Issues related to adapting assessment practices

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The purpose in this study was to investigate assessment issues in an outcomes-based approach. A number of issues such as various claims, inferences and degrees of adequacy were investigated in a South African context. The results of this theoretical investigation are presented in the form of frameworks for the implementation of an array of assessment practices.

Introduction

The emphasis in a contemporary outcomes-based approach in education is mainly on skills. Outcomes-based education is an attempt to reform certain education practices in order to prepare learners better in schools to cope with the demands of life. Learners must not only acquire knowledge but also demonstrate skills and develop values. Schools must provide the basis for learners to become informed, independent, skilled and responsible people with ingrained values, who are able to make a positive contribution to society.

If learners are taught facts but do not have coping skills when they leave school, then teaching and specifically assessment have failed. Gruender (1996:27) argued that when learners finish school, the behaviour they have learned to 'emit' in that setting may no longer seem appropriate to them in a real world setting. If this is true, then the aims of education have not been achieved. The aims of education may undergo shifts in emphasis but the basis remains the same. Wilson, Teslow and Taylor (1993:82) state that an appropriate goal in education would be self-confident, adaptive, conscientious learners with the ability to apply knowledge in a variety of situations. Emphasis is shifted towards application, activity and development in the outcomes of contemporary education in South Africa (NDE,1997a). Developing constructs, which Cangelosi (1990:7) identifies as the way learners are expected to deal with or behave towards the content of the objective or target, is emphasised increasingly in contemporary assessment. Outcomes, aims, learning targets or constructs have the same basis (NDE,1997a:10, McMillan,1997:37): They all reflect what is most important in education. Before you can develop any assessment practice, you need to describe the range of learning to be assessed. When planning assessments, the following ways of expressing learning may be useful (Freeman & Lewis, 1998:63; Stiggins, 2001:77; Gruender, 1996:22):

- **Knowledge** emphasises the need to learn how to make a portion of the knowledge of humankind one's own.
- **Reasoning** pertains to the need to understand the importance of knowledge in human life.
- **Skills** point to the need to dig such knowledge out as it may be needed.
- **Products** demonstrate the need to think critically about what has been previously accepted as knowledge to see whether or how well it tests out in today's circumstances.
- **Affect** suggests the need for values and to learn how to be creative in the acquisition of new knowledge.

How can these aims or outcomes be achieved?

Purpose of the study

We can achieve this by the way in which we assess learners. In the process of educational reform in South Africa, we often address symptoms (or issues) while ignoring the causes (or realities). In this article a number of assessment problems are investigated and possible ways to address them are identified.

Assessment must be both an instrument and an agent for reform: assessment as agent for reform is influenced by the particular pressures and demands of real life, and by the contemporary volatile South African context. Assessment as instrument for reform is influenced by the way in which we assess, by inferences from role players and by degrees of adequacy which determine standards.

Certain underlying factors influencing assessment are explored. Assessment practices that may address learners' abilities through emphasis on thinking and learning as opposed to mere assimilation of content are investigated. Against this background the author suggests ways to address these issues through the implementation of alternative assessment procedures that can possibly develop abilities in order to achieve outcomes.

Statement of the problem

Stakeholders in contemporary education realise that assessment poses greater mental demands on learners as learners are required not only to have knowledge of certain fields of content, but also to be able to understand, apply and demonstrate skills in these fields. Learners' thought processes are challenged to a much greater extent than in the past. This impacts directly on assessment. Clarke (1996:328; 343) argues that the success of any system of assessment can be judged by the modeling and monitoring of critical abilities through valued performance in real life. Chisholm (1999:250) concurs that matric results are treated as a statement about how well or badly we are doing as a society. As a result of the sophistication of performance required of learners today, a corresponding increase in critical abilities, and with it a sophistication of assessment criteria, is inevitable. Traditionally, elementary skills were developed through what often was experienced as authoritative demonstration. This was followed by practice and repetition. Demonstration of skills today, however, has become more complicated (NDE,1998). As performances can no longer be categorised sufficiently as right or wrong the following problems are stated:

- How does one test learner knowledge against the particular demands of real-life settings?
- How may learners be assessed authentically to establish what they are required to know in order to perform a task of learning successfully?

