Educators' Implementation of Assessment in Outcomes-based Education

by

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Abstract
This study investigated educators' implementation of assessment in outcomes-based education. A quantitative research approach was used in a survey of a sample of 303 participants. To this end, the Assessment in OBE Scale (AOBES) was used for collecting data. The chi-square test was used to analyse data and to test the hypotheses of the study. The findings indicated that educators differed significantly in the extent to which they used the methods, tools, techniques, and forms (specific purposes) of assessment, as well as reporting tools. The findings also indicated that the qualification and teaching phase had a significant influence on the educators' usage of assessment tools. The findings further indicated that the teaching phase had a significant influence on the educators' usage of assessment techniques. Recommendations for improving the educators' usage of a variety of assessment strategies were made.

INTRODUCTION

In recent years, teacher education in South Africa has undergone fundamental changes. One of the major changes has been the introduction of assessment in outcomes-based education (OBE), which is a process of gathering valid and reliable information about the performance of the learner, on an ongoing basis, against clearly defined criteria, using a variety of assessment methods, tools and techniques, recording and reporting feedback to learners, other educators, parents and other stakeholders (Department of Education and Culture, 2001, p. 12).

Prior to democracy in 1994, a traditional form of assessment was used in South Africa (Archer, Rossouw, Lomofsky & Olivier, 2004). Such assessment was teacher-centred, test- and examination-driven, summative and norm-referenced (Archer et al., 2004; Jacobs, Gawe & Vakalisa, 2000; Le Grange & Reddy, 1998). The emphasis of the White Paper on Education and Training (Republic of South Africa, 1995) on the need for a shift from a traditional approach in education to that of OBE, and the introduction of OBE in 1997, marked a turning point in the South African education system. Assessment in OBE has, since then, become an integral part of teaching and learning, learner-centred, continuous, outcomes-based, both formative and summative, as well as criterion-referenced. Such assessment involves a variety of assessment strategies, in terms of which learners are assessed on their knowledge, skills, values and attitudes (Flanagan,
The literature on assessment in education reveals that assessment is in a state of transition globally and, while national contexts differ, pressure for change is being exerted by common forces (Wilmot, 2003, p. 313). One of such forces is the emphasis on constructivist learning theories, which view learning as an active and ongoing process of knowledge construction and meaning-making (Shepard, 2000, pp. 6-7), of which assessment is an integral part. The other force is the recognition of the potentially positive role of assessment in supporting learning, which has led to a myriad of new and varied 'authentic' tasks and assessment procedures to encourage 'deep' rather than 'thin' knowledge (Black, 1998, p. 45; Shepard, 2000, p. 11; Stobart & Gipps, 1997, p. 15).

In South Africa, one of the reasons for the change in assessment approach is that ideas and theories of assessment have changed a great deal in recent years. This change has partly come about as a result of the educators (teachers) trying to improve their use of assessment. Many educators changed as a result of them wanting a different approach to assessment from the traditional one. Another reason why assessment has changed in South Africa is because the goals of the education system have changed. South Africa is trying to achieve a more learner-centred and outcomes-based approach to education. This means that the purpose of school assessment has also had to change (Flanagan, 1998, pp. 75-76). A further reason is that, to be in equilibrium and competitive in the global marketplace while still maintaining its own unique character, South Africa had to consider what had been done internationally in the field of assessment (De Jager, 2002, p. 4).

Unfortunately, the concept of assessment in OBE is relatively new in South Africa, compared to that which is undertaken in other countries. Accordingly, few studies have been conducted on the topic. Studies on assessment in OBE have tended to focus on the adoption of an integrated and holistic approach to the assessment of competence in terms of the unit standard or qualification (De Jager, 2002); the inception of the OBE assessment policy in the Human and Social Sciences learning area (Wilmot, 2003); an assessment model in OBE and training for the Health Sciences and Technology (Nel, De Jager & Nel, 2005); the beliefs held, and the attitudes adopted, by student teachers regarding assessment (Vandeyar & Killen, 2006); and OBE as a non-reflection of learner performance (Singaram, 2009). Such studies have adopted a qualitative approach towards their investigations. In contrast, a quantitative approach was used in the present study.

