

# A 500 SCHOOLS PROJECT: UNCOVERING TEACHERS' CHALLENGES IN ADMINISTERING THE ANNUAL NATIONAL ASSESSMENTS IN SOUTH AFRICAN PRIMARY SCHOOLS

Joseph J. Dhlamini

Department of Mathematics Education, University of South Africa

South Africa

[dhlamij@unisa.ac.za](mailto:dhlamij@unisa.ac.za)

**ABSTRACT**-Standardized assessments are becoming a norm internationally. Governments have turned to standardized assessments due to mounting pressure by citizens for accountability, quality education, transparency and increased public confidence in education. In South Africa, the observed learning deficiencies and prolonged performance declines have prompted the Department of Basic Education to resort to standardized testing as an option to respond to the pressing educational problems. The Annual National Assessment (ANA) is a state-mandated standardized tool to measure learners' competency in selected subjects and to improve the quality of instruction. While standardized tests are generally perceived as being educationally profitable, this paper presents perceptual views of teachers and school principals collected using a qualitative research approach. A focus group method for data collection was opted in which six mathematics teachers in Grade 3 and seven members of School Management Teams participated. The findings of the study revealed that participants believed ANA tests help them neither to achieve competency in learning nor to secure excellence in teaching. In particular, teachers' views suggested that the ANA testers are more obsessed about valuing the measure rather than measuring the value of educational processes. Hence, the consequential outcome is that teaching and learning activities are geared towards fitting the formats of testing procedures. These findings resonate with existing concerns in the literature.

**Keywords:** Annual National Assessment; standardized testing; quality assurance.

## 1. BACKGROUND

Since the dawn of democracy, concerns from various quarters of the society have been raised about deteriorating education standards in South Africa. Various studies conducted both domestically and internationally on educational achievement have drawn attention to the underperformance of South African children in key learning areas such as literacy, mathematics and science. According to Taylor, van der Berg and Burger (2012), the Systemic Evaluations undertaken by the Department of Basic Education (DBE) and the Quality Learning Project have revealed that most children are performing well below the standards required by the curriculum. In addition, the authors point out that in the Trends in International Mathematics and Science Study (TIMSS) of 2002, Grade 8 learners from South Africa achieved the lowest average scores in both Mathematics and Science out of 46 countries, including six African countries. These observations are further confirmed by the performance of South African Grade 8 learners in recent TIMSS (2011) study, which was also lower than average.

In the Progress in International Reading Literacy Study of [PIRLS] (2006), which measured the literacy rates of learners at primary school level, South Africa came last out of 40 countries. Also, in the Southern and East African Consortium for Monitoring Education Quality surveys of 2000 and 2007 (SACMEQ II and III), South Africa performed slightly below the average of 14 Southern and East African countries in Grade 6 Mathematics and Reading. Learners from Tanzania, Kenya, Swaziland and Zimbabwe performed better than South African learners even though the latter has lower learner-teacher ratio, better access to resources and more qualified teachers than its counterparts.

This is an enigma. The problem does not seem to be a scarcity of resources and, consequently, additional resources are likely to have only limited educational benefits. Driven by the government's desire to address the observed educational deficiencies and to respond effectively to issues of public accountability, quality education, transparency, and increased public confidence, in 2008 the DBE introduced standardized Annual National Assessment (ANA) tests (Department of Education [DoE], 2008; Pausigere & Graven, 2013). ANA is a grade-specific Language and Mathematics test for Grade 1 to Grade 6, and Grade 9 learners (DBE, 2012). It can also be regarded as a national diagnostic instrument to assess and detect learner problems. This approach is aimed at helping the department and schools to reach the desired learning outcomes. Thus, ANA has recently assumed a prominent role as a standardized tool to improve the quality of education in South Africa. In a standardized test, all test takers answer the same questions and they are scored in a standard or consistent manner in order to make it possible to compare the relative performance of individual test takers (Geier *et al.*, 2008). In this context, standardized tests can offer quantitative results that permit easy comparison.