Research methodology

Recent developments are investigated by means of literature, newspapers, articles, documents, media debates, projects and assessment workshops. Several assessment practices attempting to address the afore-mentioned issues, as well as problems are reviewed. Possible directions for assessment locally are identified in conclusion.

Background

The original objectives specified in the curricula are being reconstructed in the form of learning outcomes related to specific performances in various learning areas (NDE,1997a). The current interest in the specification and use of outcomes has increased with the setting

of national standards. Almost every area in education and training are rephrased in terms of 'competences' and 'outcomes'. These outcomes are divided into critical and specific outcomes which in turn are related to learning areas. Critical outcomes contribute to overall broad and long-term values, while specific outcomes focus on what learners will be able to do at specific levels (NDE,1997a).

The National Qualifications Framework (NQF) advocates a new approach to the organisation of education and training in South Africa providing opportunities to learn regardless of age, circumstances and the level of education and training a learner may have (NDE,1997b). Curricula representing programmes and learning opportunities are introduced to provide for the education needs of several target groups (NDE,1997a:15). Curriculum 2005 differs drastically from previous education policies. Traditionally products were emphasised which were assessed formally and finally without much attention to the process. The notion of filling empty vessels with knowledge or the transmission of knowledge was often preferred to the construction of knowledge, thus focusing on teacher-centredness instead of learner-centredness. Recently responsibility has been devolved to learners to develop and progress (NDE,1998). The process now receives more attention and assessment has become more developmental than judgmental. Outcomes and results are assessed against standards and clearly defined criteria (Killen,2000). This was followed by a revised curriculum (C2005,2000:4) in which four key design features are proposed to replace the previous eight design features of Curriculum 2005. These four design features replace the sixty-six specific outcomes, assessment criteria, phase and programme organisers, range statements, performance indicators and expected levels of performance. The assessment standards describe the level of knowledge and skills expected and the range for each of the learning outcomes for each grade level. These changes in terminology and simplification of concepts have developed into a controversial issue as a result of uncertainties and unclear guidelines. Potenza (2000:1), in analysing the streamlining of outcomes-based education as current theory of education, emphasises that the principles of outcomes-based education will remain (the child remains the most important consideration and learning happens through activities). She also states that the principles of traditional education in South Africa and of fundamental pedagogics are rejected (contradictory as it may sound). Principles such as teacher-centred education, content-bound approaches and single attribute assessment are replaced by integrated multi-dimensional assessments and authentic contexts. It should, however, be noted that outcomes-based education is not a totally new approach to teaching; it is the systematic application of a number of educational ideas that have been integrated in good educational practice in the past.

Recently the Draft Revised National Curriculum Statement (2001) reduced the concepts that organise the curriculum. Only two concepts, namely learning outcomes and assessment standards are used. Learning outcomes express the broad expectations of what is to be achieved by learners in the General Education and Training band. The assessment standards are more specific and indicate how outcomes are to be achieved in each grade.

Innovations and unaccustomed educational practices may lead to controversies and pressure. Growing problems are experienced by teachers and students alike. From these changes various consequences emerged which may clearly be observed in educational assessment. A number of issues resulting from recent developments in education and political structures in South Africa will be addressed next.

Issues influencing assessment

Pressures such as demands for social reform, the provision of resources, differing approaches of role-players to educational reform, the establishment of a culture of teaching and learning and controversies around the meaning, management and measurement of classroom assessment resulted in the need for reform in education. New curricula are often intended to alleviate pressing social problems pertaining to issues such as equity, access, redress and accountability. Providing resources for education in South Africa is only part of the solution. Naudé (2000:10) argues that problems leading to pressures in the South African education system are certain historical disadvantages, the application of a politically oriented education policy, the rejection of education by certain learners as part of political resistance, a lack of discipline and a lack of a culture of teaching and learning, as well as idealistic but unrealistic attempts by the government after 1994 to address and solve problems which cannot be solved hastily and superficially. Education departments are concerned about the success rate of matriculation candidates and about methods and techniques to perfect various aspects of common examinations as well as the conditions under which learners must be allowed to write examinations (Tladi, 2000:1). The setting of papers, content, marking and implementation are mentioned. Rakometsi (2000:1) regards assessment as the area which is giving schools and teachers the most problems. The assessment issue is further complicated by the arguments for or against two possibilities for assessment of school leaving exams: an input-based, summative form of assessment or an outcomes-based assessment of formative and continuous assessment (Chisholm, 1999:253).