**PROBLEM STATEMENT**

"Assessment of learning is an essential element of outcomes-based education. Without valid and reliable assessment procedures you will simply not know whether or not your learners have achieved the learning outcomes that were the focus of the programme, unit or lesson, and neither will the learners know whether they have learnt well" (Van der Horst & McDonald, 1997, p. 170). In OBE, educators are expected to use a variety of methods, tools and techniques to assess the learner's performance, and to record and report feedback to the learners and other stakeholders in the educational process.

The present study attempts to investigate the educators' implementation of assessment strategies in OBE within the South African context. More specifically, the study attempts to find answers to the following research questions:

- To what extent do educators use the methods, tools, techniques, and forms (specific purposes) of assessment, as well as the reporting tools?
- Do the educators' biographical variables (their gender; teaching experience; qualifications; and teaching phase) influence their usage of the assessment strategies?

**METHOD**

**Aims of study**

The present study aimed at achieving the following objectives:

- to ascertain the extent to which educators use the methods, tools, techniques, and forms (specific purposes) of assessment, as well as the reporting tools; and
- to determine whether the educators' biographical variables (their gender; teaching experience; qualifications; and teaching phase) influence their usage of the assessment strategies.

**Hypotheses**

The following theoretical hypotheses were formulated:

- Educators do not differ in the extent to which they use the methods, tools, techniques, and forms (specific purposes) of assessment, as well as the reporting tools.
- The educators' biographical variables (their gender; teaching experience; qualifications; and teaching phase) have no influence on their usage of the assessment strategies.

**Participants**

In order to ensure that the results of the current investigation were not biased, each of the four educational regions in the KwaZulu-Natal province at the time of investigation was sampled. The regions consisted of eThekwini; uKahlamba; uMgungundlovu; and Zululand. A list of schools in each region was obtained. Stratified random sampling was used to select an equal number of schools from each region. At the time of the investigation, there were 6 135 schools in KwaZulu-Natal, of which 1 477 were in eThekwini; 1180 in uKahlamba; 1511 in uMgungundlovu; and Zululand. A list of schools in each region was obtained. Stratified random sampling was used to select an equal number of schools from each region. At the time of the investigation, there were 6 135 schools in KwaZulu-Natal, of which 1 477 were in eThekwini; 1180 in uKahlamba; 1511 in uMgungundlovu; and Zululand. A list of schools in each region was obtained. Stratified random sampling was used to select an equal number of schools from each region. At the time of the investigation, there were 6 135 schools in KwaZulu-Natal, of which 1 477 were in eThekwini; 1180 in uKahlamba; 1511 in uMgungundlovu; and Zululand. Five schools from each region were selected, resulting in twenty schools being randomly selected, from which the sample of educators for this study was drawn.

**Table 1. Distribution of subjects according to biographical variables (n = 303).**
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Table 1 shows the distribution of participants, in accordance with their biographical variables, namely their gender; teaching experience; qualifications; and teaching phase. The sample included 303 educators. Of the 400 questionnaires that were distributed, 303 were returned, which means that a return rate of 76% was achieved.

Measures

A quantitative research approach was used to meet the aims of this study. The questionnaire was used as a research instrument for collecting data, with the research design therefore being that of a survey. The questionnaire was appropriate for eliciting and rating educators' responses, as well as for the quantitative analysis of data. The first section (Section A) of the questionnaire consisted of educators' biographical information (their gender; teaching experience; qualifications; and teaching phase), with the second section (Section B) consisting of the Assessment in OBE Scale (AOBES).

