

Protection in Test Item Production, Banking and Selection in Examination Bodies across Africa

Being a Paper Presented At the 27th Annual Conference Of The Association For Educational Assessment
In Africa (AEAA) In Yaoundé – Cameroon, August 24 – 28, 2009

Under the Sub Theme: Control Mechanisms in Public Examinations

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Abstract

Protection of the test items before they become live examinations is becoming increasingly challenging as the number of persons involved in the process and technology keeps increasing. Examination bodies allocate a lot of money and time in this aspect of examination preparation yet lots of reports are recorded on incidents of the test items being exposed to the public in one way or the other during the process of test item production, banking and selection in examination bodies across Africa. It is for this reason that these researchers carried out the study on “Protection in Test Item Production, Banking and Selection in Examination Bodies across Africa” using the Cameroon GCE Board and the Uganda National Examination Board (UNEB) for the study. The researchers used the qualitative approach to collect the data hence the data collected was open ended with the primary intent of developing themes from the data. (i) From the study the researchers developed and updated the procedures used by examination bodies in protecting test items during production, banking and selection by examination bodies. ii) Recommendations were made to the examination bodies on the management of the organizations and officials during the process of examination preparation.

INTRODUCTION

Abilities to produce select and bank various tasks have been done in one way or the other since the dawn of human history. Most such test were not scientific according to today's standards but were constructed using defined parameters which included the knowledge of test takers and their ability to take a prescribed test. One of the earliest tests that come to mind is the popular Apple Test in the Biblical Book of Genesis where Adam and Eve were tested. More formal Psychological testing started in 2200BC when the Chinese emperor instituted a system where the fitness of candidates for government office was determined by oral examinations administered every third year. From then to the present day the construction and administration of tests have passed through transitions up to the development of Item Response Theory (IRT) in recent times.

Educational and psychological testing and assessment represent one of the most important contributions of behavioural science to the understanding and solution of applied problems. The significant uses of psychological tests and assessment are many – from assisting individuals in the process of educational and vocational decision to helping schools and businesses in the effective selection and placement of new students and employees. Although the testing profession has long had both ethical standards and standards regarding test item protection at the various stages of test development, recent years have witnessed increasing public concern and controversies over the tests used. These areas of controversy have involved important social issues and have had far reaching legal, and public policy implications. Walsh and Betz (1985) hold that testing has gone public, becoming among other things a consumer issue and an object of much attack for its discrimination against minority groups in multicultural settings.

Contextual

So far in Cameroon,

The GCE Board uses teachers who are examiners to write the test items. Invitation letters are sent to them indicating the type of questions and topic areas for which they have to set a required number of test items. They carry out this exercise in their homes or schools and send to the Board in sealed envelopes. Every subject has an Assessor at each level. These assessors are mostly drawn from Universities, especially for the subjects at the GCE Advanced Level. They take part in question moderation and proofreading, along with the Chief Examiner and a few assistant Chief Examiners. Typesetters, permanent staff of the GCE Board, are brought together for a period of about five weeks to

type moderated items. The activity is carried out under the strict supervision of the Deputy Registrar in charge of Technical Services (DRTS). Each typesetter is assigned a subject for typesetting.

Examination Officers (EO) who are permanent staff of the Board are appointed to supervise the work of members of subject panels during item moderation and proofreading. They bring together the panels in one location for a few days (4 or 5 days) to moderate the test items sent in by the item writers. The questions are moderated, sealed in envelopes and counter-signed by all the members of the subject panel. The EO then brings the sealed envelopes to the Board and hand them to the Deputy Registrar for storage in the question bank.

The proofing exercise engages typesetters, members of subject panels and Examination Officers. The members of the subject panel are given the typed copies of the items and they go through, correcting errors until they get an error free copy. The error free copy is then sealed and counter-signed by all the proofreaders and forwarded to the DRTS who does the banking.

For Uganda

Test item writers.

