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A SNAPSHOT OF THREE KEY
2015 AND 2019 INDICATORS FOR
UNIVERSAL BASIC EDUCATION IN
PAPUA NEW GUINEA: WHAT HAVE
WE LEARNT?

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Key Points

- Since 2015, impressive progress in 'education access' has been made in basic education.
- There was an increase in the admission of overage and underage children.
- Underage and overage children take up spaces that otherwise, supposed to be filled by children from the population of correct school age.
- The basic education cohort retention rate declined from 75 percent in 2015 to 67 percent in 2019. There is more evidence to suggest that high number of children are dropping out of school before successfully completing grade eight.
- The quality of learning in basic education gradually improved from 2015 to 2019 but still below the expected national standard.

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A SNAPSHOT OF THREE KEY 2015 AND 2019 INDICATORS FOR UNIVERSAL BASIC EDUCATION IN PAPUA NEW GUINEA: WHAT HAVE WE LEARNT?

By Kilala Devette-Chee and Peter Magury
Introduction

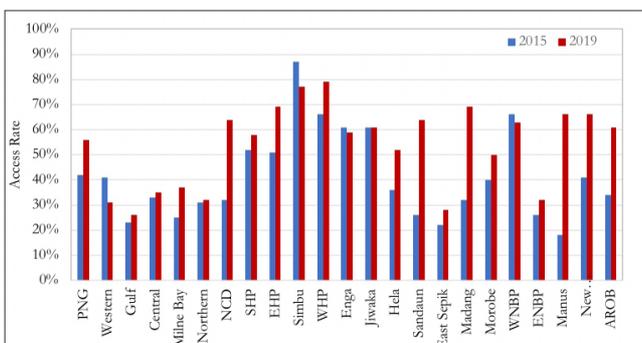
The Key Indicators for Universal Basic Education (UBE) in Papua New Guinea's districts and provinces aims to present a core set of educational indicators for the universal education in districts and provinces in the country. The indicators in this report cover basic education starting from elementary prep and working through grade eight in primary education. In doing so, the report provides an overview of the performance of each district and province in PNG. This key indicator set is designed to inform the country on the status of basic education at the district level in order to inform and challenge province, district and community level authorities to take appropriate actions and improve the status of UBE. The local communities can also use the information to improve policy interventions. The key indicator set provides a good picture of the progress made from 2015 to 2019 towards achieving the three key indicators for the universal basic education sector: access, retention and quality.

Key indicators for UBE in PNG in 2015 and 2019

Access rates

Significant efforts have been made in the last few years towards access in basic education. This is evidenced in Figure 1 where 17 of the 22 provinces had a rise in student numbers. Since 2015, impressive progress in education access has been made in basic education. In 2015, there were about 7,737 elementary and 3,420 primary schools. Enrolment in basic education has increased significantly. From 1,773,964 children enrolled in 2015, it has increased to about 2,143,123 in 2019 at basic education level.

Figure 1: Net admission rates, PNG and provinces, 2015 and 2019



Sources: Calculations from the 2011 National Population Census and the EMIS data, DoE, 2015 and 2019, by the authors.

Student admission rates and basic education enrolment rates have been increasing steadily over the past few years. The net admission rate (the total number of six-year-old entrants in the preparatory grade, expressed as a percentage of the six-year-old population) has increased every year since 2015, from a total of 42 percent to 54 percent in 2019. An increase of 12 percentage point (Magury, 2019; Magury et al., 2021). If children of all ages who enrol in the preparatory grade are considered, the admission rates are much higher, but currently the Government suggests rigorous efforts to bring aged six children to enrol in elementary school and hence, reduce the problems of having children of many ages in the same grade.