AOBES

Informed by having read literature on the methods, tools, techniques, and forms (specific purposes) of assessment, as well as that on reporting tools (Department of Education, 2001), the researcher developed the four-point Assessment in OBE Scale (AOBES). Respondents were asked to indicate how often they used each of the items listed. The item statements covered six items, forming part of each of the following assessment strategies: assessment methods; assessment tools; assessment techniques; forms (specific purposes) of assessment; and reporting tools. The ratings consisted of: always (3); regularly (2); seldom (1); and never (0). The internal-consistency reliability for the whole scale in this study, measured by Cronbach's alpha, was 0.80. An instrument with a coefficient alpha measure or a reliability estimate of 0.70 is regarded as being internally consistent and satisfactory (Muijs, 2004; Nunnally & Bernstein, 1994).

Each subscale (methods, tools, techniques, and forms (specific purposes) of assessment, as well as reporting tools) consists of 6 items. Therefore, the lowest possible score on each scale is 0 (6 x 0) and the highest possible score is 18 (6 x 3). The continuum of 0 to 18 was arbitrarily divided into three categories, namely: 0 to 6, indicating low usage level (LUL); 7 to 12, indicating moderate usage level (MUL); and 13 to 18, showing high usage level (HUL). The respondent's summated score on each subscale was accordingly classified into one of the three categories. The procedure yielded data to fulfil the first aim. The data obtained by means of this procedure were used together with the educators' biographical data to achieve the second aim of the present study.

Procedures

The questionnaires, with a covering letter explaining the nature and purpose of the investigation, were personally delivered to the participating schools, and were collected after they had been completed.

In order to achieve the aims of the current study, various statistical procedures were followed. The chi-square one-sample test (Behr, 1983) was used to ascertain the extent to which educators use the methods, tools, techniques, and forms (specific purposes) of assessment, as well as reporting tools. The chi-square test of independence (Harris, 1995) was used to determine whether the educators' biographical variables (their gender; teaching experience; qualifications; and teaching phase) have any influence on their usage of these assessment strategies. The chi-square test is appropriate for categorical data (Babbie & Mouton, 2001; Behr, 1983; Bless & Kathuria, 1993; Borg & Gall, 1983; Goddard & Melville, 2001; Harris, 1995; Orlich, 1978).

RESULTS

The results obtained for the first aim are presented in tables 2 to 6.

Table 2. Group and assessment methods usage levels.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Levels</th>
<th>Frequencies</th>
</tr>
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<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>93</td>
<td>210</td>
</tr>
<tr>
<td>Teaching experience</td>
<td>0-4</td>
<td>5-9</td>
</tr>
<tr>
<td>in years</td>
<td>52</td>
<td>104</td>
</tr>
<tr>
<td>Qualification</td>
<td>Degree</td>
<td>Degree</td>
</tr>
<tr>
<td></td>
<td>with</td>
<td>without</td>
</tr>
<tr>
<td></td>
<td>teacher's</td>
<td>teacher's</td>
</tr>
<tr>
<td></td>
<td>certificate</td>
<td>certificate</td>
</tr>
<tr>
<td></td>
<td>115</td>
<td>31</td>
</tr>
<tr>
<td>Teaching Phase</td>
<td>Foundation</td>
<td>Intermediat</td>
</tr>
<tr>
<td></td>
<td>51</td>
<td>58</td>
</tr>
</tbody>
</table>

FET = Further Education Training.

In order to achieve the aims of the current study, various statistical procedures were followed. The chi-square one-sample test (Behr, 1983) was used to ascertain the extent to which educators use the methods, tools, techniques, and forms (specific purposes) of assessment, as well as reporting tools. The chi-square test of independence (Harris, 1995) was used to determine whether the educators' biographical variables (their gender; teaching experience; qualifications; and teaching phase) have any influence on their usage of these assessment strategies. The chi-square test is appropriate for categorical data (Babbie & Mouton, 2001; Behr, 1983; Bless & Kathuria, 1993; Borg & Gall, 1983; Goddard & Melville, 2001; Harris, 1995; Orlich, 1978).

RESULTS

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three groups was not due to chance factors, but is considered to be statistically significant.

Table 3. Group and assessment tools usage levels.