The ANA tests have been introduced to identify specific areas of weakness of individual learners in Literacy, Mathematics and Science; and to help teachers to design remedial instruction. Generally, the ANA programme is purportedly designed to close gaps in learners' achievement in selected subjects and to improve the quality of instruction. The DBE has initiated the notion of *Action Plan to 2014: Towards the Realisation of Schooling 2025*, which is the brainchild of ANA to annually measure the competency of learners in selected subjects at different grade levels. The idea is to ensure that at least 60% of learners achieve acceptable levels of literacy and numeracy by 2025 (DBE, 2011; DoE, 2008). According to DBE (2011), the Action Plan to 2014 articulates the following aims for ANA: (1) to provide examples of assessment standards and methods; (2) to provide better-targeted district support; (3) to provide evaluation of school performance; and, (4) to provide support to school governing bodies, principals, teachers and parents. A key value of the ANA as a universal assessment procedure is to assist teachers to identify areas in which remediating strategies are needed. According to Bansilal (2012), ANA is a promising start to provide school-going children with quality education. In this context, a critical question emerges: *Do teachers use the findings of the ANA to inform their teaching?* This study therefore seeks to determine the impact of ANA on teaching and learning process in schools.

## **2. RESEARCH ON STANDARDIZED TESTING**

The literature explored in this section provides the context for the paper and develops a theoretical standing for the study. There is a large body of literature about large-scale standardized tests with no consensus on their effectiveness on various educational variables. The four positions of relevance in our review are: (1) the reliability and validity of standardized testing; (2) the influence of standardized testing on the curriculum; (3) the impact of standardized on teaching and learning. There is a paucity of local research on the influence of standardized testing on teaching and learning. The study by Pausigere and Graven (2013) used Bernstein's notion of pedagogic identities to analyse the identities of nine primary level Mathematics teachers in relation to ANA. In the study, most respondents acknowledged that their teaching practices are being influenced by ANA, although in different ways (Berstein, 2000; Bernstein & Solomon, 1999; Pausigere & Graven, 2013).

### **2.1 The reliability and validity of standardized testing**

Reliability and validity relate to the way in which assessment activities are constructed and administered to the learners. According to Millman and Green (1993), at a developmental stage, standardization should adhere to uniform assessment procedures so that observation, administration, equipment, materials and scoring rules are uniform to all test takers. This helps to achieve objective assessment results to enhance meaningfulness and trustworthiness when the results are used to compare the assessed qualities of learners. On the other hand, if the assessment results are considered to have been influenced by external variables before, during and after the test was administered; they are more likely to surrender their informational value (Nitko, 2004). Standardization is an attempt to

control external factors to optimize the reliability of a testing instrument and the validity of the subsequent test results.

While standardized tests are generally perceived as being educationally beneficial, research shows that the reliability and validity of such tests are subjects of increasing debate. For instance, some researchers have cast doubts about whether the observed increase in learners' test scores should be equated to gains in learning (Cannell, 1987; Linn, Grave, & Sanders, 1989; Shepard, 1990). In addition, some of the studies have challenged standardized testing tools such as the Program for International Student Assessment (PISA) and Trends in International Mathematics and Science Studies (TIMSS) on the grounds of "validity, reliability, usefulness or statistical significance" (Polesel, Dulfer & Turnbull, 2012, p. 8). Harlow and Jones (2004) have argued if the test items in TIMSS can effectively elicit the knowledge acquired by students. There have been some concerns in the way in which the standardized tests are administered and analysed, and how these procedures eventually impact on the reliability and validity of the tests. In the same vein, Meier (2002) highlighted the potential for substantial technical unreliability in the collection and analysis of test data as well as "machine and software errors" (Polesel *et al.*, 2012, p. 8).