The Net Admission Rate (NAR) is the number of six-year-olds entering elementary prep as a percentage of the population of six-year-olds. There is considerable variation on the NARs. Most notably, Simbu is doing very well (see Figure 1). Western Highlands Province (WHP) has the second highest NAR. In contrast, NARs are extremely low for Gulf, Oro, East Sepik, and East New Britain (ENB) provinces. Possible factors in the low NARs in PNG as a whole are the cost of school, although this is a factor that applies regardless of age. It may be a question of lack of space due to available classroom spaces being occupied by older students. It may be a case of parents not wanting to send very young children long distances to school or out of concerns for safety and ability of young children to cope with walking long distances. Better understanding of the reasons will help in designing effective strategies for getting parents to enrol their six-year-old children in school.

Low enrolment of six-year-old and high enrolment of underage and overage children

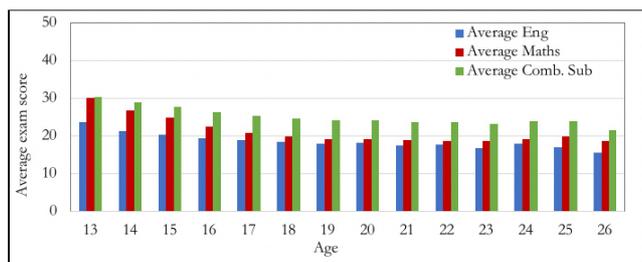
Slightly below half (46%) of children yet to have access to basic education were excluded at the point of admission. This was due to, amongst other factors, a high enrolment of underage and overage children. Analysis of student enrolment data shows that at the national level, the admission of six-year-olds to elementary prep increased progressively since 2015. However, this increase was slower than the increase in the admission of overage and underage children, which increased markedly between 2015 and 2019 and at a steady pace thereafter. Underage and overage children take up space that otherwise will be filled by children from the population of correct school-aged children. To minimise the enrolment of overage and underage children, the implementation of enrolment policies should be closely monitored to ensure that there is compliance at the provincial, district, and school levels to ensure that all children are admitted to elementary prep

when they are six years old. This will help to minimise the admission of underage and overage children in the long term.

Learning achievement of younger versus overage students

Currently, most students enter school well past the official entry age of six, and overage students occupy a large part of the available classroom space. A major emphasis of the UBE programme will be to increase net admission rates; that is to have children enter school at the official age and progress through the system at or near the typical age. An analysis comparing data from 2015 and 2019 grade eight average examination score to enrolment data from 2015 and 2019 school census showed that overage students progressing to grade eight have lower rates of examination scores than their younger counterparts, and among those writing the exam, the scores obtained by the overage students were marginally lower as shown in Figure 2 and Figure 3. However, figure 3 shows that in 2019 there was a slight increase in the exam scores obtained by over ages students from age 22 to 26.

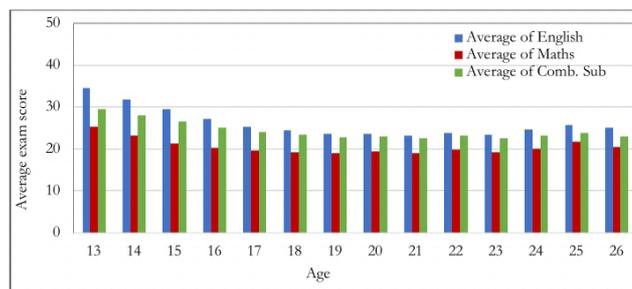
Figure 2: Grade 8 average exam scores by age in 2015



Sources: Calculations from the Provincial Division of Education and the MSD data, DoE, 2015, by the authors

About 65 percent of overage grade eight students aged 16 and over wrote the Certificate in Basic Education Exam – meaning that 35 percent either dropped out during the school year or were still in school but did not appear for the examination. Those not writing the examination are likely to have lower learning achievement than those writing it. In contrast, 85 percent of grade eight students aged 15 and younger wrote the examination. As a result, these percentages should be considered a rough indication only – with the general tendency for overage students to be less likely to write the examination than the younger students. Moreover, the average score of older students writing the examination was 23.0, lower than the average score of 26.0 obtained by students aged 15 and less. The poorer learning achievement results obtained by overage students support the thrust of the UBE plan to focus on getting children in school at the official age and decreasing the numbers of overage students in the system.