These problems emphasise the significance of assessment and the implications for sound formulation of assessment policy. It is obvious that a good practically manageable system of education is necessary to address the problems and meet the needs of the intended audience as diversified at present in South Africa. The political significance in education is obvious as well as the direct implications for assessment policy. A burning issue concerning assessment practices of this novel approach is the role that politics play in the transformation of education in general and assessment in particular. As a result stakeholders are concerned about assessment criteria and answers are urgently sought to the problem of determining criteria that should be employed in assessment to meet our particular needs in education today. Chisholm (1999:250; 253) argues that South Africa needs to have a public debate on this issue. She, however, believes that there is a need for reliable national examinations as well as a need for diversified qualifications and assessment procedures.

Another issue is the way in which stakeholders experience assessment. The responses of learners concerning classroom assessment practices often reveal more than what is written in assessment theory. The beliefs of learners and teachers concerning assessment are indications that assessment has often become an end in itself without any link to particular needs in education. The community and institutions of learning may have other demands. Traditionally assessment has been an unpleasant burden resented by learners while interrupting the main activity of teachers, that is, teaching or learning mediation or facilitation. Learners often see assessment as an instrument for identifying failure rather than for documenting development and success. To them, the scope of learning successfully is primarily seated in identifying and reproducing a correct answer to a well-defined problem that has an exact and predetermined solution. Learners often see assessment as a neutral isolated element in teaching. Knowledge is experienced as rigid and inflexible with the emphasis on facts, fixed procedures and finished products: learned procedures must be recalled and applied to solve problems, and the task of the learner is to discover such knowledge (Workshop A, Project 5, 1999; Workshop B, Project 6, 2000; Workshop C, Project 6, 2000).

These beliefs are directly in opposition to current learning theories such as radical and social constructivsm. Von Glasersfeld (1995: 382) believes that conceptual development is the key to learning that is worthwhile. He argues that reflection is an essential activity prior to understanding and that concept development is a process of fostering further reflective abstraction. The development of Curriculum 2005 (NDE,1997a) rests heavily on beliefs about cognition as outlined by a constructivist framework. Merril (in Wilson *et al.*,1993:66) summarises the essential arguments of constructivism as follows:
- Knowledge is constructed from experience.
- Learning is a result of a personal interpretation of knowledge.
- Learning is an active process where meaning is developed

through experience.
• Learning is collaborative with meaning negotiated from multiple perspectives.
• Learning occurs in realistic settings.
• Testing is integrated into the task, not a separate activity.

This epistemology offers many possibilities for teachers to assist learners in developing and for growth to take place through the interactive processes between persons in varying contexts. However, Norris (in Fraser, 1999:17) indicates the complicated mismatch between the theoretical precision of performance-based programmes and the imprecise and arbitrary issue of testing when applied to human capabilities. Consequently value judgements or criteria for interpreting performances may further complicate this issue.

It follows that if learners experience assessment as fixed predetermined procedures of recollection and reproduction, then the aim of education is defeated. Little, if any development, is possible in such an approach to assessment. Development itself is the aim of education. Its importance has already been indicated in the orientation. Taylor and Marienau (1997:234) define development in this context as a definite movement from simple to more complex cognitions, with each stage, level or position becoming more elastic but moving towards greater cognitive complexity. Higher order outcomes cannot be achieved if assessment does not allow for learners' capacity to develop and grow. If such outcomes are to be achieved varying degrees of adequacy should be demonstrated therefore assessment instruments must reflect the attainment of quality standards (Workshop A, Project 6, 2000).