## **2.2 The effect on the curriculum**

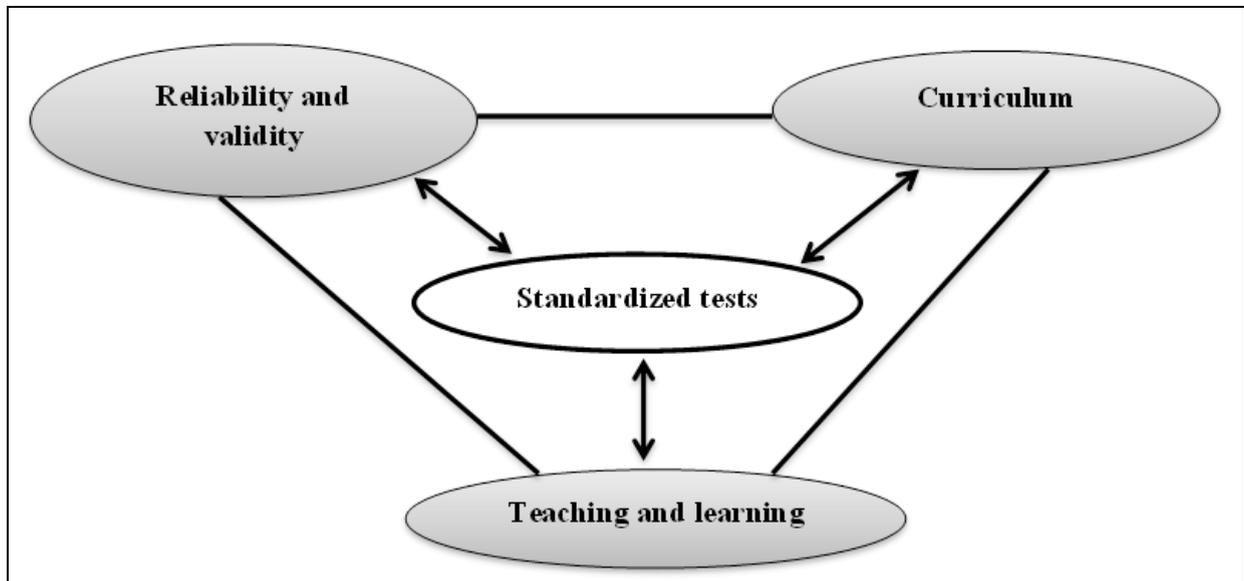
Research efforts have also typically examined the influence of standardized tests on the focus of curriculum and pedagogical methods. Maudus (1988) contends that testing may become the end of instruction (diminished pedagogy) rather than a tool to strengthen the pedagogy if it weighs too heavily on curriculum and pedagogy. The results of some of these studies suggest that as stakes increase, the curriculum will narrow to closely resemble the content sampled by the standardized tests (Corbett & Wilson, 1991; Madaus, 1998; Smith, 1991). In these instances, teachers become more concerned about teaching what is in the test as opposed to teaching the curriculum. In these cases, knowledge is presented as isolated and largely unconnected facts and pieces of information. Abrams (2004) presented a study in which a large proportion of teachers in the United States context were reluctant to use computers to teach writing because the introduction of standardized test required students to provide hand-written responses. This observation provides an example sampling instances where teachers value the significance of either a topic or a subject over another.

In some cases, concerns have been raised that the content that emphasizes high-order thinking might be left out in pursuit of the targeted content of the test (Franklin & Snow-Gerono, 2007). The effect is that teachers will only teach the content that is largely advocated in the test content (Gordon & Reese, 1997). In the same vein, Mehrens (1984) found that standardized testing procedures served to expand the curriculum; that is, testing encouraged teachers to add to, rather than replace existing curriculum topics. Other studies point to standardized tests' narrowness of the content to be taught; their lack of alignment with curricular and instruction; their neglect of higher order thinking skills; and the limited relevance and meaningfulness of their multiple choice formats (Polesel *et al.*, 2012).

## **2.3 Effect on teaching and learning**

A popular concern highlighted in the literature is that standardized tests may yield instruction that promotes teaching for test (Madaus, 1988; Polesel *et al.*, 2012). In particular, Madaus (1988) observed that teachers turn to teach to the test when they realize that important decisions, such as learner promotion, would be based on test scores. In some cases, standardized testing has been thought to counter efforts to encourage reformed teaching and learning approaches, such as generating cooperative and interactive learning environments. For instance, Stodolsky (1988) observed that accountability pressure may discourage teachers from exploring team teaching approaches. Teachers are increasingly shifting towards competitive and individualistic attitudes and ways of learning (Polesel *et al.*, 2012). In contrast, Salmon-Cox (1981) reported that some teachers find the standardized tests to be useful in sequencing instruction, planning instruction and grouping learners.

