Towards an Improved Assessment and Examination System in Institutions of Higher Learning in Uganda

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Abstract
This paper highlights issues on Educational Assessment and Examinations by first capturing its definition and then briefly spelling out the five dimensions of assessment that seem not to receive similar attention in practice. The summative and formative types of assessment are differentiated. Following a survey of several universities in the country, the current assessment and examinations practices are explained in terms of the weighting of the written examination and course work, then the dissertations and viva voce for the graduate awards. The paper exposes several of the examination malpractices and irregularities that are unfortunately rampant in all the universities. The key players in these malpractices and irregularities appear to be a racket combination of the students, the lecturers and the support staff and seldom some outsiders. Sadly, the lecturers and support staff often get involved for a fee but engineered by the students. The standards for teacher competence are stated with a view to provoke lecturers to the direction of serious academic and professional work. In the end the paper points out the characteristics of a good examination that both students and the lecturers should be aware of. Having gone through such a journey, the paper attempts to present food for thought on how the assessment and examinations could be improved in the institutions of higher learning that requires training lecturers on examination practices as part of continuous professional development rather than assuming they know what they are supposed to do and to increase quality. Finally, it proposes measures to curb examination malpractices that can only demand a team with upright morals.

Introduction

If we wish to discover the truth about an educational system, we must look into its assessment procedures. What student qualities and achievements are actively valued and rewarded by the system? How are its purposes and intentions realized? To what extent are the hopes and ideals, aims and objectives professed by the system ever truly perceived, valued and striven for by those who make their way within it? (Rowntree, 1977, p.1).

There is no more regularly discussed topic in education than assessment and yet not everyone has adequate knowledge of what goes on behind the curtain. In order to discuss the issues related to this topic, I have organised the presentation into the following sections:

- Definition of educational assessment;
- Dimensions of Assessment;
- Types of assessment;
- Current Assessment and Examination Practices in Institutions of Higher Learning;
- Assessment and Examination Malpractices and Irregularities;
- Standards for Teacher Competence in Educational Assessment;
- Characteristics of Good Tests and Examinations; and
- The Way Forward

Definition of Educational Assessment
There is a plethora of definitions of assessment that fortunately converge on raising similar and sometimes same issues in different words. For example, the concept of assessment as looked at in a system by Rowntree (1977) in the opening quotation above
can be extrapolated to what happens in educational institutions, like institutions of higher learning and schools as well. One example of the definition of assessment is that given by Satterly (1981). According to Satterly (1981, pp.3-4), “Educational assessment is an omnibus term which includes all the processes and products which describe the nature and extent of children’s learning, its degree of correspondence with the aims and objectives of teaching and its relationship with the environment which are designed to facilitate learning.” This definition is no less appropriate at the institutions of higher learning than it is at the lower levels. Webb and Brairs (1990, p. 108) have argued that assessment “must be an interaction between the teacher and students, with the teachers continually seeking to understand what a student can do and how a student is able to do it and then using this information to guide instruction.” Unfortunately, teachers at the institutions of higher learning appear to seldom use assessment of students to inform their instructional practice.

Another definition of assessment is that given by the international dictionary of education. This dictionary defines assessment in education as a process by which one attempts to measure the quality and quantity of learning and teaching using various (assessment) techniques such as assignments, projects, continuous assessment, objective type tests, final examinations and standard tests. Consequently, assessment involves more than testing, examining, marking, grading and so on because it also includes making judgment about the extent or quality of achievement or performance. However, we need to note that assessment and grading are not synonymous. Because assessment is not synonymous with testing it means more than that. Subsequently, assessment involves making judgement and for judgement we need evidence derived from data collected from examinations, tests and other assessment techniques because we want to know how well our students have learnt what we have taught them.

Referring specifically to assessment of students in Mathematics Cockcroft (1982), in a report of inquiry into the teaching and learning of Mathematics and Science in England, Scotland and Wales pointed out that:

Assessment is an essential part of the work of all teachers; it needs to be carried out in a variety of ways and for a variety of purposes. Much assessment is based on marking of written work and on information which the teacher gains as a result of comments made and questions asked during discussion with an individual pupil, a group or a class.” (Cockcroft, 1982, p. 121)

