



Recent Developments in the Conduct of Examination in Nigerian Universities: the Clarion Call for Urgent Utilization of Objective Test Items

KEYWORDS

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ABSTRACT *People often ask why it takes so long to release results of examination in Nigerian universities and the answers may not be unconnected with the adopted evaluation procedures and other inherent hiccups. It is a known fact that examining the examinees is not a simple business. The purpose of examination process is to reveal the latent abilities and to assess the competence of individuals to practice the selected functions effectively and efficiently. In this paper, attempt is made to buttress the adoption and use of objective test as a panacea to late release of examination results in universities. The paper discusses different formats of setting objective test items for examinations. It succinctly explains the merits and demerits of each type of objective test formats with illustrated examples drawn from several disciplines. The paper submits that for effective and efficient use of objective test items in examination, the same care which has gone into the preparation of objective test should be carried over into the test administration and scoring. The paper emphasizes that interruptions during examination should be reduced to the barest minimum. It is imperative to obviate examination malpractice by providing proper seating arrangements and careful supervision and this can be effective if every academic staff is deeply involved in examination invigilation*

Introduction

Examination has always been an important part of the school system that even the habitual absentees normally turn up to school and present themselves for testing on examination days. Testing has become one of the most important parameters by which a society adjudges the product of its educational system. An examinee's level of intellectual functioning is not completely a function of physiognomy. The essence of testing is to reveal the latent ability of examinee and to maximize variance amongst different levels of ability continuum. The term 'ability' connotes the characteristics of the examinees that the test is intended to measure. It includes factual knowledge and specific skills as well as more general skills. For an examinee's ability to be estimated, the examinee has to respond to a sample of questions. A test score based on sample of questions would be an approximate indicator of examinee's true ability. In the measurement of human ability, examination questions essentially, contain samples of possible items. With reference to an examinee's knowledge, we do not ask him/her all the questions about all the facts, principles, concepts, but rather we choose a sample of questions from the domain.

In the university teaching and testing need to be looked upon as complementary activities for the teachers and the learners. It has been affirmed that no matter how efficient the teachers are, how adequate the audio-visual materials may be, how intelligent the students may appear to be, and how robust the curriculum is, if no provision is made for the evaluation of students' learning progress; the teaching effort may be completely invalidated. Test results are now used for admission, recruitment, promotion, placement, evaluation, educational guidance, research and teaching purposes (Emaikwu, 2012).

The examination process in Nigerian universities is bedeviled by multifarious and multifaceted obstacles ranging from examination malpractice, cultism, missing scripts/scores to late release of results among others. Currently in many universities, there is a pressure for speedy reporting of student's examination results not minding the fact that the group to be tested is large as occasioned by the 21st century population explosion in tertiary institution. The only panacea to late processing and release of results is the gradual adoption and use of objective test in examinations. The attention of many

psychometric connoisseurs world over is currently turning towards the use of objective tests in the measurement of ability.

In this discussion, we shall focus on the construction of objective test items. Specifically, different ways of setting objective test items as well as the merits and demerits of each type of objective test formats will be discussed with illustrated examples from several disciplines. Moreover, various strategies for effective and efficient use of objective test items in the measurement of ability will be discussed.

The concept of objective test

In educational institution, examination could be administered on the examinees in the form of essay test or objective format. An objective test is the type of test in which the scoring rules are so exhaustive and specific that they do not allow scorers to make subjective inferences or judgments. Objective test items require students to select the correct response from several alternatives or to supply a word or short phrase to answer a question or complete a statement. In this regard, the subjective judgment of the examiner in determining the correctness of the examinee's response is completely eliminated. In this era of population explosion in the university classrooms, the adoption and use of objective test items in the measurement of ability would assist the lecturers to easily mark and record scores quickly, and as well as submit results on time. The urgency with which results are being demanded by the senate of universities few days after the conduct of examination, the only panacea to address late submission of results, especially in the courses which involve many students is to incorporate objective tests in the measurement of ability to ease marking.