Despite the data presented in this section, our study brings additional empirical data to the debate about the possible effects of standardized testing on teaching and learning. The evidence presented in this section of our paper highlight serious concerns that need to be considered when standardized testing is opted as a tool to regulate aspects of teaching and learning in schools. Subsequent to our discussions in this section, in Figure 1 we present a summative diagram to highlight impact of standardized testing on certain classroom variables of teaching and learning.



**Figure 1: A literature generated framework for participants' data analysis**

The three-pillared conceptual framework in Figure 1 is used to analyse and contextualize participants' responses in our study. The aim of utilizing the framework in Figure 1 is to present participants' responses in relation to what is already projected in literature.

#### **4. THE CONTEXT OF THE STUDY**

The study reported in this paper is a small component of a bigger study organised by the College of Education at the University of South Africa (UNISA). The main project is entitled: *The 500-Schools Project*, and is aimed at investigating the performance of Grade 3 and Grade 6 learners in Home Language, First Additional Language, Natural Science and Mathematics/ Numeracy. Within this project, the study also aimed to explore teachers', principals', subject managers' and learners' views about the impact of the Annual National Assessment (ANA), which is a standardized measuring tool, on teaching and learning. By eliciting these views, this study provides a voice not only for those who are involved in the process of teaching and learning at implementation level, but also to those who are marginally involved in the process that leads to a state-wide testing programmes. Data presented in this study could be used to inform educational policies on the implementation of standardized testing methods. Our focus group interviews with Grades 3 Mathematics and the School Management Teams (SMTs), consisting of principals and Heads of Department (HODs), gave us a glimpse of how their learners, classrooms, and schools are affected by standardized tests.

#### **5. METHODOLOGY**

##### **5.1 The research design**

Due to rich narrative accounts provided through the use of focus group interviews, this study adopted a qualitative approach in which a component of group conversations with teachers and the schools' management teams became a prominent feature. This approach to data collection was opted to determine the impact of ANA on teaching and learning process in primary schools and how teachers use findings of the ANA to inform their teaching. Participants' consent was established and they were free to withdraw at any time from participation. Data triangulation and methodological triangulation

were performed to enhance trustworthiness of the study. Data were analysed by identifying the emerging themes across the full set of data received from the participants.

### 5.2 Sampling procedures

The sample population consisted of six mathematics teachers in Grade 3 and seven members of School Management Teams (in this case the SMTs consisted of two principals and five subject Heads of Department [HOD] for mathematics) from four primary schools in the Gert Sibande District of the Mpumalanga Province, in South Africa. All study participants had graduated in pedagogy with an emphasis on early childhood education (primary/ elementary education). As in almost all qualitative research, the participating population for this study was a purposive sample (Fraenkel & Wallen, 2009). In this case, random sampling was ordinarily not feasible since the researchers wanted to ensure that they obtained a sample that would be uniquely suited to the intent of the study.

One of the objectives of the 500-schools project was to investigate the performance of Grade 3 and Grade 6 learners in Home Language, First Additional Language, Natural Science and Mathematics/ Numeracy. In this context we located the notion of performance within the confines of ANA tests, which were seemingly a huge source of performance-related discussions in primary schools at the time of this study. To draw more data for our study we purposively selected schools that had performed poorly in the ANA tests of the year that preceded this study. All schools were identified from a sampling frame that had been supplied by the Department of Education. Given this background, it is fitting to describe the purposive sample for our study as “a typical sample” (Fraenkel & Wallen, 2009, p. 431), which is a sample considered to be representative of that which is being studied.

### 5.3 Instrumentation

Instrumentation refers not only to the description of data collection instruments but also to the way in which the instruments are developed and administered in the study (Fraenkel & Wallen, 2009). Methods of instrument manipulation are considered here as having an inherent bearing or threat to the internal validity of the study. The primary data collection source was the semi-structured interviews with three groups of study respondents, consisting of teachers, HoDs and school principals. The interview schedules (for all categorical respondents) were developed through months of iterative processes of casting and re-casting items, conducting repeated validity assessments and obtaining from colleagues in the College of Education (UNISA). Content validity and construct validity of the interview items were confirmed by a panel of experts. Pilot testing confirmed the reliability of the instrument. In fact, from the qualitative research paradigm these issues are addressed differently as in quantitative research. We addressed these issues from the notions of credibility, transferability, confirmability, dependability and trustworthiness. For instance, prior to the data to the finalisation of data analysis and reporting processes we embarked on a member checking initiative in which respondents were given an opportunity to verify and confirm their responses. In addition, post interview peer debriefing and prolonged engagement sessions took place. These sessions tended to pay attention to issues of trustworthiness, credibility and referential adequacy in terms of collected data.