1. Set questions based on the objectives and within the course contents outlined in the examination syllabus.
2. Set well balanced question papers from different parts of the syllabus course content.
3. Standard of the paper:
 - Setting questions of the correct standard for the candidates, neither too difficult nor too easy)
 - The questions should not be too long for the time allowed.
 - In papers where candidates are allowed to choose, alternative questions should be of comparable standard in all ways.
 - Set items expressed in a language which is understandable to the candidates.
4. Nature and style of questions:
 - Setting questions which are technically correct and accurate, and offering the best way of testing the concept or principle or knowledge it is intended to test.
 - Setting questions which are original and not just copied from text books, past papers etc. However, standard maps, charts, diagrams and data may be used and source given for purpose of copyright clearance.
5. Solutions and marking guides:

-Provide draft solutions and marking guides for all parts of the draft questions. The solutions should be as detailed as those expected from candidates.

Moderators / Subject officers

Sometimes the item may seem clear to the person who wrote it, but may not be clear to others, especially the testees. The moderator has to ensure that:

-the task is clear in each item and the person attempting an item will know what is expected. The task in an item is understood in the same way by all candidates.

-the items are expressed in a language which is as clear as possible to the candidates.

-the items are set within and based on the objectives and course contents outlined in the syllabus.

-the questions are well distributed in the different parts of the syllabus course contents/ cover syllabus adequately.

-the items are a fair assessment of candidates at a particular level and if they are not, they should be tempered to the level of the candidates, actually, among others, that is what moderation is!.

-the items are technically correct and accurate, offering the best way of testing the concepts or principles or knowledge it is intended to test. They should not have clues to the correct answers.

-the items are original and not just copied from text books or past examination papers.

-the solutions/ marking guides are provided to the draft questions. The solutions should be accurate and detailed as those expected from candidates. However, it is important to mention here, that marking guides are not 'straight jackets'. Points can be added or subtracted from them during preparation for marking and, in fact during actual marking.

-there are enough representative items to provide an adequate sample of the behaviours to be assessed in the candidates.

Type setters:

1. They typeset draft questions and marking schemes for the question bank.
2. After compilation they make camera ready copies.
3. They are involved in the printing of the final examination.

Manuscript head

1. Her major role is to keep custody of confidential materials such as questions, marking guides and coded items in the bank
2. Carry out general administration in the manuscript section. For example making programs for typesetting and deployment of staff.

Proof readers

Their work is to ensure that the compiled paper is in a form and content it is expected to be. They ensure that:

- There are no spelling and typographical errors
- There are no grammatical mistakes.
- Punctuation is correct so as not to distort meaning.
- Sentence structures and length are of an appropriate standard.
- Correct structure and organisation of the paper has been followed.

It should be noted that proofreading is a continuous process throughout the process of test preparation. However, there is proofreading done at a critical stage immediately before printing of the final life paper. Proofreaders at this stage of the examination processing are involved in the printing of the final paper and, therefore, held incommunicado during that time to ensure security of the examinations.

Incommunicado

In an effort to protect our items during proof-reading and printing, selected staff are taken off communication from their communities and kept in an isolated environment “INCOMMUNICADO” for 2 -3 months until printing is over and examination questions are at police stations ready to be administered. During that period of seclusion, security is tight and officers are thoroughly checked by security personnel whenever they check in and out of the factory to the dormitories or vice versa. For any eventualities, information is received when officers come out of the factory.

During item writing “setting”, test writers are also secluded from the public by confining them at “centres”, where communication by phone is supervised. Usually schools and institutions are hired for this exercise during when students are on holidays. Multiple sets of papers per subject are compiled, typeset for banking before random selection is done. Random selection is done only when these officers who are to do the printing are still incommunicado.

