

Improving teaching and learning through the South African Annual National Assessment: Challenges, possibilities and solutions

Executive summary

Current policy to improve the quality of education provision in South Africa is outlined in the document *Action Plan to 2014: Towards the Realisation of Schooling in 2025*, published by the Department of Basic Education (DBE 2010). The document explains an envisaged Annual National Assessment (ANA) of literacy and numeracy levels by means of standardised tests administered to all learners from Grade 1 to Grade 6. The main objective of the ANA is to identify the weaknesses in literacy and numeracy development in South African schools. The underlying assumption is that ANA data on learners' achievement levels and background characteristics would be available for analyses that should provide information relevant to schooling improvement strategies. The success of ANA therefore depends largely on the belief in the use of large-scale assessment practices to improve learning.

In this policy brief, we argue for a policy direction to develop a culture of formative assessment through what we

term ANA Professional Development (ANA_PD) programmes.

A culture of formative assessment involves beliefs and practices in which findings from the analysis of data are consistently used to inform schooling improvement decisions. As one would expect, the ANA processes seem to emphasise the integrity of the data-collection processes. We argue for ANA processes that provide opportunities for teachers to develop an understanding of how assessment data can be used to improve teaching and learning. We contend that a professional development programme integrated in the ANA processes could help develop a culture of formative assessment practices and would potentially help sustain interest in ANA. We envision this professional development programme to include online courses that teachers and other education stakeholders could access throughout the academic year so that school and classroom activities will not be disrupted because of the programme. We further recommend that these courses be accredited so as to encourage broader participation of teachers.

Introduction and background

One of the major accomplishments of the education system in South Africa is the universal access to schooling for all learners: close to 100 per cent of children aged 7 to 14 are currently enrolled in schools. The major problem, however, is that despite this high enrolment rate and a massive investment in education (5 per cent of GDP), the system struggles to provide quality education in most schools (Organisation for Economic Co-operation and Development, OECD 2008). The ANA reports for 2011 and 2012 indicate that the performance of average Grades 3, 4, 5, 6 and 9 learners in Mathematics and Language is below 50 per cent (DBE 2011, 2012). If these tests are true representations of what learners are expected to learn, then this would suggest that at the end of every academic year typical learners in these grades understand less than 50 per cent of what they are expected to know in Mathematics and Language. These findings reflect the magnitude of the problem facing the education sector in its quest to improve the quality of education in South Africa.

The South African government's response to this problem includes strategies that are outlined in the *Action Plan to 2014* document. The action plan is based on the assumption that large-scale assessment can generate a national benchmark on learner competencies, improve teacher assessment practices, create context-specific best-practice models and foster active participation among all stakeholders. Of particular importance is the application of test results to provide formative feedback that informs teaching and learning in the classroom. The current action plan to improve the provision of quality education for all learners includes the recognition and importance of large-scale and formative assessment practices. The document, however, is silent on how schools and other education stakeholders develop capacity in the use of ANA data to improve teaching and learning. In this brief, we argue for a policy that provides directions for the development of a culture of formative assessment through ANA_PD programmes.

The challenges and possibilities in using ANA to improve teaching and learning

We recognise the challenges in using large-scale assessment, such as ANA, to improve teaching and learning. These challenges have been outlined in a number of studies indicating the potential misuse of ANA to:

- inform policies that have not been well scrutinised and are based on measures and analysis with limited credibility;
- control and limit educational innovations and the professional autonomy of educators;
- hold teachers responsible for results over which they have limited control; and
- narrow curriculum coverage by encouraging 'teaching to the test' techniques, which take valuable

time away from non-tested subjects, particularly when high stakes are attached to results.

Despite these challenges, a number of studies have demonstrated that large-scale assessment such as ANA can:

- make students work harder and improve their performance (Anderson 1990);
- identify the most successful teaching practices and proficient teachers (Cizek 2001);
- enhance teachers' reflective and critical thinking when planning instruction (Goldberg & Roswell 2000);
- lead to positive increased educators' knowledge about testing and of testing issues (Earl & Torrance 2000);
- improve teachers' assessment and instructional practices, particularly when the teachers are involved in marking these assessments (Gilmore 2002);
- stimulate action research that serves as a basis for school improvement (Wideman 2002); and
- provide schools with valuable information about the consequences of their past practices and programme effectiveness (Anderson & Postl 2001).

