DATA-DRIVEN SCHOOL IMPROVEMENT

Despite significant public and private investment in education each year, poor performance of learners in South African public schools remains an enormous challenge, which is well documented. Access to reliable and relevant evidence-based insights on the drivers of poor performance has been a major constraint to the improvement of learner outcomes. These insights are imperative for informing interventions to address key issues in the public school system, which educates nearly 12.5 million learners across more than 24 000 schools.

New Leaders Foundation (NLF) partnered with the Michael & Susan Dell Foundation to support the Department of Basic Education (DBE) to improve the way education data is collected and used to help learners succeed, resulting in the launch of the Data Driven Districts (DDD) Programme in 2013. The DDD Programme is a systemic intervention which aims to embed a data-driven decision-making culture into the education system.

Central to the Programme is the DDD Dashboard, which is an intuitive web-based tool that collates and visualises learner performance information that schools capture on the South African School Administration and Management System (SA-SAMS) or third-party information systems. As of October 2018, the DDD Dashboard represented 11 million out of the 12.5 million learners and had over 4 400 repeat users - from principals to district directors.

Screen shot of the DDD Dashboard indicators at a South African level

Through a controlled user management process, aligned to the Protection of Personal Information (PoPI) Act, education officials at all levels can access this data to design data-driven interventions that can ultimately lead to improved learner outcomes across the school system.

> *Our top performing districts are districts that are data-driven.*
> Mr Enver Surty, Deputy Education Minister

EXAMPLES OF HOW THE DDD DASHBOARD HAS BEEN USED TO DRIVE SCHOOL IMPROVEMENT

Do teachers really know what their learners are struggling with?

With access to the DDD Dashboard, educators have detailed learner performance information at their fingertips which can be used to identify problem areas which educators can address.

Grade 3 educator, Clarissa Abrahams, noticed that her class was underperforming in mathematics. She was unsure if the issues were related to data handling, measurement, or specific number operation topics in mathematics. By using the DDD Dashboard, she was able to see trends and pin-point the common areas

Clarissa Abrahams, Educator

where her learners were underperforming. She also found that some underperforming learners were absent from school more often than their peers. With this information, she was able to bring the other Grade 3 educators together to strategise specific interventions. An attendance improvement strategy was implemented, and the educators now monitor progress and impact over time on the DDD Dashboard.

How do districts prioritise school support?

Districts use the DDD Dashboard to plan their school visits and allocate appropriate support to schools following a needs-based approach, especially given the limited district resources and large school load.

Mohatsi Mothebe is a District Director from Xhariep in the Free State Province, a semi-rural area with vast distances between each town. Part of his role entails conducting school visits, which often involves driving between 75km and 200km to reach a school. When planning school visits, Mr Mothebe uses the DDD Dashboard to get a 'bird's eye view' of which schools to visit, what to investigate and who to engage; which not only saves Mr Mothebe time, but also provides context for the school visit.

> *The DDD Dashboard is the most effective management tool that I have used in my 37 years in education.*
> Mr Mohatsi Mothebe, Xhariep District Director

What is the system doing for high-performing learners?

The DDD Dashboard provides education officials with a variety of insights to inform the right programmatic support for all their different districts, schools and learners.

In contexts where support is needs-based, high performers are typically neglected. However, this is not the case in Vhembe – the best performing district in Limpopo for three consecutive years and the producer of 25 of the 56 learners that received provincial level merit awards in 2017. Vhembe District's Curriculum Implementation and Management Unit established the In Pursuit of Excellence programme in 2016, which is a learner performance intervention programme that seeks to support high-performing learners to become top achievers. The objective of the programme is to identify and develop content knowledge gaps in high performers, to ensure that they perform extraordinarily well. With more than 560 learners participating from across the Vhembe District, the intervention team uses the DDD Dashboard to more accurately select these learners and track their performance after intervention activities. The use of the DDD Dashboard has also enhanced the ability of district officials to assess the standards of teaching in schools and to inform the appropriate support to be provided by subject advisors.

MOVING FORWARD

The data support can be used in many ways to drive change and improve the effectiveness of interventions in schools. To increase the DDD Dashboard usage and build evidence-based decision-making in the education system, the DDD team is driving two strategic opportunities;

1. Collaboration

In 2017, the DDD Programme introduced a Partnerships stream to support other organisations working in basic education, by providing them with access to the DDD Dashboard, training and, in some instances, analytical support. The National Education Collaboration Trust (NECT), for example, has started using the DDD Dashboard for its national district programme. NGO education programmes across the sector can benefit by integrating aspects of the DDD tool-set to improve the efficiency and effectiveness of their interventions.

2. Analytics

The Learner Intervention Planning report – the latest innovation available on the dashboard – uses predictive analytics to identify learners that are likely to fail and segments these learners by degrees of likelihood to inform prioritisation. It helps officials know whether the problem is at a subject or individual learner level. The team is also investigating an early warning system for school dropout, to inform prevention efforts. Many more insights are yet to be unlocked from this vast data resource and analytics capability will become an increasingly critical capability in the basic education sector.

INCREASE IN DISTRICTS WITH ACCESS TO DATA AVAILABLE ON THE DASHBOARD FROM 2013 TO 2018
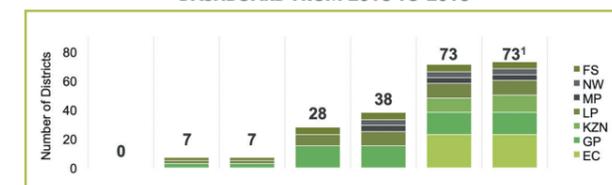
[1] Approximately 57 after the rationalisation of districts from 86 to 70

CHANGE IN SA-SAMS DATABASES AND LEARNER RECORDS ON THE DDD DASHBOARD
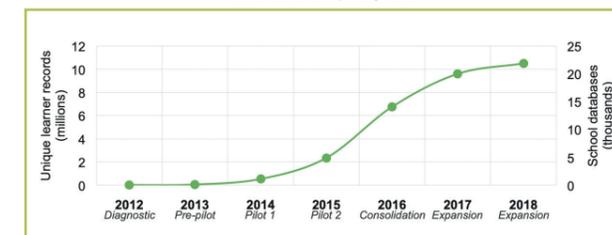
Data Reach:
The DDD Dashboard covers 21 843 schools across seven provinces and displays data of over 11 million learners to date. This data, of more than 85% of public school learners in South Africa, is available to the education sector at the click of a button.

Data Submission:
Data collection is faster and more regular than ever. In 2018, more than 8,000 schools submitted data on a weekly basis.

Data completeness:
The average data completeness score was over 96% in 2018 Term 3 for the prioritised indicators on the Dashboard.

Active users:
The number of active users is increasing year-on-year from 5 545 in 2017 to 8 814 in Quarter 3 of 2018.

Usage depth:
Users are becoming more data driven.The total number of reports downloaded from the DDD Dashboard increased by 70%, from 36 752 in Quarter 3 of 2017 to 62 559 in Quarter 3 of 2018.

Stakeholders in the education sector can now leverage the DDD Dashboard, associated data and practices in collaboration with the DBE to monitor and improve the effectiveness of their programmes. For more information about the DDD Programme please contact Peter Searle (Partnerships Lead) – Partners@newleaders.co.za