All items were finally constructed to elicit data to mirror the actual experiences of all respondents in terms of the issues addressed in each item, and most importantly, to address the objectives of the study. The following are examples of questions that were asked to the teachers in terms of ANA:

**Researcher (R):** If you consider the results of 2012, what do you think could be done to assist your learners to perform even better in future?

**R:** Does ANA include the whole content for a specific subject and grade level?

The following is an example of an interview item for the principals and HODs:

**R:** What is your role when it comes to issues of learner performance such as those of ANA?

The context of these questions was built on the realization that there was an observed general improvement in learner performance of ANA 2012 as compared to the previous two years. All interviews took place in one school under similar conditions. One researcher administered focus group interviews with teachers while the other interviewer worked with the SMT group. To ensure uniformity, the university provided prior training to all interviewers (researchers) in all aspects of the focus group interviewing. In addition, interviews were highly structured and were read from the interview schedule. These measures were meant to meaningfully reduce the impact of human bias to maximize interview reliability and validity. Permission to record interviews using a digital recorder was also sought.

#### 5.4 Data collection

A research assistant was tasked with ensuring that all participants from four schools assembled at a central point for the purposes of data collection. One school in the district provided the venue in which participants and researchers assembled. Two sets of focus group interviews were held with SMT members (consisting of two principals and five HODs) and six mathematics teachers. We started with teachers, who were mostly quite eloquent on issues that impacted on their classroom practice and SMT members constituted the second session of the interviews. However, this paper reports only on the data that were collected from six mathematics teachers. Due to what seemed to be a good relationship between researchers and respondents, both sessions lasted longer than anticipated as each group tended to elaborate mightily on each topic of discussion.

#### 5.6 Ethical considerations

Ethical clearance for conducting our study was obtained through our institutional ethics committee and all suitable consenting participants were recruited into the pilot study.

#### 5.7 The findings of the study

In this study data were analysed by coding and identifying emerging themes across the full set of data received from the participants. Analysing the data essentially involved analysing and synthesizing the information we obtained from the focus group interviews with groups of teachers, school principals and HODs. When we analysed the respondents' interviews six specific ANA-related issues became apparent, namely: (1) the timing of administering the ANA tests; (2) the nature of content covered in ANA items; (3) proportional mark distribution in terms of topics; (4) structure and format of ANA tests; (5) language usage in test items; and, (6) the reliability of ANA results. Table 1 presents this data and samples of responses as reflected on each of the emerging issues.

**Table 1: Sampled teachers' responses and related emerging themes**

Data source	Emerging issues/ themes	Sampled interview response/ concerns
Teacher	Timing of ANA tests	"The problem is, our ANA, the examination is written in September, and not at the end of the year"
Teacher	Content coverage by ANA	"ANA has too much content to cover in a short time"
Teacher	Proportional mark distribution per topic	"The other problem is the marks" "The time given to learners to write ANA is not sufficient"
Teacher	Structure and format of ANA	"Most of the questions and marks are on time and money and our children have problems with time and money problems"
Teacher	Language usage in ANA	"In Grade 3 our learners have a challenge of a language in maths" "The ANA memos does not use correct vernacular terms"

Teacher	Reliability and validity of ANA	<p>“The results of ANA as they are given out, they also demotivate us”</p> <p>“They are not using the instrument they are supposed to be using to calculate the ANA results”</p>
---------	---------------------------------	--

### 5.8 The timing of administering the ANA tests

In relation to the timing of administering the ANA tests, teachers complained that this activity is not well placed within the school calendar. According to respondents, ANA is written at the end of the third school term, around September of each academic year, and subsequently teachers and learners are pressured to run quickly through the curriculum in an attempt to cover the content that is sampled for ANA. One teacher noted: “the time to complete term four work I do not know where I will find it”. It seems teachers are caught up in a curriculum chasing activity where the teaching experience becomes that of merely scratching the surface in an attempt to cover more ground. This impacted negatively to learners’ performance. Teachers believed that if ANA tests were administered at the end of the fourth term, learners’ performance would be elevated as they would have had sufficient revision activities.