Figure 3: Grade 8 average exam scores by age in 2019



Sources: Calculations from the Provincial Division of Education and the MSD data, DoE, 2019, by the authors.

Retention Rates

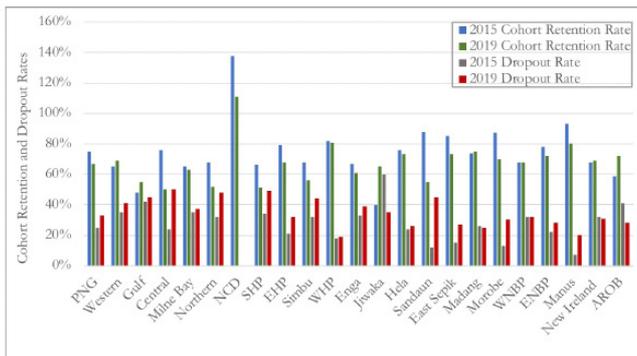
The Cohort Retention Rate has been adopted as a measure of the UBE Plan 2010-2019. In other words, the goal is not just to have all children participating in basic education, but that all should complete a basic education (Department of Education, 2009). The agreed definition in PNG context is to take the number enrolled in the final year of basic education (Grade 8), minus the number who started the elementary prep. The number enrolled also include the number of repeaters from the previous year currently enrolled in grade eight. In PNG, at present there is no data available on repeaters. The policy is not to have repeaters, but in reality, there will be some repeaters. In the absence of data on repeaters, a proxy estimate of basic education completions has been taken of only the first component – that is the number enrolled in grade eight, as a percentage of the number who started in elementary prep nine years earlier (start of school at elementary prep and continuous progression).

Using this measure, the basic education cohort retention rate declined from 75 percent in 2015 to 67 percent in 2019 (see Figure 4) by 8 percentage points for PNG. This decline rate is notable in all provinces except Gulf, Jiwaka, Madang, New Ireland and Autonomous Region of Bougainville (AROB). There is wide variability in this indicator, which is above 70 percent in 11 provinces in 2015: Central (76%), NCD (138), Eastern Highlands Province (EHP) (79%), WHP (82%), Hela (76%), Sandaun (87%), East Sepik Province (ESP) (84%), Madang (74%), Morobe (87%), East New Britain (ENB) Province (78%) and Manus (93%). In contrast, it is over 70 percent in only eight provinces in 2019: National Capital District (NCD) (112%), WHP (81%), Hela (73%), ESP (73%), Madang (75%), Morobe (70%), ENB (72%), Manus (80%) and AROB (72%). This study indicates there is more evidence to suggest that high number of children are dropping out of school before successfully completing grade eight in 2015 and 2019.

Cohort Retention Rates would be difficult to calculate given the high rates of migration to Papua New Guinea's capital

city. The cohort retention rate is 100 percent if there are no dropouts. This normally occurs in an efficient education system. However, in the case of NCD as illustrated in figure 4, the cohort retention rates were 138 percent in 2015 and 112 percent in 2019, which is over and above 100 percent. This implies that there are some students repeating, more students transferring into NCD due to economic activities, parents' employment opportunities or parents are just looking for better services, particularly in education.

Figure 4: Cohort retention rate and dropout rates, PNG and provinces in 2015 and 2019