<table>
<thead>
<tr>
<th></th>
<th>LUL (0-6)</th>
<th>MUL (7-12)</th>
<th>HUL (13-18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequencies</td>
<td>19</td>
<td>179</td>
<td>105</td>
</tr>
<tr>
<td>$\chi^2$=126.970</td>
<td>df = 2</td>
<td></td>
<td>p &lt; 0.05</td>
</tr>
</tbody>
</table>

Application of the chi-square test ($\chi^2 = 126.970; \text{df} = 2; p < 0.05$) revealed that a significant difference was found among the LUL, MUL and HUL groups of assessment tools (Table 3). Such a finding indicates that the educators differed in the extent to which they used the assessment tools. The three groups of assessment tools usage levels were found to differ among themselves. Put differently, the existence of the three groups was not due to chance factors, but is considered to be statistically significant.

Table 4. Group and assessment techniques usage levels.

<table>
<thead>
<tr>
<th></th>
<th>LUL (0-6)</th>
<th>MUL (7-12)</th>
<th>HUL (13-18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequencies</td>
<td>41</td>
<td>190</td>
<td>72</td>
</tr>
<tr>
<td>$\chi^2=122.396$</td>
<td>df = 2</td>
<td></td>
<td>p &lt; 0.05</td>
</tr>
</tbody>
</table>

Application of the chi-square test ($\chi^2 = 122.396; \text{df} = 2; p < 0.05$) indicated that a significant difference was found among the LUL, MUL and HUL groups of assessment techniques (Table 4). Such a finding shows that the educators differed in the extent to which they used the assessment techniques. The three groups of assessment techniques usage levels were found to differ among themselves. Put differently, the existence of the three groups was not due to chance factors, but is considered to be statistically significant.

Table 5. Group and forms of assessment usage levels.

<table>
<thead>
<tr>
<th></th>
<th>LUL (0-6)</th>
<th>MUL (7-12)</th>
<th>HUL (13-18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequencies</td>
<td>20</td>
<td>152</td>
<td>131</td>
</tr>
<tr>
<td>$\chi^2=99.624$</td>
<td>df = 2</td>
<td></td>
<td>p &lt; 0.05</td>
</tr>
</tbody>
</table>

Application of the chi-square test ($\chi^2 = 99.624; \text{df} = 2; p < 0.05$) revealed that a significant difference was found among the LUL, MUL and HUL groups of forms (specific purposes) of assessment (Table 5). Such a finding indicates that the educators differed in the extent to which they used the assessment techniques. The three groups of forms of assessment usage levels were found to differ among themselves. Put differently, the existence of the three groups was not due to chance factors, but is considered to be statistically significant.

Table 6. Group and reporting tools usage levels.

<table>
<thead>
<tr>
<th></th>
<th>LUL (0-6)</th>
<th>MUL (7-12)</th>
<th>HUL (13-18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequencies</td>
<td>186</td>
<td>105</td>
<td>12</td>
</tr>
<tr>
<td>$\chi^2=105.119$</td>
<td>df = 2</td>
<td></td>
<td>p &lt; 0.05</td>
</tr>
</tbody>
</table>

Application of the chi-square test ($\chi^2 = 105.119; \text{df} = 2; p < 0.05$) indicated that a significant difference was found among the LUL, MUL and HUL groups of reporting tools (Table 6). Such a finding shows that the educators differed in the extent to which they used the reporting tools. The three groups of reporting tools usage levels were found to differ among themselves. Put differently, the existence of the three groups was not due to chance factors, but is considered to be statistically significant.

The results obtained for the second aim, with their significant differences, are presented in tables 7 to 9.

Table 7. Qualification and assessment tools usage levels.