Theoretical Framework

Constitutionalism and Environmentalism

Psychologists often raise doubts as to whether what is called personality is inherited (constitutionalism) or is the effect of the environment (environmentalism). This expresses the need to know how much of

the basic nature of individuals is fixed by bodily or constitutional factors and how much is a product of environmental influences. Most examination bodies run examinations depending on the trust they put on the personnel in their services. Some of them are involved in the production of the test items; some are involved in the control, some in the custody while others are given the responsibility of overseeing that the life examination is ready for consumption by the candidates. The protection of the examination at these stages will depend greatly on the personality of the individuals involved. At one stage or the other, the candidates or their sponsors may make advances towards the people they identify at the various stages of the examination preparation to see how much access they can have to the real examination. These environmental pushes can in one way or the other suppress the stake holder's constitutional built hence availing the possibility of the stake holder losing grip of the ability to protect test items put at their disposal. On the sources of influence upon personality, Watson(?) asserts that the environment is of paramount importance in shaping behavior. This then cautions examination bodies to be aware of the influence the environment can have on the examination during production, banking and selection of test items.

The Need Theory and Examination protection

Murray (1938) defines need as a hypothetical construct which stands for a force in the brain region; a force either internally or externally instigated, which organizes other psychological processes. In the various types of needs, these researchers single out the nurturance need. This is the need to avoid humiliation, to quit embarrassing situations that may lead to belittlement. During the period of examination the candidates are faced with this kind of need. They therefore gun for means of satisfying this need. In so doing, many struggle to be in contact with examination stakeholders so as to have an idea about questions before time. The examination stakeholder on the other hand are affected by the same type of need as they may face belittlement or embarrassment if they fail to adequately protect the test items that are kept at their disposal. Murray holds that there is a constant interplay among this needs between the candidates and the examination stakeholders. While needs motivate behavior, it is not always easy to determine which need motivates which kind of behavior.

Freedom versus Determinism

Wikipedia, the free encyclopedia and Boeree (2006) say that Psychoanalytic theories explain human behaviour in terms of the interaction of various components of personality. Many of the ideas developed by personality theorists stem from the basic philosophical assumptions they hold. While some believe that human behaviour is determined by one's own free will, others think it's by forces

beyond their control. This is a debate over whether we have control over our own behaviour and understand the motive behind it (freedom), or if our behaviour is causally determined by forces beyond our control (determinism). Determinism is considered unconscious, environmental, or biological by various theories (Bradbererry, 2007). Therefore we need to bear in mind that some of the personnel involved in the protection of examinations can act according to their free will and are in control of their behaviour. The question however is whether their behaviour is in the interest of security of the examination they have been exposed to. On the other hand, some of them, their behaviour is determined by forces beyond their control. For example, social, economic or political pressures could easily affect their ability to protect examination information at their disposal.

Ethical Theories And Examination Protection

Some theories of ethics that rule the world indicate that human decisions and actions, to a great extent, are governed by the values they hold and the value systems they leave in. Below are some of the theories of ethics that try to explain human behaviour.

Consequentialism maintains that the majority of an action depends on the normal consequences that the action brings about. Morality of an action consists of the ratio of good to evil that the action produces. We should perform right and only right action in terms of good and evil, as each individual defines good and evil, and right and wrong. This seems to mean that there is no objective right and wrong or good and evil. Each person defines it in his or her own way. Staff involved in the process of production of examinations is many and each of them has his or her own definition of good and evil, right and wrong. The challenge examination organisations have is that all those involved in the examination management have to be in agreement on what is wrong or right as far as protection of examination papers is concerned. However, do they all believe that protection of the examinations is good or leaking information to do with test items is bad or wrong?

On the other hand, utilitarianism states that the moral standard should be promotion of the best long term interests of everyone concerned. The theory seems to suggest that good ethical behavior should be for the good and happiness of every one. The question is whether, the interest of all those involved in the protection of the examinations, is to make sure examinations are protected, and this gives them pleasure and happiness. For example in UNEB all members of staff involved in the printing of examinations are held incommunicado for the whole period of printing. The aim is to ensure that examinations are protected from leakage and the assumption is that it is worth it, because thousands of

candidates will be granted a fair assessment. Of course, such staff are denied some of their rights for the sake of protection of examinations. It is also hoped that those involved appreciate these actions.