Objective tests are especially appropriate when:

- There is pressure for speedy reporting of scores as often witnessed in universities in the recent time.
- The group to be tested is large as occasioned by the 21st century population explosion in tertiary institution.
- Highly reliable test scores must be obtained as efficiently as possible.
- There is a need for impartiality of evaluation, absolute fairness, and freedom from possible test scoring influences (e.g., fatigue,) is essential.

Several justifications for the use of objective test have been adduced. It has been affirmed that essay questions offer limited sampling of course contents and hence, have doubtful content validity unlike objective test. The items of objective test cover a wide range of the course content as these entail extensive sampling of the items. This invariably encourages students to cover properly, all the contents taught in the course.

The scoring of the examinees' responses is not fraught or laden with high degree of subjectivity as inherent in essay test and therefore has high score reliability. Objective test has high impartiality of scoring, ease and objectivity of item analysis, and greater reliability than essay test items. Objective test has high test-retest reliability and high stability of scores. The grading of examinees' responses is not laborious, not time consuming and sometimes not boring like essay test.

One common misconception about the objective test item is that it is limited to testing specific, often trivial, factual details which encourage students toward rote learning and other surface-processing strategies. Antagonists of objective test have equally postulated that it encourages a lot of guess work by the students and it also takes much time to set the items. It has also been criticized for its inability to assess beyond the level of rote memorization. Protagonists of essay test consider the current clarion call for the use of objective test as a faddish discard of old wisdom in favour of inferior novelty; however, some of these accusations have not been fully substantiated and accepted.

Educators should be reminded that well written objective test items may not have such negative effects on students as claimed. Thus, it is not the objective test item per se that is the problem. What is important is to change the stereotypical beliefs that objective test items require only rote learning of factual knowledge and to also avoid poorly constructed objective test items. Ebel and Frisbie (2007) pointed out that well written objective tests (especially multiple choice tests) can actually assess higher-order abilities. While it is true that some types of abilities may be difficult to assess by objective tests, educators should keep in mind that what test items can assess depends largely on the skills and effort of the test constructor, rather than the test format per se. The construction of good objective test items requires much skill and effort (Marjorie, & Nevart, 2013). Basically, various forms of objective tests exist and they include: multiple choice tests, matching test, true/false, and completion test/short-answer test/fill-in-the-gap.

Multiple-choice test

A multiple choice item is designed for objective measurement and contains a stem and response options, one of which is the correct answer (Murayama, 2009). It is a kind of test item in which some options are given and the examinee is expected to pick the correct one out of those options provided. Multiple-choice items can be used to measure both simple knowledge and complex concepts.

Multiple-choice test item is made up of two parts which include the stem and options. The stem could state an issue or be in the form of a question or of a statement to be completed. The stem should be expressed clearly and concisely, avoiding poor grammar, complex syntax, ambiguity and double negatives. Negative statements are not characteristic of normal thought processes, and consequently may place the candidate who is attempting to decipher the item at a disadvantage. If a negative question is used, it should be emphasized with italics or underlining.

The options are divided into two and they include the key and the distracters. The key is the correct option, while the distracters are the options which appear to the examinees to be the correct answers but are not correct in the actual term. The correct answer should be clearly correct to the in-

formed. The other distracters should also seem plausible to the candidates who have partial, incomplete or inappropriate knowledge. The distracters may be considered logical misconceptions of the correct answer. Multiple-choice test has long been the most widely used among the objective test formats

Examinees have less chance of guessing the correct answer to a multiple-choice test question if the distracters are plausible (Gronlund, 1988). In a five-choice item, a student who knows nothing about the subject matter has a one-out-of-five chance of choosing the correct answer by random guessing. The advantages of multiple-choice tests are multifarious and they include inter-alia:

Merits of multiple-choice test

1. It is easier to mark objective test items than essay test questions.
2. It gives a lot of coverage of the content.
3. It does not require expertise skill to mark.
4. It has high reliability in scoring.
5. It is effective in measuring objectives at all levels of cognitive domain.
6. Scoring is objective as it cannot be influenced by any factor such as poor handwriting of examinee.
7. Many items can be attended to within a short period of time.