2011 ANA processes: Emphasis on data quality

The current ANA, as envisioned in the *Action Plan to 2014* document, and our experience with the ANA processes seem to pay less attention to the challenges outlined. In the 2011 ANA, the HSRC served as the quality-assurance agent. This allowed us to study the ANA processes, which included a training programme intended to ensure the integrity of the ANA data collection. The processes employed a cascading model whereby provincial officials received training in Pretoria, and were then expected to train district officials, who in turn were to train area circuit officials –

who would finally train teachers in their respective areas.

In terms of grading the assessment, teachers marked the ANA tests from a nationally determined memorandum that was discussed with colleagues prior to marking. Trial runs of the marking took place in 2008 and 2009 and within in-service training programmes. The principal and members of the school management team were responsible for quality assurance and moderation. Some district officials organised additional meetings with teachers and conducted district-level verification of marking standards (DBE 2011).

The main objective of the ANA training was to ensure valid and reliable data collection. Participants were constantly reminded to be faithful to the ANA processes, and the training emphasised the need for cooperation and avoided deviations that could result in the production of what was referred to as 'useless data'. While the quality of data is fundamental to the analysis of school quality improvement, the engagement of education stakeholders, especially teachers, in understanding these processes and their relevance in improving teaching and learning is equally important. There is therefore a need for policy directives to include a PD programme in the ANA processes.

ANA professional development: The solution to assessment challenges

A number of education systems have used PD programmes to develop the capacity and appetite of education stakeholders to use data analysis to inform school improvement strategies. In the province of Ontario in Canada, the unit responsible for assessment, the Education Quality and Accountability Office (EQAO), supports training in schools through School Support and Outreach teams. PD programmes train teachers to use data to improve

the quality of classrooms and school management. Innovative platforms, such as live webcasts, are also used and workshops are conducted with parents to support learning at home through an understanding of their child's report card (EQAO 2010). The EQAO also supplies school improvement committees (teacher communities representing every grade in the school) with detailed analysis of the assessment results. These are used to develop school improvement plans (Volante & Cherubini 2010).

Uruguay offers an excellent example of how to incorporate teachers into assessment processes. Initially resistant to the assessment, government instituted a 15-member advisory group representing teacher unions, education districts, teacher training institutions and private school organisations. This body met with the Ministry of Education to make key decisions on the implementation of its large-scale assessment. Surveys conducted by UNESCO found that this collaborative approach had a positive impact on teaching, with over 55 per cent of teachers changing their methodologies because of their involvement in the programme. In Uruguay, the development of training materials actively involves teachers and the focus is on understanding learners' incorrect answers and formulating strategies to address this problem. Teachers become familiar with the assessment programme, encouraging buy-in and understanding for future tests.

The National Education and Monitoring Project (NEMP) was New Zealand's large-scale assessment programme and ran from 2005 to 2010. Teachers partook in a one- or two-week training programme, and together with NEMP formulated the marking criteria for assessment. Marking schedules were designed to include regular monitoring and discussion (Gilmore 2002). A more collaborative process to marking is recommended,

with assessment and curriculum units working with teachers to develop test items, coding and moderation of scripts. For teachers to integrate formative assessment into their curriculum, they must have examples of these tools (Doig 2006). These include diagnostic tests, instructional activities, formative assessment tasks and scoring rubrics. Within the NEMP, teachers responsible for assessment administration were relieved of their regular classroom teaching duties and a relief teacher was employed in the participating school (Education Assessment Research Unit 2007).

Recommendations

Following these success stories, we recommend the following:

1. The development of an ANA_PD programme for South Africa in which education stakeholders, especially teachers, use their engagement with the ANA processes as an opportunity to improve their understanding of how large-scale assessment such as ANA can be used to improve teaching and learning.
2. The ANA_PD programme should include formal and informal courses.
3. The formal courses should include the ANA processes, such as the development of test items, the marking of the test items, and the analyses and reporting of students' performance of the test items that directly related to the successful conduct and integrity of the ANA processes.
4. The informal courses should involve the use of ANA results to improve teaching and learning.
5. Professional development of the formal engagement should take place during the period of ANA, while the informal one can take place any time during the academic year.
6. University teacher development units and non-government

organisations (NGOs) should be involved in the development of courses for this programme.

7. Technology such as web-based courses (with mobile platforms) should be considered so that teachers could take these courses at any time from any location and therefore minimise the loss of class time due to teacher absence.
8. Credit and promotion incentives should be attached to these courses to motivate a large number of teachers to engage in the ANA_PD programme.