The other ethical theory is that of hierarchicalism, which says that there are many universal norms, but they are not all intrinsically equal. However, sometimes people experience conflict of interests. This theory assumes that one must obey the higher norm (choose the greater of the two goods). This presents a very tricky scenario when we consider the personnel involved in the protection of examinations, whether they place protection of examinations at the top of their hierarchy. Each of them has a different hierarchy of ethics and values, and in addition the demands of the work one is doing might conflict with personal interests. For example a moderator or a compiler has a daughter about to sit for university entrance examinations and is aware that admission on government sponsorship is on merit. In his hierarchy of things, where does his highest norm lie? Is it the future of the daughter or protection of the examinations? These are some of the challenging scenarios which this theory tries to bring out.

Item Characteristic Curves (ICC) and Test Item selection

During the process of testing there is an encounter between the testee and a test item. The result of such an encounter reveals the ability level of the testee with regards to the item in question. This ability level is an innate unobservable characteristic of the testee which causes consistent performance on the test and influences the testee's responses to test items. Just as everybody has an ability level, a test item also has inherent characteristics that affect the exhibition of the testee's ability. The Psychometrician's worry over the years has been to determine the testee's true ability level, which is not observable, using appropriate and scientifically selected test items. Test items need therefore to be selected scientifically than manually using Item Characteristic Curves (ICCs) which give a graphic representation of test item parameters. Each test item has its own curve which guides the examiner on the item to be selected depending on the required test item parameter requested. The most general form of the logistic curve is called a 3 parameter model. "A 3 - parameter logistic model is a mathematical function that relates the probability of success on an item to the ability measured by the item set or test containing the item" (Umobong, 2004). This mathematical function is written as:-

$$P_i(\theta) = C_i + \frac{1 - C_i}{1 + e^{-1.7a_i(\theta - b_i)}}$$

Where

$P_i(\theta)$ = *proportion of examinees who respond correctly to the test item i*, ie the probability of an individual with ability θ *responding correctly to the item i*.

a_i = discrimination index of item i

b_i = difficulty index of item i

c_i = vulnerability to guessing index of item i

$e = 2.718$

As shown on the graph each item in a test has its own curve and will be expected to move in an upward direction from left to right, although the extent to which it does is a property of the item. The curve cuts the $P(\theta)$ axis, representing the probability of a person with very low ability getting the item right. It therefore represents the probability of a person getting the item correct through guessing. The slope of the curve between the lower and the upper asymptote describes the extent to which the item discriminates between high and low scoring examinees. The steeper the slope the greater the discrimination of the test item. If the slope is positive, it indicates that higher scorers are getting the item correctly than lower scorers. The reverse is true if the slope is negative. Items with very low discrimination are pretty useless for distinguishing among examinees. The location of the curve on the horizontal axis describes the item difficulty parameter. The curve shifts from left to right as the item becomes more difficult.

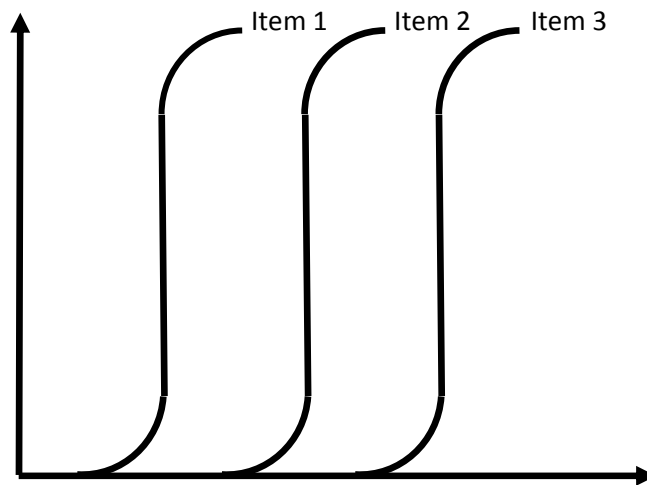


Figure 1 difficulty levels of test items expressed on the graph.