### 5.9 Content coverage by ANA

Teachers complained that ANA has a lot of content which should be covered within a short space of time. This situation affords teachers and learners with no time to embark on a most essential revision activity. In this regard one teacher commented:

**Teacher 1 (T1):** ANA is written in term 3 around September..... We are forced to do the work of term 4 in term 3, and this is not good for the children.

**T2:** We do not have enough time to revise.

Teachers emphasized that the revision phase is a prerequisite to uncover the problematic learning experiences of learners. However, the component of revision is seemingly not achievable as teachers have to squeeze the work of four terms in three terms.

### 5.10 Language usage in ANA

It came out that some of the items in the ANA tests are presented in learners’ home languages, which are likely to be the indigenous local African languages in township settings. In this regard, teachers raised concerns that sometimes the language to present items in learners’ home-based languages was not accurate. Teachers claimed inaccuracy comes as a result of switching the items from English to learners’ home languages. It seemed that translation from English to local languages was not done properly, and this alters the informational meaning and context of the item. For instance, one teacher complained that the language used to articulate some instructions in the languages of the learners was not appropriate.

**T3:** The instructions and questions in learners’ language are not accurate. Even teachers get lost.

Teachers complained that the experience of inaccurate translation would prompt teachers to run around the schools seeking other teachers’ opinion and consensus understanding of the question. In this context, most respondents opted to discourage the inclusion of home languages in test items. For instance, one teacher asked:

**T4:** Why are we supposed to use IsiZulu in the Foundation Phase?

This concern was raised against the background that in the South African education system learners are taught in their home language in the first three grades (i.e., Grade1 to Grade 3). English is introduced as

a language of learning and teaching in Grade 4, and most teachers feel this transition accounts for language-related challenges experienced by most learners in lower grade levels.

### 5.11 Other related issues

Teachers also mentioned that mental sums tests are not appropriate for the developmental level of the learners in different grades, and as such they do not benefit learners in grades where they are administered. Mental sums for learners are usually prepared by the Department of Basic Education and supplied to teachers to administer to learners. Also, teachers complained that textbooks are without problem tasks. Teachers largely complained about techniques used to administer the ANA tests, namely: (1) the fact that learners are invigilated by someone they do not know or a stranger (departmental official). Teachers argued that this arrangement creates tension; and, (2) the tools that are used to analyse the ANA data were also reported to be problematic, and the method of cluster classification (averaging) in terms of performance also seemed not to go down well with teachers.

## 6. DISCUSSION AND CONCLUSION

This study aimed to explore respondents' views about the impact of ANA on teaching and learning in primary schools. The authors acknowledge that is a complex issue with many players and variables to contend with, and also with a myriad of underlying perceptual views. We have used literature to highlight the influence of only three variables that are inherently influential when administering standardized tests, namely, the reliability of the test; their confounding influence on: curriculum implementation, and on teaching and learning activities (see, Figure 1). The results of this study demonstrate that ANA may impact negatively on these variables. For instance, our data shows that some of the teachers are questioning the reliability of the ANA instrument and the related test results/scores. For instance, one Mathematics teachers asked:

**T5:** Are they using the right tool to compute the averages of learner performance?

This sentiment was echoed by some of the respondents who continuously questioned aspects of computing learner performance used in ANA. In addition, this study demonstrated that some of the teachers possess a view that ANA potentially influences the manner in which the curriculum is taught and presented to learners, and the manner in which the teaching and learning activities are executed in schools. The findings of this study are not unique. To a larger extent they resonate with existing literature that these variables (reliability, curriculum, teaching and learning) present an area of concern when standardized testing constitute a tool to measure educational outcomes.

The authors acknowledge that the results of this study are not conclusive, given the size of the sample and its inability to achieve representativeness. Although caution is warranted in extrapolating the findings, the results of this study highlight the value of obtaining the views of main role players on issues relating to the development and implementation of ANA tests in schools. Hence, we recommend that a larger study be conducted to assess these views on a relatively larger and more representative sample.