Demerits of multiple-choice test

1. It gives room to guesswork if the options are few and not plausible.
2. The production of the test items is expensive as it often covers more pages.
3. It requires the knowledge of experts in the construction of items.
4. The preparation of the test items takes a long time.
5. It does not give the examinees room to express themselves in a logical and meaningful way.
6. It encourages examination malpractices as it is possible for most examinees to giraffe into their colleagues' work if few invigilators are involved.

Rules for Constructing Multiple Choice Items

1. Design each item to measure an important learning outcome.
2. Present a single clearly formulated problem in the stem of the item.
3. Put much of the wording as possible in the stem.
4. Eliminate unnecessary or redundant words from multiple-choice items
5. Avoid negatively worded stems but where it is unavoidable, emphasize it in the stem of an item.
6. Ensure that the intended answer is correct or clearly the best.
7. Do not have linked or clued items. A stem clue occurs when an identical or similar term appears in both the stem and an option.
8. All options should be plausible and relatively homogeneous.
9. Put repeated words in the stem, not in the options.
10. Make all options grammatically consistent with the stem of the item.
11. List options logically and if possible, vertically.
12. Ensure that each item is independent of the other items in the test.
13. Vary the position of the correct options in a random manner.
14. Make the distracters plausible and attractive to the uninformed
15. Use the option "all of the above" and "none of the above" sparingly. Knowing that two options are correct, could lead a clever candidate to choose "all of the above"

without knowing the importance or correctness of the re-

maining responses

Example of unnecessary wordiness, or redundant words in multiple-choice item

1. When 53 Americans were held hostage in Iran, -----
- the United States did nothing to free them
 - the United States declared war on Iran
 - the United States first attempted to free them by diplomatic means and later attempted a rescue
 - the United States expelled all Iranian students

The phrase "the United States" is included in each option. To save space and time, add it to the stem: "When 53 Americans were held hostage in Iran, the United States - -"

- In objective testing, the term objective:
 - refers to the method of identifying the learning outcomes
 - refers to the method of selecting the test content
 - refers to the method of presenting the problem
 - refers to the method of scoring the answers

In the problem above, the phrase "refers to the method of", is included in each option and to save space and time, it is better to add it to the stem thus:

- In objective testing, the term objective refers to the method of:
 - identifying the learning outcomes
 - selecting the test content
 - presenting the problem
 - scoring the answers

How to make all alternatives grammatically consistent with the stem of an item

4. United States Grant was an -----
- cavalry commander
 - navy admiral
 - army general
 - senator

Most students would pick up on the easy grammatical clue in the stem. The article *an* eliminates options A, B, and D, because "an navy admiral," "an cavalry commander," or "an senator" are grammatically incorrect. Option C is the only one that forms a grammatically correct sentence. One way to eliminate the grammatical clue is to place the article (or verb, or pronoun) in the options' list.

An example of linked or clued item that should be avoided

5. The free-floating structures within the cell that synthesize protein are called-----
- chromosomes
 - lysosomes
 - mitochondria
 - free ribosomes

In this item the word *free* in the option is identical to *free* in the stem. Thus, the wise test-taker has a good chance of answering the item correctly without mastery of the content being measured.