<table>
<thead>
<tr>
<th>Qualification</th>
<th>LUL (0-6)</th>
<th>MUL (7-12)</th>
<th>HUL (13-18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matric certificate</td>
<td>2</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>Teacher's diploma/certificate</td>
<td>6</td>
<td>81</td>
<td>45</td>
</tr>
<tr>
<td>Degree without teacher's diploma/certificate</td>
<td>3</td>
<td>22</td>
<td>6</td>
</tr>
<tr>
<td>Degree without teacher's diploma/certificate</td>
<td>8</td>
<td>57</td>
<td>50</td>
</tr>
</tbody>
</table>

Application of the chi-square test ($\chi^2 =12.437; \text{df} = 6; p < 0.05$) revealed that a significant difference was found, with regard to the reported usage levels of assessment tools, among those with a matric certificate; those with a teaching diploma/certificate; those with a degree only; and those with a degree with a teacher's diploma/certificate (Table 7). Such a finding shows that the possession of a certain type of qualification influenced the relevant educators' usage of assessment tools. The differences, in terms of the qualifications of the educators concerned, as they were found to pertain to the three assessment tools usage levels were, therefore, not due to chance factors.
The findings also revealed that the educators differed in the extent to which they used the assessment tools. A relatively high percentage (59.1%) of educators reported a moderate level of use of the assessment tools, compared with those who reported LUL (6.2%), and those who reported HUL (23.8%) (Table 4). Such a finding indicates that most of the educators did not use a variety of the assessment tools sufficiently well. The reason for such a finding may be that they did not know how to use such tools. The educators were found always to use the class list as a tool for recording the learners' work; regularly to use observation sheets, assessment grids, rubrics and portfolios; and seldom to use journals and profiles.

The findings further revealed that the educators differed in the extent to which they used the assessment techniques. A high percentage (62.7%) of educators reported a moderate level of use of assessment techniques, compared to those who reported LUL (13.5%) and those who reported HUL (23.8%) (Table 5). Such a finding shows that most educators did not adequately use a variety of the assessment techniques. The reason for such inadequate use may be that they used only those techniques with which they were familiar. The research data shows that, on average, educators were found always to use tests; regularly to use assignments, practical demonstrations, projects and presentations; and seldom to use debates.

The findings showed that the educators differed in the extent to which they used forms (specific purposes) of assessment. A relatively high percentage (50.2%) of educators reported a moderate level of use of forms (specific purposes) of assessment, compared with those who reported LUL (6.6%) and those who reported HUL (43.2%) (Table 5). Such a finding indicates that most educators did not sufficiently use a variety of forms (specific purposes) of assessment. The reason may be that they were not conversant with their use. On average, the educators were found always to use summative assessment; regularly to use criterion-referenced, baseline, diagnostic and formative assessment; and seldom to use norm-referenced assessment.

The findings further showed that the educators differed in the extent to which they used the reporting tools. A high percentage (61.4%) of educators reported LUL of reporting tools, compared with those who reported MUL (34.6%) and those who reported HUL (4.0%) (Table 6). The reason for the existence of such a state of affairs may be that most educators are not used to making use of a variety of reporting tools. On average, the educators were found always to use report cards; seldom to use parent-educator conferences and the writing of letters; and never to use phone calls, school newsletters and parents' nights.

On the whole, the foregoing findings support the previous research evidence that shows that traditional assessment strategies still dominate, because the educators have a relatively limited understanding both of the new theories of assessment and of the tools terms of OBE assessment. The reason for such inadequate use may be that they were not exposed to such methods. On closer scrutiny of the research data, on average, the educators were found always to use an educator assessment method; regularly to use group assessment and self-assessment methods; seldom to use peer assessment method; and never to use parent assessment and external assessors.

Table 8. Teaching phase and assessment tools usage levels.

<table>
<thead>
<tr>
<th>Teaching Phase</th>
<th>LUL (0-6)</th>
<th>MUL (7-12)</th>
<th>HUL (13-18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation</td>
<td>3</td>
<td>37</td>
<td>11</td>
</tr>
<tr>
<td>Intermediate</td>
<td>0</td>
<td>37</td>
<td>21</td>
</tr>
<tr>
<td>Senior/FET</td>
<td>16</td>
<td>105</td>
<td>73</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 10.505 \quad df = 4 \quad p < 0.05 \]

Application of the chi-square test \(\chi^2 = 10.505; \quad df = 4; \quad p < 0.05\) revealed that a significant difference was found, with regard to the reported usage levels of assessment tools, among those teaching Foundation Phase; those teaching the Intermediate Phase; and those teaching the Senior/Further Education Training (FET) Phase (Table 8). Such a finding indicates that the particular teaching phase affected the educators' usage of assessment tools. The teaching phase differences pertaining to the three assessment tools usage levels were, therefore, not due to chance factors.