In order to achieve certain standards, an analysis of criteria and assessment practices is necessary. The demands of society and the vision inherent in the curriculum reflect the goals of education, which, in turn, are reflected in the performances that are valued. In other words, the identification of valued performances determines the curriculum and prescribes the criteria and means by which success will be judged. This aspect of valued performances inevitably leads to the question of the benchmarking of criteria. This may be possible in assessing knowledge and skills but how can standards be determined in the context of values, attitudes and behaviour? What standards should be identified for the assessment of values and who should identify them? Although Stiggins (2001:364) cautions against 'misusing' the assessment of affect, he only addresses this issue superficially by advising that only 'school-related dispositions should be assessed and that assistance should be sought when needed. Assessing affect remains a grey area: there are no criteria and no interpretation of standards because both educator and learner function from a most individual paradigm. Guidelines or prescriptions on assessing affect may develop into issues concerning ethics and human rights.

Assessment identifies and emphasises the learning outcomes valued by the school system. The critical key outcomes (NDE, 1997a) designed by the South African Qualifications Framework (SAQF) often focus on higher order processes such as critical thinking hinting at ideals such as a shaping of the heart and mind and at transforming experience while the question should be asked whether higher order outcomes can be achieved if the capacity to develop and grow conceptually cannot be determined. Taylor and Marienau (1997:239) question outcomes formulated in high-minded rhetorical phrases and argue that if such overarching goals are not embodied in the curriculum, and hence in assessment, without a methodology for assessing the accomplishments of such statements, then they cannot be truly considered goals. Taylor and Marienau (1997:239) advocate the concept constructive developmental assessment or the encouragement of self-reflection and perceptual shifts in higher orders of consciousness. In assessment a burning issue is whether we are assessing more knowledge or whether we are assessing greater understanding. Complex thinking processes are reflected in higher order outcomes, which may include, inter alia: synthesising, analysing, discovering, intuiting, visualising, checking, defining, proving, conjecturing, abstracting, modeling, generalising, comparing, classifying, induction, deduction, extending,

problem solving and inventing. Alverno (in Taylor and Marienau, 1997:235) refers to an integrating developmental experience, or, in other words, creating a dynamic, coherent system for using developmental constructs to assess and improve learning and individual learner development. What is important is not how much knowledge a learner has but what a learner does with that knowledge. This places a heavy responsibility on how we assess and how we address standards and quality in assessment.

Standards are necessary to give credibility to a new system of education. Makgoba (1998:54) defines standards as a benchmark against which something is assessed. As such, a standard is a dynamic entity because notions of quality performance change over time. The developing needs of various stakeholders lead to changes in assessment practices. It is obvious that as performances required in everyday life require greater sophistication assessment criteria must reflect greater depth and breadth, as well as the components of precision, quantification and compatibility (Le Roux, 2000:249). I believe that the implementation of suitable assessment practices can further learners' understanding as well as assist them in realising the vision set forth in the ideals and outcomes of the new curriculum. The implementation of a viable assessment system may relieve prevailing pressures in education. It may also address shortcomings demonstrated by the inferences from stakeholders in education and identify criteria for the assessment of the achievement of higher order outcomes through complex thinking processes. In other words, the capacity to develop and grow through interactive processes between persons and varying contexts must be explored through the implementation of a practical framework in which these issues are addressed.

Applications and recommendations

I have indicated that the above issues in assessment have a direct influence on assessment. Pressures. inferences from role players and attaining of higher order outcomes may act as possible agents and instruments of assessment reform. Assessment practices can be instrumental to enhance creative discovery and critical abilities. Assessment must go beyond memorisation, conditioning and repetition. Fraser (1999:117) argues that assessment should generate evidence and judge a learner's competence against specified descriptions of acceptable evidence or criteria. The assessor indicates certain criteria and through specific instruments gathers evidence of the degree of attainment of the criteria. Assessment is therefore neither neutral nor an end in itself but functions as a tool for learning and a powerful agent or mechanism in the construction of competence. However, in the case of values and attitudes the educator is expected to remain neutral as indicated before. The issue of assessing affect remains debatable: I believe that educators may merely attempt to make learners aware of their reactions towards certain demonstrations of behaviour and through the acquisition of knowledge and development of certain skills learners may develop an awareness of a spectrum of values, ranging from 'good' to 'bad' and as a result learn to make responsible choices.