- The study of peace and conflict is necessary because ----
 - conflict is abnormal
 - conflict is desirable
 - conflict is useless
 - conflict is inevitable in human society
 - peace and conflict has dominated human interaction and therefore the need to understand the phenomena

Option E is the longest and test-wise examinee may choose that as the correct answer

Ensure that each item is independent of the other items in a quantitative test

- The perimeter of a rectangle is 350 centimeters. The length of the rectangle is 3 centimeters longer than the width. What is the width?
 - 18.7
 - 86.0
 - 89.0
 - 116.7
- What is the area of the rectangle described in Question 1?
 - 1050 sq. cm.
 - 7396 sq. cm.
 - 7654 sq. cm.
 - 8188 sq. cm.

It is not proper to make an answer to any item dependent on each other. The answer to question 8 is dependent on answer to question number 7. Question 9 is independent of question 7 and is the appropriate approach.

- The width of a rectangle is 4 centimeters and the length is 3 centimeters. What is the area?
 - 9 sq. cm.
 - 12 sq. cm.
 - 16 sq. cm.
 - 17 sq. cm.

Note that the stem of a problem can be stated in a declarative or interrogative form, for instance:

- The most effective prophylactic agent for the prevention of recurrences of rheumatic fever is -----
 - acetylsalicylic acid
 - para-aminobenzoic acid
 - penicillin
 - adrenocorticotrophic hormone
 - cortisone

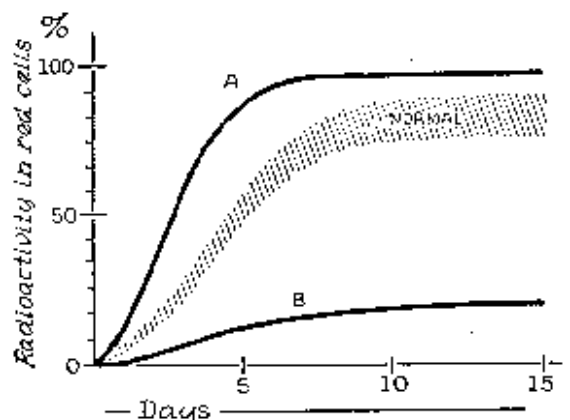
In this example, the stem can also be written as a question: "Which of the following is the most effective prophylactic agent for the prevention of recurrences of rheumatic fever?" There is just little advantage in an incomplete statement over a question, but the incomplete statement is sometimes preferred because it can often be expressed in a simpler way with fewer words.

How to state negatively worded stems or how to emphasize it in the stem

- Active immunization is available against all of the following diseases EXCEPT:
 - tuberculosis
 - smallpox
 - poliomyelitis
 - *malaria
 - yellow fever

This "all of the following EXCEPT," however, requires a switch from positive to negative thinking; this may throw the student off the track to the extent that an incorrect response might indicate a failure to follow the technique of the test rather than a true lack of knowledge of the subject. One variant of this type of item is the negative form, that is, all but one of the choices is applicable and the student is asked to select the one which does not apply or is an exception in some way. The followings are more items of this type:

The graph below shows incorporation of radioactive iron in erythrocytes of peripheral blood after an intravenous injection of radioactive iron citrate.



- A 40-year-old man has had prolonged gastrointestinal bleeding. He has an iron uptake as shown in curve A. This observation implies all of the following information EXCEPT
 - Increased erythrocyte production
 - iron deficiency
 - saturated iron-binding protein
 - reticulocytosis
 - adequate serum folic acid concentration
- A 40-year-old man has normal erythroid blood values (hematocrit 45 per cent, hemoglobin 14.6/100 ml. reticulocytes 1.0 per cent). His iron uptake is shown in curve B.

These findings represent

- (A) Chronic glomerulonephritis (B) hemochromatosis (C) agnogenic myeloid etaplasia (D) congestive splenomegaly (E) low serum transferrin concentration

Negative phrasing in multiple-choice item can also follow this pattern:

14. Which of these is NOT true of viruses?
A. Viruses live only in plants and animals. B. Viruses reproduce themselves. C. Viruses are composed of very large living cells. D. Viruses can cause diseases.