Using the Item Response Theory (IRT) and the 3 parameter logistic model, items to be selected can be got guided by the ICCs. This reduces the number of people involved in the selection because an individual can get engaged in plotting the curves for certain items that are supplied and then do the selection alone. Also giving the various social settings within an examination area, different items could be selected to reflect the average ability of testees in a question.

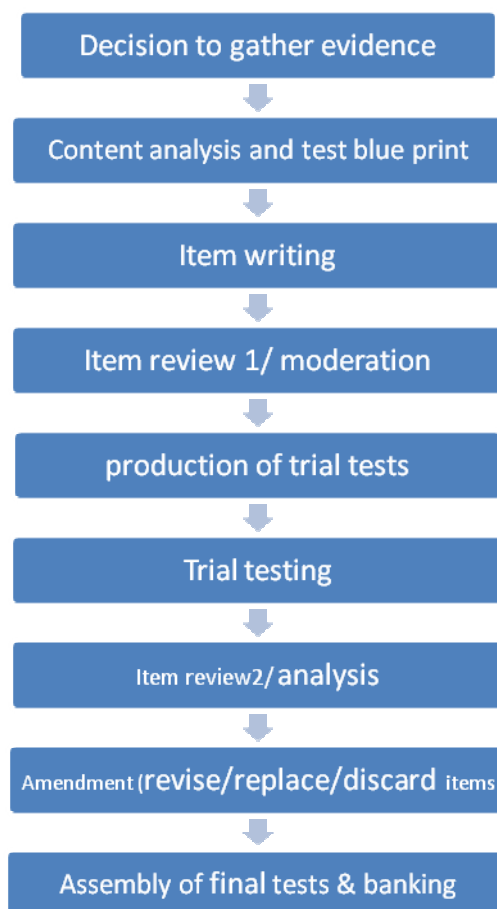
Differential Item Functioning

According to Aiken (1998: 52) a test item may have satisfactory difficulty and discrimination indices, but still functions in a different manner in one demographic (racial, ethnic, gender, age, etc) group than another. For this reason the construction of standardized tests of achievement and other abilities also requires obtaining information on the biasness of items referred to as Differential Item Functioning (DIF). Well designed computer programs have been developed to obtain DIF information. However multistratified random sample of test takers could also be done, during trial testing, to take care of demographic variations in abilities.

Literature Review

Protection in test item production, banking and selection in examinations across the world, at both institutional and examination body's level, has become a challenging task. It is a long but conscious process involving a good number of personnel. The advent of e-technologies in the processing and storage of information/ items does not seem to redress the situation. Sclater (2004), cautions that items may be exposed during authoring, validation and management. Good working practices must be put in place to ensure that items and solutions are not exposed during these processes. Paper copies must be kept under lock and key, authoring and validation should be carried out in private. Once an item is accepted, all unencrypted copies, both paper and electronic should be destroyed.

The principles of test construction are universal even if the practice varies from organisation to organisation and country to country, (Alderson, Clapham & Wall, 2001). Looking critically at the strength and weaknesses of the current systems of test item construction, it is possible to make suggestions for change to achieve best practices. It is possible that even specialized examination Boards do not do things perfectly and there is a lot to learn from relating principles to practice. These general principles seem to be common to both developed countries and less developed. Izard (2005) diagrammatically tries to illustrate the stages in test construction as shown in Figure 1.