## 7. ACKNOWLEDGEMENTS

On behalf of the research team from the University of South Africa we wish to thank our institution, the University of South Africa (UNISA), for their generous support of the 500-schools research project. We also acknowledge the granting of permission by the Department of Basic Education to do research in selected Mpumalanga Province districts and schools.

## REFERENCES

- Abrams, L. (2004). *Teachers' views on high-stakes testing: Implications for the classroom*. Tempe: Educational Policy Studies Laboratory, Arizona State University.
- Bansilal, S. (2012). What can we learn from the KZN ANA results? *SA-eDuc Journal*, 9(2).

- Bernstein, B. (2000). *Pedagogy, symbolic control and identity theory, research, critique*. Revised Edition. New York: Rowman & Littlefield Publishers.
- Bernstein, B., & Solomon, J. (1999). Pedagogy, identity and the construction of a theory of symbolic control: Basil Bernstein questioned by Joseph Solomon. *British Journal of Sociology of Education*, 20(2), 265-279.
- Department of Basic Education. (2011) *Report on the Annual National Assessments of 2011*. Pretoria: Department of Basic Education.
- Franklin, C. A., & Snow-Gerono, J. L. (2007). Perceptions of teaching in an environment of standardized testing: Voices from the field. *The Researcher*, 21(1), 2-21.
- Gordon, S. P., & Reese, M. (1997). High-stakes testing: Worth the price? *Journal of School Leadership*, 7, 345-368.
- Harlow, A., & Jones, A. (2004). Why students answer TIMSS science test items the way they do? *Research in Science Education*, 34(2), 221-238.
- Madaus, G. F. (1988). The distortion of teaching and testing: High-stakes testing and instruction. *Peabody Journal of Education*, 65(3), 29-46.
- Mehrens, W. A. (1984). National tests and local curriculum: Match or mismatch? Educational measurement. *Issues and Practice*, 3(3), 9-5.
- Meier, D. (2002). *In schools we trust: Creating communities of learning in an era of testing and standardization*. Beacon Press: Boston.
- Millman, J., & Greene, J. (1993). In Linn, R. L. (Ed.), Educational measurement (pp. 335-366). Phoenix, AZ: The Oryx Press.
- Morgan, C., Tsatsaroni, A., & Lerman, S. (2002). Mathematics teachers' positions and practices in discourses of assessment. *British Journal of Sociology of Education* 23(3), 445-461.
- Nitko, A. J. (2004). *Educational assessments of students*. Englewood Cliffs, NJ: Prentice Hall.
- Pausigere, P., & Graven, M. (2013). Using Bernstein to analyse primary maths teachers' positions and identities in the context of national standardised assessment: The case of the ANAs. *Journal of Education*, 58, 1-22.
- Polesel, J., Dulfer, N., & Turnbull, M. (2012). *The experience of education: The impacts of high stakes testing on school students and their families (Literature review)*. Whitlam Institute, University of Western Sydney: Melbourne.
- Probyn, M. (2009). Smuggling the vernacular into the classroom: Conflicts and tensions in classroom codeswitching in township/ rural school in South Africa. *International Journal of Bilingualism*, 12(2), 123-136.
- Progress International Reading Literacy Study. (2006). South African Children's Reading Literacy Achievement, Centre for Evaluation and Assessment, University of Pretoria, Pretoria, Accessed from <https://web.up.ac.za/sitefiles/file/43/314/SA%20PIRLS%202006%20SUMMARY%20REPORT.pdf> on 16 July 2014.
- Taylor S, van der Berg S., & Burger, R. (2012) Low quality education as a poverty trap in South Africa, University of Stellenbosch, Institute for Social Development, Bellville Accessed from <http://policyresearch.limpopo.gov.za/bitstream/handle/123456789/795/Low%20quality%20Education%20as%20poverty%20Trap%20in%20South%20Africa.pdf?sequence=1> on 16 July 2014.
- Trends in the International Mathematics and Science Study (2011). TIMSS 2011 international results in mathematics. In V. S. Mullis, Michael, O. Martin, Plerre Foy, and Alka Arora. TIMSS & PIRLS, International Study Center, Lynch School of Education, Boston College.
- Fraenkel, J. R., & Wallen, N. E. (2009). *How to design and evaluate research in education*. (7<sup>th</sup> Ed.). Bottom: The McGraw-Hill Companies, Inc.