Assessment in Present Day Education

Van As Jordaan

1. Introduction

The 'political' or 'external' agenda is bombarding us from a variety of sources, including changes in society, from the so-called 'information revolution' to issues of quality and accountability for our teaching, both individually and institutionally. The most characteristic change in approach was signaled by a shift from 'teaching and learning' to 'learning and teaching'. This shift signals the emphasis on learning as apposed to teaching, with study programmes being specified in terms of learning outcomes instead of teaching objectives. Learning and teaching strategies are now developed that similarly emphasise this change, and lecturers are seen as facilitators of student learning, developing approaches that encourage students to reflect on their progress. This had implications not only for curriculum development and implementation, but also for assessment practices and procedures.

Lifelong learning, and its supporting concept – independent learning together with widening participation - are some of the key changes we are currently facing in higher education today. It is not about leaving students to get on with it by themselves, but it is about developing a climate where students are given the space, support and encouragement to become reflective, confident learners. We are living through a major revolution in the provision of higher education and having to adapt simultaneously to challenges on all fronts: we are becoming 'change weary'. However, adapt we must, and if we see it as our own 'lifelong learning' then maybe we can rise to the occasion and enjoy it.

2. The South African context

Most South Africans are aware of past fragmentation of the education system. Politically, administratively and educationally, there was a need for integration and innovation. The development and maintenance of a national, outcomes-based qualification framework in South Africa seemed like an obvious strategy for the elimination of many of these disparities. The term qualification framework is used to refer to a conceptual framework which describes the requirements for qualifications, outlines procedures and stipulates rules which regulate assessment.

For a number of years now South Africa, like many other countries, has been debating a major paradigm shift in education, a shift from learning and teaching which focused primarily on content to learning and teaching focused on outcomes. One of the most dramatic trends in education over the last decade has been the shift towards the use of criterion-referenced assessment. A particular form of criterion-referenced assessment, outcomes-based assessment, is now a central feature of national qualifications in South Africa. The OBET (Outcomes-based Education and Training) system differs fundamentally from previous knowledge and inputs-based systems. It ensures that the learner, as opposed to the content or the curriculum, is at the centre of learning. Legislation in SA regarding the NQF and skills development was intended to transform our society by lifting the level of skills, enriching the depth of competence, liberating the opportunities for developing all our people.

3. Assessing student learning

3.1 Assessment, evaluation and OBET

Assessment is universally conceptualised as a process by means of which the quality of a candidate's achievements can be judged, recorded and reported. Judgements can be made through continuous observation or through summative evaluation. In the education context, assessors can be teachers, outside examiners or the students themselves. Although in practice the terms 'assessment' and 'evaluation' seem to be used interchangeably, assessment seems more often to refer to a PROCESS of gathering data about students' knowledge, skills and attitudes in relation to the learning outcomes of the course or program. Evaluation and testing are used more often to describe the PRODUCT when we apply a judgement to the data collected through assessment, and apply a grade or comment to it.

The key word in outcomes-based assessment, according to Spady (1997), is demonstration. In other words, it is up to learners to demonstrate their knowledge, ability, competence or proficiency, and it is up to assessors to judge the quality of such demonstration. On the basis of their judgements, assessors will then decide whether candidates' performance during the demonstration was sufficient for them to be awarded the necessary credits or qualifications. This means that criteria should be spelt out simply, clearly and understandably and should be known to all the candidates and assessors before assessment takes place.

3.2 Purpose of assessment

Assessment is an integral part of teaching and learning, not just a means of monitoring or auditing learners' performance. Before we consider the how of assessment, we have to decide why we want to assess our learners. The ultimate purpose of assessment is to measure learning outcomes. The additional purpose is improvement of teaching, the curriculum and conditions for learners' learning.
It is clear that the purpose of assessment is not merely to determine a learner's worth. Assessment is the basis for determining what comes next, or where to go from here. Assessment is also useful as a basis for remedial action, or as a basis for deciding whether retention or promotion will be better for a learner. Assessment is concomitant with effective teaching.