The need for expanding assessment practices is obvious. An essential factor of the assessment activity is the idea of development or, in Davydov's (1995:18) words, the need for teaching to guide development forward. He argues that one of the basic propositions of reform is development. He uses the term authentic assessment. Taylor and Marienau (1997:239) argue that such assessments appear to be developmental because they encourage the kind of self-reflection and perceptual shift that define higher orders of consciousness. Hager and Butler (1996:375) advocate authentic assessment under the label of a judgmental form of assessment. Authentic assessment creates a dynamic, coherent system for using developmental experience. Authentic assessment in simple terms focuses on content and skills that are useful in real life (Boschee & Baron, 1993:96). The outcomes that learners must demonstrate are articulated at the outset and focus on what is important, what is of value and what learners will need to succeed in the future. The curriculum, learning facilitation and the assessment process are integrated and designed to assist learners in developing

these abilities by giving them useful information that will make a meaningful difference to them. The assessment process incorporates multiple strategies or methods that encourage learners to demonstrate abilities through a variety of acceptable means or instruments. To achieve these goals assessment must be mostly performance-based and contextual with emphasis on ongoing self-assessment practices.

Two underlying factors run through the arguments above, i.e. the idea that assessment practices should be developmental, dynamic and ongoing, and the second that assessment should be authentic and diverse, implementing a variety of strategies and instruments. (In order to minimise confusion I use two umbrella terms assessment strategies and assessment instruments in the context of this article: assessment strategies are used for approaches towards assessment, including classifications, forms and agents such as norm- and criterion-referenced assessment, formative, summative and diagnostic assessment, and peer, self and inclusive assessment, among others. Assessment instruments are used in this context for different methods, types or tools, including, *inter alia*, well-known traditional instruments such as objective tests and essays, as well as more contemporary alternative instruments such as portfolios, journals and activity checklists).

What strategies and instruments for assessing outcomes in a contemporary educational context are required? Assessment elements should comprise a sound content base through which knowledge, skills and values can be developed. Outcomes are dualistic in nature as they simultaneously address envisaged learning targets as well as achieved learning targets, including both process and product. Killen (2000:3) argues that this link between intentions and results provides the basis for planning and facilitation in the OBE system. This includes assessment. Abilities, expectations, activities and criteria should be clearly identified, which, in turn, will determine the quality of performance and standards. From these constructs (outlined in the orientation) achieved outcomes may be determined. This is illustrated in Figure 1.
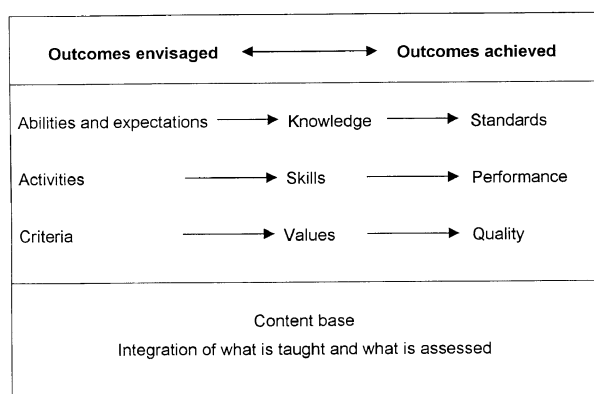

Figure 1 Elements for implementing assessment

After identifying the essential elements for implementing assessment, the next stage is to implement these components in assessment practices through the following processes:
- Determine abilities through assessment that is developmental, dynamic and ongoing.
- Communicate expectations
- State what you want from learners so that assessment procedures exhibit learner behaviour and cognitive processes.
- Provide examples and models of expected performances.
- Engage learners in their activities in order to assess authentically.
- Integrate assessment and instruction so that assessment procedures support instructional activities.
- Create meaningful assessment criteria that reflect quality performance and standards.
- Consider how learner work was accomplished and how well it was done.