We expect that this engagement will help teachers improve their assessment literacy and strengthen their belief in assessment to improve teaching and learning. We wish to emphasise that these recommendations are designed to generate a conversation about policy structures that would ensure the formative values of ANA. We expect that the specifics of the ANA_PD programme would evolve when the national Department of Basic Education accepts these recommendations and engages relevant stakeholders through debates and dialogue.

Concluding remarks

This policy brief has provided a vision of how a large-scale assessment such as ANA can support and improve teaching and learning. The challenges inherent in using the analyses from ANA data in informing school improvement policies and strategies are acknowledged. Through this policy brief, it is argued that large-scale assessment, when directly linked to formative assessment, has the potential to significantly improve learning. The link of ANA to formative assessment practices, as outlined in *Action Plan to 2014: Towards the Realisation of Schooling in 2025*, is therefore a welcome proposition. This plan, however, would only succeed when all stakeholders in

education, especially teachers, accept this proposition and continuously use data analyses to inform teaching and learning improvement strategies. A teacher-focused professional development programme linked to the ANA processes has been proposed in the belief that teachers' access to courses designed for this programme would help them to develop their understanding in assessment literacy. Web-based technology with mobile platforms in developing these courses to allow many teachers access across time and space is strongly recommended as an enabling tool for teacher development. Finally, the accreditation of courses and recognition of learning by teachers and linking them with promotion incentives would motivate teachers to engage in this professional development programme.

References

- Anderson B & Postl B (2001) Using large data sets as a basis for school improvement. Paper presented at the Annual Meeting of the American Educational Research Association, Seattle, WA (April 2001)
- Anderson JO (1990) *The impact of provincial examinations on education in British Columbia: General report*. Victoria, BC: British Columbia Department of Education
- Cizek GJ (2001) More unintended consequences of high-stakes testing. *Educational Measurement: Issues and Practice* 20(4): 19–27
- DBE (Department of Basic Education) (2010) *Action plan to 2014: Towards the realisation of schooling in 2025*. Pretoria: DBE
- DBE (Department of Basic Education) (2011) *Report on the Annual National Assessment of 2011*. Pretoria: DBE
- DBE (Department of Basic Education) (2012) *Report on the Annual National Assessment of 2012*. Pretoria: DBE
- Doig B (2006) Large-scale mathematics assessment: Looking globally to act locally. *Assessment in Education* 13(3): 265–288
- Earl L & Torrance N (2000) Embedding accountability and improvement into large-scale assessment: What difference does it make? *Peabody Journal of Education* 75(4): 114–141
- Education Assessment Research Unit (2007) *Key features of NEMP*. Accessed 2 May 2012, http://nemp.otago.ac.nz/PDFs/key_features/chapter1_06B.pdf
- EQAO (Education Quality and Accountability Office) (2010) *Driving purposeful assessment: Annual report 2009–2010*. Accessed 2 May 2012, http://www.eqao.com/pdf_e/11/EQAOAnnualReport2009-2010.pdf
- Gilmore A (2002) Large-scale assessment and teachers' assessment capacity: Learning opportunities for teachers in the National Education Monitoring Project in New Zealand. *Assessment in Education* 9(3): 343–361
- Goldberg GL & Roswell BS (2000) From perception to practice: The impact of teachers' scoring experience on performance-based instruction and classroom assessment. *Educational Assessment* 6(4): 257–290
- OECD (Organisation for Economic Co-operation and Development) (2008) *Review of national policies for education: South Africa*. Accessed 12 September 2012, <http://www.education.gov.za/LinkClick.aspx?fileticket=sKsxhYorWOk%3D&>
- Volante L & Cherubini L (2010) Understanding the connections between large-scale assessment and school improvement planning. *Canadian Journal of Educational Achievement and Policy* 115, 20 December
- Wideman R (2002) Using action research and provincial test results to improve student learning. *International Electronic Journal for Leadership in Learning* 6(20). Accessed 12 September 2012, <http://www.ucalgary.ca/~iejll/volume6/wideman.html>

STUDY AUTHORS

George Frempong, PhD; Chief Research Specialist, Education and Skills Development, Human Sciences Research Council

Vijay Reddy, PhD; Executive Director, Education and Skills Development, Human Sciences Research Council

Ms Kara Mackay, PhD student, University of Pretoria

Enquiries to:

Dr. George Frempong: gfrempong@hsrc.ac.za