

Performance in O-Level Mathematics 2015
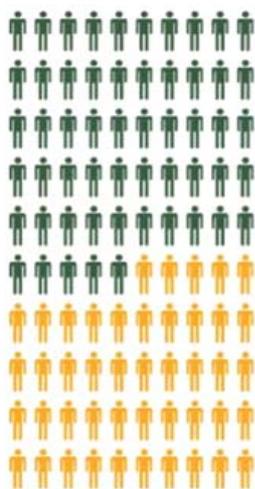
Passed (55%)   Failed (45%)

Box 1: Categorization of teachers

Recommended teachers: number of required secondary-level teachers for each subject based on class sizes, determined by the MOE as stated in circular No. 1 of 2016.

In-field teachers: teachers with a degree in the given subject, or with special training to teach the subject - i.e. teachers with good subject knowledge in the subject they teach.

Experienced teachers: teachers with a Class 2-Grade II or above in Sri Lanka's Teacher Service. These teachers usually have at least three years of experience in addition to pedagogical training.

Other teachers: teachers, either experienced or inexperienced, who are not in-field but teach a subject. (i.e., teachers who teach a given subject most of the time but are not qualified or trained to teach that subject).
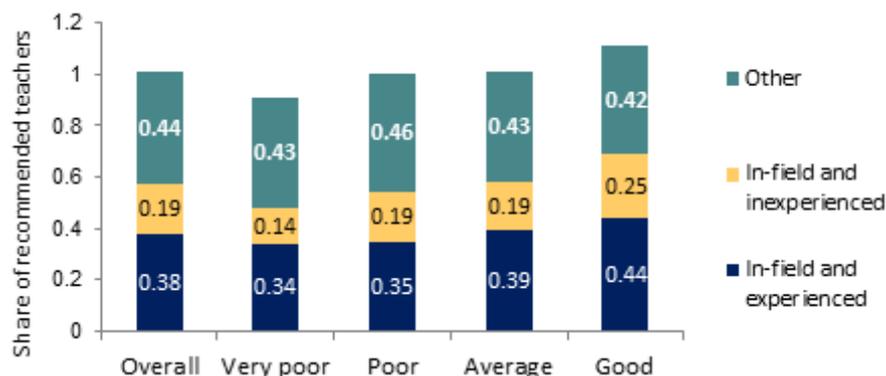
Key Findings and Policy Implications

O-Level performance is significantly lower for both smaller schools and 1C and Type 2 schools*, even after controlling for the share of scholarship holders. This suggests that lower performance is not only due to differences in ability. These schools thus require special attention if the overall O-Level performance rate is to be increased nationally.

Schools that report the best O-Level results have more than adequate numbers of mathematics teachers, while 'very poor' performing schools face teacher shortages (Figure 1). Further, the majority (44%) of teachers are both in-field and experienced (Box 1) in better schools, but non-in-field and inexperienced in inferior schools. The share of in-field but inexperienced mathematics teachers - representative of recent graduates with required qualifications but low experience - is also relatively high even among schools demonstrating better performance. Measures are therefore needed to reduce the numbers of both non-in-field and in-field inexperienced teachers, while simultaneously raising the shares of in-field and experienced teachers. Given that a teacher gains sufficient experience within a three-five year period under Sri Lanka's teacher recruitment structure, the target should be to expand the share of qualified and experienced teachers to at least 80% from the current 40%. The systematic training and recruitment of teachers into Teacher Service is important in this regard.

Student achievement is low in schools when the number of days of leave taken by teachers is high. Descriptive statistics indicate an average share of teacher leave days of 15% of total working school days, which is not an insignificant figure. Incentive schemes for teachers to reduce leave, and measures to provide substitute teachers in the absence of regular teachers are therefore important.

Schools managed by better qualified and experienced principals perform better at the O-Levels. As illustrated in Figure 2, the share of students that qualify from the O-levels to proceed to the collegiate level gradually diminishes, on average, as one moves from schools managed by the highest ranking SLEAS grade to lower ranked grades. This trend is observed across both national and provincial schools. This calls for measures to enhance the quality of principals' training programmes, and ensure that recruitment to Principals Service is carried out in a systematic and merit-based manner.
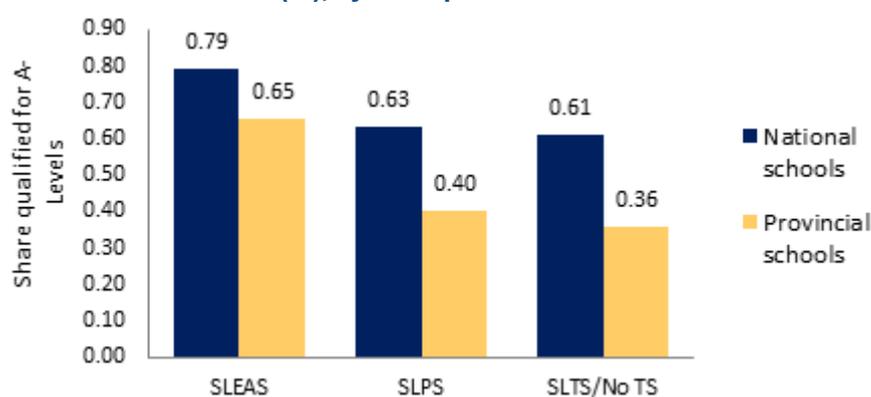
Figure 1: Available Teachers as a Share of Recommended Mathematics Teachers (%)

Source: Own calculations using School Census data.

Note: The four categories are defined based on O-Level performance rates: very poor (0), poor (0-0.33), average (0.34-0.67), and good (>0.67).

Figure 2: Students Qualifying for A-Levels as a Share of those Sitting for O-Levels (%), by Principal Service Grade

Source: Own calculations using School Census data.

Note: Sri Lanka Principal Service grades, in descending order of ranking are: (1) Sri Lanka Education Administration Service (SLEAS); (2) Sri Lanka Principals Service (SLPS); and (3) Sri Lanka Teachers Service (SLTS).

ThinkTank Initiative

*Sri Lankan public schools are classified based on the number and type of functioning classes. Schools with collegiate level classes are classified as either 1AB or 1C; the former have A-Level Science stream classes, while the latter maintain Commerce and/or Arts streams. Type 2 schools have classes up to grade 11.