Figure 1**Stages in test construction by Izard (2005)**

These steps elaborately bring out the procedures used by examination bodies in test item production, banking and selection. These elaborate procedures are intended to maintain a set of standards and to ensure validity of the tests. To make sure that standards, validity and reliability of the tests are ensured, strict test specifications are followed. A test's specifications provide the official statement about what the test tests and how it tests it, (Alderson, Clapham & Wall, 2001) .This is the test blue print to be

followed by test item writers, which are essential in the establishment of the test's construct validity. The question is whether at each of these stages protection of items is ensured. This is today's great concern for all assessment organisations all over the world.

To ensure security of the items constructed, an item bank is required. This is a collection of assessment items and associated software to enable the storage of content to support the assessment of student learning, (Wikipedia, the free encyclopedia). Item banks are intended to: manage the development of new assessment items, control access to items, manage valuable assessment resources at organizational level, reduce potential for cheating in summative assessment, provide a single point of access to all the information and resources needed to construct assessments, and make resources available to learners for self assessment (where item banks are automated).

All these processes are carried out by personnel employed by the various assessment organisations. The security/ protection of the items is dependent on the trust put in them. They are expected to be people of integrity, character and personality with a sound foundation of ethics and morals.

In Africa most of the assessment bodies are still largely using traditional paper delivery formats which are labour intensive. Trust of personnel is the foundation of the protection of items.

In the United Kingdom (UK) and other developed countries, item bank systems are automated as opposed to those in Africa which are still largely manually managed (Sclater, 2004). Item Banks Infrastructure Study (IBIS) is proposing that management of item banks should be made more flexible. Some organisations may only use the brokerage system for making and purchasing or outsourcing the entire item bank service to a third party. Items may be authored and held by one organisation but delivered by another. This would result into the creation of a "market" for items, held in item pools. Items in most banks are electronically stored and offered automated item selection.

Whereas principles in item construction and selection are similar in Africa to those in the UK, USA and other developed countries, there are clear differences seen in terms of practices. In developed countries items are electronically stored and selected while those in Africa are still manually managed.

There is decentralization and liberalization in the management of item banks in both the UK and USA. Bacon (2003) holds that the concept of an assessment item bank that can be used by academics to share assessment content within or across a range of institutions is not new. There is involvement of parallel organisations in the writing of items and management of item banks. Schools and colleges have a choice of which examinations to register for, depending on individual institutional objectives. Data banks or repositories are well established and can be accessed via a web interface for platform independence. The use of electronic assessment systems is becoming more widely spread and acceptable by both staff

and students. It is becoming possible to transfer questions between assessment systems with little or no change in functionality. The various awarding bodies in the four UK nations (England, Scotland, Wales and Ireland) do communicate and to varying degrees provide leadership to their communities in e-assessment (Sclater, 2004).

Examination items in Africa are mainly moderated and standardized in a “traditional way”- moderated, pretested, scored and analysed manually. However in the UK, on screen testing, scoring and analysis is becoming popular (www.itembank.org.uk.) The examination regulator for England, the Qualification and Curriculum Authority (QCA) set a target to see the first on demand e-assessment GCSE papers by 2008. UK has gone ahead to develop an item banking system to deliver formative assessment material for key and basic skills for teachers to use as a learning resource.

Both traditional and automated examination systems raise questions of examination security which require investigation. Examination bodies in Africa and in developed countries alike are prone to challenges of test item protection. Whereas in most African countries test items are manually managed, making the system dependent on the trust of human beings, in developed countries their systems are automated hence making it too (less) open to manipulation.

Research Methodology

The research design adopted for this study is the sample survey. According to Kerlinger (1986) sample survey studies study large and small populations (or universes) by selecting and studying samples chosen from the populations to discover the relative incidence, distribution, and interrelations of sociological and psychological variables. The survey research focuses on people, the vital facts of people, and their beliefs, opinions, attitudes, motivations, and behavior. This research which is designed to study protection in test item production, selection and banking across examination bodies in Africa would best be carried out using the sample survey because the beliefs, opinions, attitudes, motivations, and behaviours of officers involved in test item construction, selection and banking were sampled. Due to the number of these officers involved the instruments were administered to samples drawn from their populations.