	Processes	Assessment
1.	Determine ABILITIES	Developmental, dynamic, ongoing assessment – Prior assessment – Continuous assessment – Post assessment
2.	Communicate EXPECTATIONS	Assessment requirements – Models – Examples – Simulations – Feedback after assessment
3.	Engage in ACTIVITIES	Authentic assessment – Real life context – Usefulness – Integration of instruction and assessment
4.	Create CRITERIA	Quality assessment – Graded scales – Rubrics – Coding information – Communication

Figure 2 Processes for implementing assessment

- Implement transparent rubrics to gauge learners' performance. These processes are set out in Figure 2.

Through these processes a wide range of learning outcomes can be assessed. Time-restricted written tests and examinations alone do not suffice any more, although there will always be a need and place for covering certain basic knowledge and skills in a more traditional way. The development of tasks which can be administered in exam situations, but which allow for performances evaluating higher order skills is necessary. Assessment methods and instruments should reflect diverse forms of activities which focus on authentic assessment. Possible assessment strategies that can be implemented apart from more traditional strategies are performance-based assessment, self-assessment, peer assessment, interpretive exercises, and observation. Assessment instruments for such strategies are portfolios, presentations, research projects, journals, questionnaires, discussions, role play, and interviews. The following figure indicates the integration of different strategies and instruments for implementing assessment.
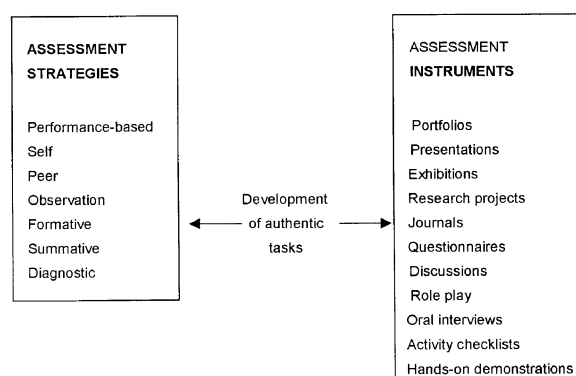

Figure 3 Assessment strategies and instruments

Authentic tasks can serve simultaneously as both instructional and as assessment medium by implementing specific instruments and strategies (see Figure 3). In order to assess authentically, the following guidelines may be helpful and should be available to learners before assessment is performed:
- Determine **learning outcomes** or the knowledge, skills and values to be demonstrated in completing the task. Determine critical outcomes, or outcomes that appear relevant to the learning outcomes. Select one or more outcomes that appear relevant to

the topic learners are studying, for example, civic responsibility or respect for the environment.

- Select one or two different **higher order thinking processes** into the task, for example, problem-solving or experimental inquiry.
- Identify **criteria** (compare Figure 2) to be used in assessment, which are consistent with the indicated outcomes. Clear guidance must be given with regard to:
    – Content, concepts and range of subject matter.
    – Demonstration of skills and values related to the topic.
    – Thinking processes related to the specific knowledge and skills pertaining to the topic.
- Provide a **rating scale** varying in degrees of proficiency to distinguish among performances. Provide a rubric to include assessment requirements in terms of levels and transparent criteria. Assign weights to selected criteria to reflect what should be emphasised by learners in a task (compare Figure 2).
- Provide a **sample assessment task** as a model or guideline (see Figure 2). Provide a general assessment model for evaluating performance on that task. Provide an assessment scoring sheet containing a complete reflection of abilities, expectations, activities and criteria. This scoring sheet can be holistic or analytic depending on the purpose.

Conclusion

I have suggested guidelines for the implementation of assessment practices against the background of a number of current problems in a South African context. In order to meet the pressures of the day, inferences of stakeholders can be swayed if assessment practices are transparent and authentic. Current pressures and the need to address higher order outcomes through the development of complex thinking processes can be addressed by means of the practical implementation of an authentic assessment system. Through such implementation the needs of the learner can be addressed to stand the test in the particular demands of real life. Knowledge and abilities can portray real world situations through thoughtful authentic assessment procedures. Through effort and application such assessment practices may lead to higher success rates and may lend greater credibility to education in our country.

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