3.3 Effective assessment

As with teaching and learning, the effectiveness of assessment procedures and practices can, and should, be determined by means of criteria. Criteria for effective assessment are not described only in terms of what has to be assessed but also on how assessment should take place. Aspects such as the quality and consistency of assessment procedures, processes and tasks would therefore be considered. The most obvious criteria against which all assessment procedures and tasks should be measured are the criteria of validity and reliability.

Assessment is valid if the test, examination or assignment serves the purpose for which it was designed. For example, a task which claims to assess a learner's conceptual understanding, but requires memorised answers, will be invalid. It is imperative for assessors (and learners) to be very clear about the purpose of assessment tasks if the validity of the assessment task is to be beyond question.

Assessment is reliable when consistent results are obtained from a test. This means that a test or assessment task should produce the same results every time it is used to assess learners' work, irrespective of who the assessors are or when/where assessment takes place. Reliability is not easy to achieve since the results of an assessment task could be influenced by a variety of factors.

4. Mapping learning and assessment

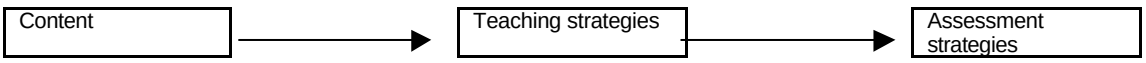
Before assessing students, we need to establish the learning outcomes. Learning outcomes stem from the aims of the course and clarify the goals expected of the students. The learning outcomes will then determine the kind of learning event and task(s) that can be set for students. The learning outcomes and tasks set by the lecturer refer to the teaching of the course, while the activity to complete the task and the assessment of the actual learning outcomes are within the realm of learning. Learning takes place in an activity loop, which is heavily affected by feedback from peers and tutors (and 'self' as a form of reflection). The reflective process, therefore, as well as the 'end-product', can also be part of the assessment.

Formative assessment, therefore, should be designed to play an active role in the learning process. Criteria need to be set for successful completion of the task, which can be set wholly by the tutor or through negotiation with students. Whichever method, it is important that students are thoroughly aware of the criteria and can work with them. This is important if they are expected to do any peer or self-assessment work. Encouraging peer and self-assessment is essential in developing reflective, independent learners.

Making your assessment fit with the learning outcomes of your courses is easier said than done. It is often hard to get away from the natural concern for content and presentation. But challenging ourselves to 'think backwards' about what we want students to be able to do, and then how we are going to measure their learning, really will help us to evaluate whether our assessment tools and learning outcomes match.

- A linear model

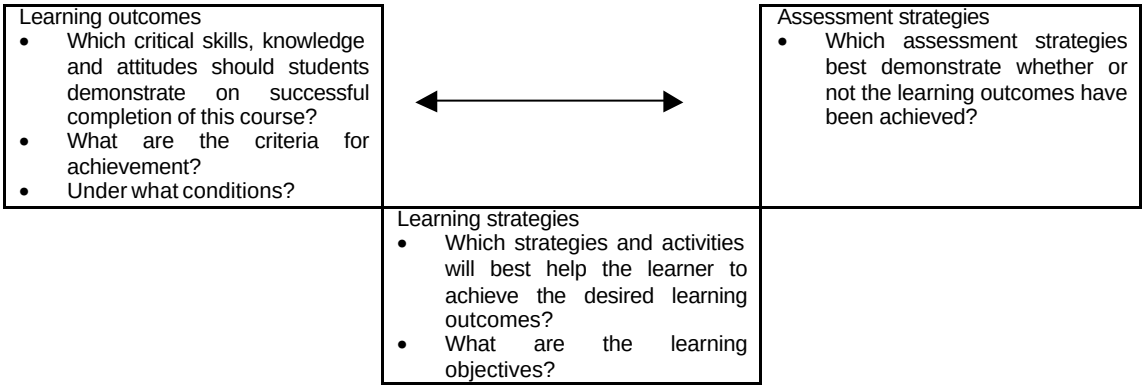
Traditionally, we have sometimes planned the teaching/learning process by deciding on the content (what is to be taught) of the course or lesson. Next we considered how the content would be taught. Our last consideration was the assessment of learning. The traditional sequence looked like this:



- A system approach

When you write course learning outcomes, you are describing what your students should be able to do at the end of your unit or course. You can then determine the best way for a student to demonstrate that they have this expertise at the required level. From this will flow the teaching/learning strategies best suited to helping students achieve the desired outcomes. This sequence is not linear because determining appropriate assessment strategies might lead you to revise your learning outcomes.