This study was carried out in two examination bodies found in two countries- the Republic of Cameroon in the Central African sub region and Uganda in East Africa. The examination officials of the Cameroon GCE Board and the UNEB were used in the study. These two countries and the two examination Boards were chosen because of their perceived diverse procedures in the process of protecting test items. 154

officials were sampled from the Republic of Cameroon while 127 were sampled from Uganda. The distribution of the sample is shown in Table 1.

Table 1

Distribution of respondents in the study

Country/official	Cameroon		Uganda		Total	
	Number Available	Number Sampled	Number Available	Number Sampled	Number Available	Number Sampled
Typesetters		5	8	5		10
Test item writers		120	200	100		220
Manuscript Heads/Head of Research and Publication		1		1		2
Assessors/Subject Officers	6 per subject	10	4 per paper			19
Proof Readers/Chief Examiners		18		12		30
Total		154		127		281

Interview guides were constructed by the researchers who all assembled in Cameroon for the exercise. The interview guides were constructed for each of the sets of officials. These instruments were validated by an expert in Tests and Measurement and some psychologist that were contacted at the University of Buea in Cameroon. The instruments were trial tested and tested for validity and reliability. The reliability of the instruments, each taken as a whole, ranged between 0.79 and 0.86. These indices were considered good enough to render the instruments appropriate for the study.

During administration of the instruments some officials were contacted individually. Also one focus group discussion was organized for each of the set of officials in each country.

The researchers moved in teams of at least three (03). Two of the members of the team were responsible for taking down notes while one was responsible for asking the questions and probing respondents.

The research was purely qualitative. According to Amin (2005), qualitative research is one whose data is basically descriptive in nature. This means that the data to be obtained are ordinarily expressed in non

numerical terms. The data collected was open ended hence the analysis involved developing themes from the data.

Results and Discussions

Cameroon

All the examiners produce test items at their homes using their personal libraries on some few topics that they choose. Most students are not aware that their teachers have prepared and submitted questions that could be used at the GCE Examination. They however know their teachers who are popular in the organisation of examinations at the Board. The teachers in the public institutions possess a higher capacity to keep the information away from the students about their status in Board as test item writers.

Typesetters:

Permanent staff of the GCE Board are brought together for a period of about five weeks to type moderated items. The activity is carried out under the supervision of the Deputy Registrar in charge of Technical Services (DRTS). During the time of typesetting they live in their homes and interact with the community normally

Test item Writers:

The GCE Board uses teachers who are examiners to write the test items. Each teacher selects topic areas and set a prescribed number of questions. They carry out this exercise in their homes at their stations and submit them to the Board either through their chief examiners or directly to the Board

Examination Officers

Examination officers are appointed permanent staff of the GCE Board. They supervise the work of members of subject panels during item moderation and proofreading. They bring together the panels in one location for a prescribed number of days, which the moderators and proofreaders usually consider not enough, to moderate the test items sent in by the item writers. Questions are moderated, sealed and signed by all the members of the subject panel. The EO then hands them over to the Deputy Registrar for banking.

Proof Readers

The proofing exercise engages typesetters, members of subject panels and Examination Officers. Each typesetter is assigned a subject and he/she works with members of the subject panel. The members of

the subject panel are given the typed copies of the items and they go through, correcting errors until they get an error free copy. The error free copy is then sealed signed by all the proofreaders and forwarded to the Board for banking.

Uganda

All items are generated at the UNEB centre by a selected set of test item writers. These writers do not come in with any material. They are provided requisite academic material that will be good enough to provide information for test item writing. These test item writers are confined for many weeks during the activity of test item production (incommunicado). The candidates know those who go incommunicado. During this period each test writer constructs test items to cover the whole syllabus. The manuscript head who is custodian of the item bank does not know the contents of what she is keeping. The tests constructed by the test writers, after moderation and typed, are given to the manuscript officer sealed. These tests are sealed in envelopes and kept in a strong room. It is the manuscript officers alone who can have access into the strong room from the strong room the tests are good for administration. From the strong room any set of questions could be selected using the simple random selection method.