Table 9. Teaching phase and assessment techniques usage levels.

<table>
<thead>
<tr>
<th>Teaching phase</th>
<th>LUL (0-6)</th>
<th>MUL (7-12)</th>
<th>HUL (13-18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation</td>
<td>24</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>Intermediate</td>
<td>4</td>
<td>34</td>
<td>20</td>
</tr>
<tr>
<td>Senior/FET</td>
<td>13</td>
<td>134</td>
<td>47</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 62.470 \quad df = 4 \quad p < 0.05 \]

Application of the chi-square test \(\chi^2 = 62.470; \quad df = 4; \quad p < 0.05\) indicated that a significant difference was found, with regard to the reported usage levels of the assessment techniques among those teaching Foundation Phase; those teaching Intermediate Phase; and those teaching the Senior/FET Phase (Table 9). Such a finding shows that the particular teaching phase influenced the educators' usage of assessment techniques. The teaching phase differences pertaining to the three assessment techniques usage levels were, therefore, not due to chance factors.

**DISCUSSION**

The findings revealed that the educators differed in the extent to which they used the assessment methods. A high percentage (66.3%) of educators reported MUL of assessment methods, compared to those who reported LUL (29.7%) and those who reported HUL (4%) (Table 2). The implication of such a high percentage of educators reporting an average level of use of assessment methods was that most educators were found not to be adequately using the variety of assessment methods, as required in
The findings of the current study indicated that educators differed in the extent to which they used the methods, tools, techniques, and forms (specific purposes) of assessment, as well as the extent to which they used the reporting tools. Given that most educators reported MUL of the methods, tools, techniques and forms of assessment, as well as LUL of reporting tools, the Department of Education should intervene in the education process. The Department should provide more training for educators in how to use a variety of the assessment strategies in their implementation of assessment in OBE. Such training should be provided in the form of intensive workshops, followed by monitoring and support of implementation in the classroom. The services of other stakeholders, such as subject advisors, could also be used in this regard. The effective training of educators on how to implement assessment in OBE could play a major role in boosting their confidence in the classroom, as their failure to use a variety of assessment strategies undermines the aims of assessment in OBE.

REFERENCES
Professional Development of School Principals in South Africa: Their Needs and Aspirations

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Abstract
The aim of this article is to ascertain how principals view their roles and responsibilities at schools, and to identify their professional development needs in terms of leading and managing effective schools. Further, this article seeks to establish whether the identified needs, and perceived roles and responsibilities of principals are congruent with what the Advanced Certificate in Education: School Leadership (ACE: SL) has set out to achieve. The researchers, in generating the data for this study, chose to locate it within both the qualitative and quantitative paradigms. Data were generated using self-administered questionnaires and semi-structured interviews. The respondents were located in three provinces in South Africa namely Western Cape, Northern Cape and KwaZulu-Natal. The findings indicate that the principals were cognisant of their school leadership and management responsibilities. Managing learning and teaching was identified as their chief professional development need, which was followed by other such needs. Against this backdrop, the ACE: SL holds much promise in capacitating principals, because it is designed to professionally develop them, in terms of their statutory roles and responsibilities. This article therefore recommends that the ACE: SL be rolled out to a larger cohort of principals.

Key words: professional development; school principals; South Africa

INTRODUCTION

Long before the restructuring of educational governance internationally, the principal's role was regarded as a complex one (Johnson, 1994). A significant body of literature exists on the continuous challenges faced by school principals (Kmetz & Willower, 1982; Martin & Willower, 1981; Phillips, 1990). In South Africa, Kruger (2003) observes that