Change in either learning outcomes or assessment strategies will lead you to review and possibly revise your teaching objectives and strategies.



Assessment is a strategy for measuring knowledge, behavior or performance, values or attitudes. It is a data-gathering strategy. The measurement of data you gain form assessment helps you to evaluate. In OBET the learning outcomes which have to be attained by the learner are very clearly defined. Through assessment, both teachers and learners are able to determine whether these outcomes have been achieved. Teachers use three main kinds of assessment: diagnostic, formative and summative. This means that they have to make decisions before, during and after their instruction.

In criterion-referenced evaluation, a student's performance is compared to established criteria rather than to the performance of other students. Criteria are the basis of evaluating student progress; they identify the critical aspects of a performance or a product that describes in specific terms that is involved in meeting the learning outcomes. Criteria can be used to evaluate student performance in relation to learning outcomes. For example, weighting criteria, using rating scales, or performance rubrics (reference sets) are three ways that student performance can be evaluated using criteria.

Samples of student performance should reflect learning outcomes and identified criteria. The samples clarify and make explicit the link between evaluation and learning outcomes, criteria, and assessment. Where a student's performance is not a product, and therefore not reproducible, a description of the performance sample should be provided.

5. Assessment strategies

Assessment techniques have tended to lag behind the innovative teaching that has been taking place within higher education. Much of this is to do with the dilemma that the traditional examination, based on the essay, may not be coherent with the changes that are made within the courses that encourage more independent, collaborative learning. Another dilemma is that assessment is predominantly norm-referenced, i.e., an exam that shows how students compare with each other. Criterion-referenced, on the other hand, measures how well students have performed against criteria, independently of their peers. This assesses what the student can do, the competencies on particular skills (intellectual, practical or social). As OBET becomes more important with the need to develop lifelong learning skills, particular intellectual skills as well as generic key skills, criterion-referenced assessment may need to be addressed more coherently across all subjects.

Assessment can take many forms, and it can be argued that the greater the diversity in the methods of assessment, the fairer assessment is to students. The art of assessing therefore needs to embrace several different kinds of activity. Whether we think of ourselves as lecturers, or teachers, or facilitators of learning, the most important thing we do for our students is to assess their work. It is in the final analysis the assessment we do that determines their diplomas, degrees, and future careers.

Computer aided assessment

Technology can be used in formative testing, providing an excellent way of supporting student learning. Once a test is made available to students, they can take it repeatedly, learn from the feedback, and efficiently monitor their progress.

Objective tests for computer assisted assessment (CAA). These can all take place without extra effort on the part of the tutor, called 'computer assisted assessment (CAA). An objective/closed question test is the main type of test of options or alternatives. Some examples of these tests are: MCQs (multiple-choice questions or quizzes); labeling images; rank ordering; gap filling.

Assessing collaborative learning events. Collaborative learning personalises knowledge through social activity and emphasises cooperative efforts along with content-specific knowledge. It can come in many guises, from mini assignments where it is essentially a joint effort or an exercise, to research-centered projects where some form of project management must be established in order to complete the project. It is important to prepare students for collaborative learning and ensure that they know what to expect during the process and what the criteria of the final product are.

Didactically it is student-centered, cooperative, tutor-managed from a distance and it is ideal for problem solving, analysis and discussion. Researchers have found that collaborative learning develops the higher levels skills of Bloom's taxonomy: analysing; synthesising; evaluating and conceptualising (Maier, 200).

Collaborative learning events such as problem-based and case-based learning scenarios comprise both a product, which is the main purpose of the group activity, and a process of arising at the final product. Both aspects need to be assessed.