One person keeping the key of the strong room could be a possible source of weakness in the protection of test items that are stored in the strong room

Assessors/Subject Officers

Moderators are invited to carry out moderation work under a conducive quiet environment for this kind of work. All this is done under the supervision of a subject officer. They are given enough time to avoid working under pressure.

Proofreaders and Moderators

Proofreading is done at two stages. The first typesetting done to prepare items for banking is done while proofreaders are coming from their homes. However, the second round of proofreading done immediately before the final production of examination papers is done while proofreaders are locked up in the printing press (incommunicado) in order to avoid any chance of leakage. It should be noted that the majority of the proofreaders are employees of the Board. In fact one of the proofreaders had this to say,

“Under the current system I hardly see any possibility. People are locked up under closed doors, armed security manning the premises, minimal talking only during meals

breaks and monitoring of coordinators. Proofreading is done during the first 2-3 days of confinement and then the next about 2 months proofreaders are confined. Most of these papers are administered in the field when proofreaders are still under confinement This is a statement from one of the proofreaders.

Conclusion

Although the testing profession has long had both ethical standards and standards regarding test quality, recent years have witnessed increasing public concern and controversies over the tests used. These areas of controversy have involved important social issues that have had far reaching legal, and public policy implications. Various examination bodies have adopted a variety of ways that can help the in the protection of test items during production, selection and banking. All of these are still to use expertise services and technology due to inadequate personnel, funds or infrastructure.

RECOMMENDATIONS

Cameroon

- i. Considering the increasing number of candidates that write the Cameroon GCE as the years go by, the environmental situation of the people who produce, bank and select items becomes more and more tempting. This necessitates that the examination board arranges for confinement of test item writers, type setters, moderators and chief examiners/ proofreaders during the period of execution of their duties. During confinement accommodation and other logistics can be taken care of. Then a common amount for per diem is paid to all. This will reduce the complaints of underpayment by base teachers who are hired by the Board.
- ii. The time given to proofreaders and moderators during their time of selection of test items moderating and proofreading (sometimes two days) is usually too small for them to execute their job effectively. The researchers recommend that enough time be allocated for this exercise to allow for thorough work to be done.
- iii. Regional mocks, text books and tollgate/ revision classes organized by chief examiners and moderators should be monitored keenly so as to see how much of the examinations are exposed in them. Such people should be replaced.

- iv. Appointment of teachers to take part in very confidential aspects of test items should be made from the proposal of the chief examiners and moderators.
- v. All the people participating at all stages where examination questions pass should do it under oath of secrecy.
- vi. The integrity of the experts notwithstanding they should be checked before they enter and as they go out of their working rooms.
- vii. In order to inspire the writing of good test items the remuneration for the process of test item production should be appreciably high.
- viii. The necessity for a Test Development unit for the Cameroon GCE Board is urgent.

Uganda

- i. The stakeholders of test item production ... accept the present situation of confinement but would love that the conditions of confinement be improved with respect to feeding and remuneration.
- ii. All written items and rough work should be left at the centre or handed over to the officers in charge.
- iii. The test item writers should be under oath of secrecy.
- iv. During incommunicado the staff involved pass through so much psychological torture because they are separated from their families. These researchers recommend recreation services and a counseling service for the staff during this period.
- v. Increase the number of staff that goes incommunicado and machines so as to reduce the duration
- vi. The older the type setter the less the temptation to expose typed questions. Long serving staff at the board who must have been proven to have high integrity should be used for type setting
- vii. There should be a monitoring service installed to allow for following - up of activities in the type setting unit.

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Appendices