The majority of assessment that is conducted at all levels of education needs to address the issues of why and how it is conducted. In all subjects teachers engage in some marking of some sort to gain information about the students. What however remains disturbing is the use that teachers make of the assessment information that is gained. In most cases it would appear that such information remains stale. Cockcroft (1982) ably addresses some of the concerns about assessment that Rowntree (1977) had earlier articulated as the dimensions of assessment.
Dimensions of Assessment
According to Rowtree (1977), assessment entails five dimensions. The dimensions of assessment raise pertinent questions meant to draw positive aspects of assessment and evaluation. Rowntree (1977) addresses the following dimensions of assessment: Why assess; what to assess; How to assess; How to interpret and How to respond. Why assess addresses the question on the reasons and purposes of assessment. What to assess attends to the question of deciding, realising what qualities to look for while assessing such as assessment objectives. How to assess tackles the question of selecting the appropriate assessment techniques. How to interpret assessment results deals with the question of making sense of the outcomes of observations. The observations would have been made through any one method used and leads to giving meaning to assessment results. It further entails explaining, comparing and sorting out the information obtained. How to respond concentrates on the question of what teachers have to do based on what students have shown. This involves finding appropriate ways to express what has been assessed and communicating the results to the interested parties and stake holders.

Types of Assessment
Summative assessment
The assessment that is conducted at the end of a course or programme is called summative assessment. It is a snapshot at the end. The results of summative assessment are usually used for grading of students or for accreditation at the end of a programme. The results of summative assessment can be expressed in a Norm-referenced assessment style where the students are compared with other students and then rank ordered and predetermined percentages of them assigned certain grades through making judgement about individuals. Alternative the results can be reported in a Criterion-referenced assessment style where the student’s performance is gauged against predetermined criteria and thus making judgement about performance.

Formative assessment
The assessment that is conducted throughout the programme with continuous feedback during the course or programme is called formative assessment. It is intended to improve the teaching and learning process through constant feedback during the learning process. Formative assessment involves the use of Continuous assessment. Continuous assessments entail the use of Tests, Assignments, Projects, Seminars, Tutorials, and Observation techniques.

Current Assessment and Examinations Practices in Institutions of Higher Learning
There appear to be some diversity and similarities in the assessment practices in the different institutions of higher learning. For example, there is diversity in the weighting of viva voce grading from 20% to 100%. In one instance it is not clear what the weighting of the viva voce is but is significant for one to pass it for the award of a higher degree. There are differences in the composition of the viva voce panels. In some institutions there is oral defence for the viva voce but in others that is not the practice. There are also differences is the structure of the graduate programme in three patterns: Semesters for coursework and examinations including the dissertation are 1, 2, 3, and 4; Semesters for coursework and examinations are 1, 2, and 3, but the dissertation is done in
Semesters for coursework and examinations are 1, 2, but the dissertation is done in semesters 3, and 4. The first pattern seems to give higher completion rates and better quality of the dissertations. There are variations in the marking styles by the different internal examiners.

The similarities in institutions are based on the laxity of internal examiners with the students. The majority of the internal examiners are not trained examiners and so examine the way they were examined in their school days. The assessment results are not used to inform practice, but mainly for grading. One can safely say that all institutions of higher learning, without exception, unfortunately, take grading as the most important function of assessment and examinations. Subsequently, evaluating learning and examinations are often regarded as bedfellows. There is much concentration on the assessment of cognitive knowledge and often much concentration of testing the lower levels of Bloom’s taxonomy categories (Bloom, 1956).

The view of one senior academic administrator is that in most institutions we have resorted to “certifying illiterates” who are neither able to write scientific papers nor able to make presentations using modern technology and are divorced from academic work and are allergic to reading books. Our systems have continued to produce non seasoned Masters Graduates who proceed to do their PhDs and later become lecturers in the same inbreeding system.

In all the universities the pattern of examination involves a combination of University Written Examinations, Continuous Course Work Assessment, Dissertations, and Viva voce examination. In the different programmes such as the diploma, bachelors, masters and doctoral programmes there are different weights.

Diploma Programmes. There are differences in the modes of assessment and examination of students at the different institutions of higher learning. For example, in one university assessment is on the ratio of 50% written examination and 50% course work assessment and in others it is a 60% written examinations and 40% course work ratio.

Bachelor’s Programmes. Most of the assessment and examinations in universities use the ratio of 70% written examination and 30% course work assessment, while others use 60% written examination and 40% course work assessment ratio.