6. Conclusion

None of the above forms of assessment is without its merits or its limitations. The challenges caused by greater numbers of students and increased assessment workloads provide an opportunity to make a radical review of the ways we assess our students. In particular, we must ensure that our attempts to meet these challenges do not lead to a retreat from those forms of assessment which are less cost-effective, but which help students to get due credit for a sensible range of the knowledge and skills they demonstrate. Probably the best way to do our students justice is to use as wide as possible a mixture of the assessment methods outlined above, allowing students a range of processes through which to demonstrate their respective strengths and weaknesses.

Moreover, we need to ensure that learning is not simply assessment-driven. It can be argued that presently we have far too much assessment, but that neither the quality nor the diversity of this assessment is right. Students are highly intelligent people; if we confront them with a game where learning is linked to a rigid and monotonous

diet of assessment, they will learn according to the rules of that game. To improve their learning, we need to improve our game.

Bibliography

- Addison Central Supervisory Union. (2000). Profile of schools. Middlebury, VT: Addison Central Supervisory Union. (http://www.acsu.k12.vit.us).
- Brown, S. & Knight, P. (1994). Assessing Learners in Higher Education. Kogan Page, London.
- Carr, J.F., & Harris, D.E. (2001). Succeeding with Standards – linking Curriculum, Assessment, and Action Planning. Association for Supervision and Curriculum Development.
- Computer Assisted Assessment Centre - (http://caacentre.ac.uk)
- Electronic Portfolios in Higher Education: Their value for faculty, students and employers. (www.softcom.net/users/conley/papers/icie98.html)
- Hinett, K and Thomas, J (eds). (1999). Staff Guide to Self and Peer Assessment. The Oxford Centre for Staff and Learning Development, Oxford.
- Learning Exchange Networks. (1998). Humber College of Applied Arts and Technology.
- Malan, B. (1997). Excellence through Outcomes. Kagiso Tertiary, Pretoria.
- Maier, P. & Warren. A. (2000). Integrating Technology in Learning and Teaching. Kogan Page, London.
- Mowl, G., McDowell, L. & Brown, S. (1996). What is innovative assessment? Published by DeLiberations (http://lgu.ac.uk/deliberations/assessment/mowl_content.html)
- Race, P (1994). Never Mind the Teaching - Feel the Learning. SEDA Paper 80, SEDA Publications, Birmingham, UK.
- Race, P. (1995). The Art of Assessing. (www.lgu.ac.uk/deliberations/assessment/artof_content.html)
- Spady, W.G. (1997). Paradigm Lost. American Association of School Administrators.
- The Implementation and Evaluation of Computer Assisted Assessment Project. (www.lboro.ac.uk/departments/dis/cti/infocus8/caa.htm)
- Writing Multiple-choice Questions that Demand Critical Thinking. (http://darkwing.uoregon.edu/~tep/assessment/mc4critthink.html)
- Van der Horst, H. & McDonald, R. (1997). Outcomes-Based Education – a Teacher's Manual. Kagiso Publishers, Pretoria.

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Questions for discussion

1. OBET does imply: "Pass one, pass all"

2. Exams are still an important form of assessment in OBET?

3. Are we testing to help our students demonstrate what they have achieved, or to demonstrate to them what they have failed to achieve?

4. How will my students benefit form assessment keyed to learning outcomes?

5. Do you think a national qualifications framework is the most appropriate way of establishing national standards or do you have any alternative to offer?

6. Devise assessment strategies to make learners responsible for their own learning.

7. Assess whether your evaluation tools and processes accurately reflect the course learning outcomes at the appropriate level.

8. Compare and contrast:
- Criterion-referenced and norm-referenced assessment
- Formative and summative assessment

9. Examine and discuss your own views on a variety of 'values' issues related to students 'rights and teachers responsibilities' with regard to assessment.

10. Devise strategies to reduce or redirect academic dishonesty

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Van As Jordaan obtained his diploma in primary and secondary education. In 1989 he obtained his doctoral degree in curriculum development. He has been a teacher, lecturer, superintendent of education and general manager of a publishing house. At the moment he is an independent consultant. He has been a member of numerous professional bodies in South Africa and is the author or co-author of several books and articles on education.