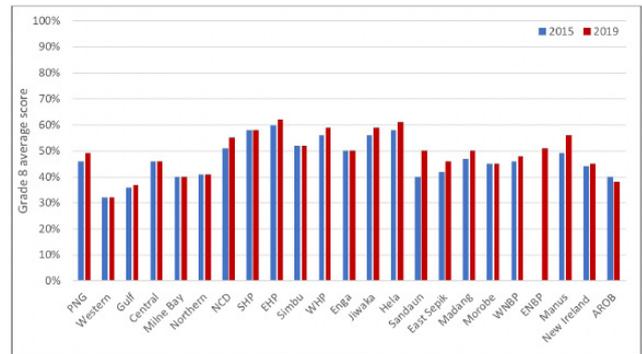


Sources: Calculations from the EMIS data, DoE, 2015 and 2019, by the authors

Examination

This report identifies a few clear ways of assessing the quality of education in PNG. The current general agreement is that, overall, the quality of learning in basic education is gradually improving from 2015 to 2019 but still below the expected national standard. One of the ways to assess the quality of learning is using Grade 8 Examination pass rate. A sample of Grade 8 Certificate of Basic Education results analysed in 2015 and 2019 showed low literacy, numeracy and combined subjects' skills in the three examined subjects compared to 2019. The Grade 8 examination results also show pronounced differences between provinces. Further, the results show that 14 of the 22 provinces scored below the all-PNG cut off mark of 50 percent in 2015 while 11 scored below 50 percent in 2019. Even, the provinces that have attained high access rates, the quality of education is poor.

Figure 5: Grade 8 examination average scores by province in 2015 and 2019



Sources: Calculations from the Provincial Division of Education and the MSD data, DoE, 2015 and 2019, by the authors.

From the examination data submitted, it is possible to say that most of the Highlands provinces as well as National Capital District performed above average in 2015 and 2019. Although, the all-PNG pass mark is slightly below average, there is slight improvement in the Grade 8 examination in 2019 (49%) when compared to 2015 (46%). Provinces that have shown improvements include NCD, Southern Highlands Province (SHP), EHP, Simbu, WHP, Jiwaka, Hela, Sandaun, ESP, Madang, West New Britain (WNB), Manus and New Ireland.

The Momase and New Guinea Island's provinces have shown some improvements in 2019 compared to 2015 performance except for AROB which declined in 2019. Sandaun, Madang, ENBP and Manus have scored above average in 2019.

By contrast, the Southern Region provinces have performed well below the average pass rate in both 2015 and 2019. They really need to improve on their academic performance.

Conclusion

This study focused on three main education indicators: access, retention and quality. While there was a sharp increase in student enrolment numbers in 19 provinces between 2015 to 2019 which confirms the substantial improvement in education access in schools in PNG, retention and quality are yet to be achieved. In terms of retention, this study indicates that there is more evidence to suggest that high number of children are dropping out of school before successfully completing grade eight. Quality, on the other hand, is measured by examination results and this study found that overall, the quality of learning in basic education gradually improved from

2015 to 2019 but still below the expected national standard. It is therefore imperative that these issues need to be resolved as recommended below.

Recommendations

1. A policy review is needed to resolve the issue of enrolling overage and underage students.
2. The implementation of enrolment policies should be closely monitored to ensure that there is compliance at the provincial, district, and school levels to ensure that all children are admitted to elementary prep when they are six years old.
3. To ensure appropriate education of good quality, it is crucial that efforts are made to increase enrolment of students by correct age, while seeking alternatives for those students who are in need of relevant learning opportunities.
4. To minimise high dropout rates in basic education, further research must be conducted to fully understand and identify the causes to provide better interventions that will help in designing effective strategies to keep children in school until they complete nine years of basic education.
5. In order to help low performing learners perform at acceptable levels in learning outcomes, further research must be conducted to identify factors that are causing low performance so better interventions can be provided to improve quality education for all.

References

Department of Education. (2009). *Achieving universal education for a better future*. The National Universal Basic Education Plan 2010 – 2019. Port Moresby: Department of Education.

Magury, M.P. (2021). *Key 2019 Indicators for Universal Basic Education in Papua New Guinea's Districts and Provinces*. Port Moresby: Papua New Guinea National Research Institute.

Magury, M.P., Webster, T., and Lavu, T. (2021). *Key 2015 Indicators for Universal Basic Education in Papua New Guinea's Districts and Provinces*. Port Moresby: Papua New Guinea National Research Institute.

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