Master’s Programmes. In one university the Master’s programme consists of 64 taught credit units and Course work, examination and project work for full time students; or Course work, examination and research for full time students where the second year is fully devoted to the preparation of a dissertation; or under exceptional circumstances a dissertation only may be taken either on full time or part-time basis. Assessment is on the ratio of 50% written examination and 50% course work assessment. Other universities use the ratio of 70% written examination and 30% course work assessment, while use 60% written examination and 40% course work assessment. Postgraduate programmes combine university examinations, coursework and research.
Doctoral Programmes

Doctoral degrees are awarded in two formats: The Postgraduate programmes combine university examinations, coursework and research in a taught format. The other format is an award by research only.

Assessment and Examination Malpractices and Irregularities

Examination malpractices affect the reliability of the results that are obtained, consequently it puts into question the trustworthiness and quality of the results. There are three sources of examination malpractices and irregularities originating from (i) the students, (ii) the lecturers and (iii) the support staff.

What are the rampant examination malpractices?

The examination malpractices and irregularities appear to emanate from different sources such as the students themselves, the examiners or lecturers and personnel involved in the typing, administration, recording or entry of marks among others. Students use several ways to cheat in examinations. McKeachie (2002) lists eight tactics that students commonly use to cheat examinations. He goes further to make suggestions on how to prevent and handle examination cheating. In his concluding argument he asserts that “prevention is preferable to punishment; [and] dishonesty is less likely when students feel that the teacher and other students know them and trust them than in situations in which they feel alienated and anonymous” (p. 102). This conclusion points to the fact that amicable methods should be used to resolve issues of examination malpractices in an atmosphere of trust.

A simple survey of several universities in the country reveals that students engage in examination malpractices and cheating of some kind in all institutions employing various tactics such as, among others:

- Students cheat in the examinations through: importing pre-prepared notes in ‘cassettes’, notes written on the body, on the clothes into the examination rooms.
- Copying from one another between students who arrange before to sit next to each other.
- The use of SMS from cell phones and programmed calculators.
- Plagiarism.
- Dishonesty (Moving to copy work in the toilets, or writing notes or information on the desk or table that one regularly uses).
- Examination misconduct.
- Handling of Missing marks, missing marks, wrongly recorded marks, lost marks and non existent marks.
- Impersonation: especially hiring someone else to do examination (re-take examinations). Who are doing the examinations and the writing of dissertations?
- Poor Examination marking and logistics.
- External assistance given to candidates by invigilators.
- Prior knowledge of the examinations questions through leakage.
- Substitution of answer scripts/booklets at a later time at a fee by internal examiners.
• Bargaining for better marks from a lecturer at a fee.

Possible safety measures against examination malpractices

• Universities have in place rules on examination malpractices and irregularities that spell out possible offences and penalties that cover coursework, conduct of examinations, cheating in examinations and fraud in examinations and how such irregularities may be handled. However, probably prevention of these examination malpractices and irregularities would be better than trying to cure them.

Standards for Teacher Competence in Educational Assessment

The Standards for Teacher Competence in Educational Assessment of Students Questionnaire was designed to measure each teacher’s knowledge base in assessing students. It was used in the Enhancing the Teacher’s Role in Assessment project at the University of Missouri in the USA. The instrument had seven subscales each addressing a different standard of assessment practice as listed below, each subscale contains five items. It was administered to teachers participating on a professional development programme that was hoped to increase their assessment knowledge and skills with a view to incorporate these practices into their teaching repertoire.

• Choosing assessment methods;
• Developing assessment methods;
• Administering, scoring and interpreting assessment results;
• Using assessment results for decision making;
• Using assessment in grading;
• Communicating assessment results; and
• Recognizing unethical practices.

Several advantages and disadvantages have been ascribed to assessment and examinations.

Characteristics of Good Tests and Examinations

Quality examination and assessment practice require that the tests and examinations that are used possess the following characteristics (1) validity, (2) reliability, (3) discrimination, (4) comparability, and (5) backwash effect.

• Validity

Validity refers to the extent to which the test measures what it is intended to measure. Does the test measure what it is supposed to measure? The content validity is a measure
of the degree to which the assessment includes a representative sample of what was taught based on the objectives of the course.

The validity of a test can be improved by aligning the assessment with the course objectives, the course content and the teaching approaches. Strict administration of the assessment to avoid malpractices and the use of just scoring approach improves on the reliability of the examination.

- **Reliability**
  Reliability or consistency measure the ability of the test to provide similar results for a group of students when given at different times, or if marked by one or more examiners on one or more occasions in other words it is a measure of consistency of the test across examiners, administrations and students. Does the test produce consistent results? Reliability is affected by some controllable factors such as the test items, the marking scheme and the examination administration conditions. It can also be affected by uncontrollable factors such as the candidate’s state of health, the candidate’s disposition and the examiner’s frame of mind during marking. Thus the level of reliability of a test is dependent on the test format, the quality of the test administration and the process of marking of the scripts. “A test can not be valid unless it is reliable but it can be reliable but not valid” An un-reliable assessment cannot be valid. There are factors controllable such as examination conditions, the marking guide and the test items that can affect reliability. However, there are also some uncontrollable factors such as the student’s state of health, the examiner’s frame of mind while marking and the student’s disposition.

The reliability of the assessment can be improved suitable instructions and clarity of the questions and appropriate timing of the examinations. There should be a marking guide of high quality that is objective and using trained examiners.

- **Discrimination**
  A discriminating test gives marks that are normally distributed but not positively or negatively skewed. The questions must not be too easy or too hard.

- **Comparability**
  The comparability of tests is the ability for the tests to accurately differentiate between students in terms of their individual differences.

- **Backwash effect**
  These are the good and bad effects of the examinations on the curriculum, the teachers and the students and on learning. Students often prioritise and learn what they think they will be examined on. Subsequently assessment should be aligned to what students should learn such that the curriculum is reflected in the assessment. Examinations are capable of producing both good and bad consequences upon the institution, its teachers and its students referred to as backwash effect, as outlined briefly in Table 1. Unfortunately, the impact of examinations upon the institutional development is an issue upon with too little scholarship has been devoted to.
Table 1: Backwash Effects of Assessment and Examinations

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<thead>
<tr>
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<th>Good Effects</th>
<th>Bad Effects</th>
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<tbody>
<tr>
<td>Students</td>
<td>-initiate them to seek knowledge for a purpose,</td>
<td>-encourage reproduction of other peoples ideas with little creativity,</td>
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<tr>
<td></td>
<td>-encourage sustained hard work,</td>
<td>-emphasis is on cognitive domain rather than affective and psychomotor</td>
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<td></td>
<td>-measure real attainment to a standard.</td>
<td>domains,</td>
</tr>
<tr>
<td>Teachers</td>
<td>-encourage thorough coverage of content,</td>
<td>-encourage competitive rather than cooperation.</td>
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<td></td>
<td>-forces maintenance of standards.</td>
<td></td>
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<tr>
<td>Institution</td>
<td>-maintaining of educational standards,</td>
<td>-development and perpetuation of inadequate or false standards of education,</td>
</tr>
<tr>
<td></td>
<td>-development, revision and stabilisation of curricula,</td>
<td>-increase of mediocrity and inactivity among graduates,</td>
</tr>
<tr>
<td></td>
<td>-identification, recognition and use of talent according to merit and</td>
<td>-the development and perpetuity of irrelevant or wrong curricula.</td>
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<td></td>
<td>efficiency by scientific means</td>
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The way Forward: Towards an Improved Assessment and Examination System

McKeachie (2002) has argued that educational efficiency is often hindered by the fact that “learning to think requires thinking and communicating the thinking through talking, writing and doing, so that others can react to it” (McKeachie, 2002, p.187), which seems a rare quality among several academics but that needs to be nurtured. I hope I have tried to think, to talk, to write and to communicate with you. What is left for us to do is:

- University lecturers require training and/or updating on examination and assessment practices including on how to choose appropriate assessment methods, set, administer, mark and communicate examinations results.
- We should provide regular feedback to students. Mutch (2003) has pointed out that “feedback to students is a vital but relatively under researched area” (p. 24). This means we need informed research-based decision making. Even after marking papers the internal examiners should give reports on the work of candidates and programmes.
• We need to carefully align assessment methods with intended outcomes that students are to learn with appropriate performance indicators. This requires the generation and use of suitable performance indicators, then observing and recording student performance.
• Stricter adherence should be made to completion dates for different programmes. This may entail restructuring the examination system for graduate work in the semester to ensure increased completion rates. It may not be too ambitious to demand that candidates present dissertations and do viva voce before they sit for final written examinations.
• Check candidates thoroughly in ALL places and change seating arrangement regularly while keeping examination rooms inaccessible.
• Prevention of examination malpractices and irregularities would be better than trying to cure them.
• Change the mode of assessment that should result from research based information from that we must gather.

References