An instance of heterogeneous content

15. Which of the following is one of the ways that the membranes of winter wheat are able to remain fluid when it is extremely cold?
A. By increasing the percentage of cholesterol molecules in the membrane
B. By decreasing the percentage of unsaturated phospholipids in the membrane
C. By decreasing the percentage of short-chain fatty acids in the phospholipids of the membrane
D. By increasing the percentage of saturated phospholipids in the membrane

Note: Because option A focuses on a different type of molecule (cholesterol) than B, C, and D, it can cue savvy test-takers to the correct answer.

Other examples of multiple choice test items include:

16. A program that controls the use of computer memory is called -----
A. operating system B. central processing unit C. output unit D. memory manager
17. The Marxist concept of conflict is -----A. physical B. historical C. ideological D. chemical and biological E. phenomenological
18. Which of the following is a final book of account?
A. cash book B. trial balance C. balance sheet D. trading, profit and loss account
E. Journal account
19. A seismograph is an apparatus for measuring-----
A. earthquake waves* B. heat waves C. ocean waves D. sound waves
20. Which of the following is a treasonable felony offence in Nigeria?
A. coup d'état B. plagiarism C. forgery D. adultery E. mutiny F. corruption
21. The aggression /frustration theory states that conflict occurs as a result of inability to fulfill human ----- A. relation B. interaction C. struggles D. needs E. destiny For questions 22-23, study this reference entry Audu, T. M., & Ndukwe, M. M. (2012). How children learn. Kaduna: Academic Press.
22. In this entry, the phrase 'Academic Press' begins with capital letters because it is---
A. an error B. a proper name C. the publisher's identifier D. an abbreviated phrase
23. 'Academic Press' here implies----- A. printer of a university books only B. publisher of a university book only C. just a printer D. just a publisher
24. Identify the title that is grammatically correct. A. Error Analysis of the Writing of Undergraduates of BSU B. The Error Analysis of the Writing of Undergraduates of BSU
C. The Error Analysis of the Writing of the Undergraduates of BSU D. An Error Analysis of the Writing of Undergraduates of BSU
25. Which of the following in-text citations is correct?
A. According to Mark, "-----" (2013 p 45) B. According to Mark, (2013: p 45) C. According to Mark (2013: 45) D. According to Mark (2013, 45)
26. Sounds that are produced with no restrictions are referred to as -----
A. alveolars B. consonants C. affricates D. vowels
27. Most of the followings are inaccurate EXCEPT -----

- A. 24 consonants, 2 vowels, 6 diphthongs and 4 triphthongs
B. 22consonants, 10 vowels, 8 diphthongs and 5 triphthongs
C. 23 consonants, 12 vowels, 7 diphthongs and 6 triphthongs
D. 24 consonants, 12 vowels, 8 diphthongs and 5 triphthongs
28. In a prepositional phrase, the preposition is always followed by -----
A. a verb phrase B. an indirect object C. a modifier D. a noun phrase
29. A clause that begins with who, whose, whom, which or that would, in most cases be---
A. an adverbial clause B. a noun clause C. adjectival clause D. a noun in apposition
30. All of the following are assessment tools except
A. oral questioning B. trial and error C. take home assignment D. essay test
31. Soap bubbles and foam are related to the concept of-----
A. solvency B. simple machine C. evaporation D. light reflection and colour
32. In the expression 'an interesting story', interesting is ----
A. a participle B. an ordinary adjective C. an infinitive D. a normal phrase To make our higher-level multiple-choice questions more effective, we can use justification to assess reasons behind an answer. We can ask students to specify why they choose their answers and this allows them to demonstrate knowledge at the higher order level.
33. Which of the following best explains why countries of the European Community have been exempted from France's new visa regulations?
A. few terrorists operate in those countries B. France is bound by its international treaties C. those countries have signed the European Convention on the Suppression of Terrorism D. France needs the support of those countries in its fight against terrorism Cite reason for your answer in the space provided below. -----
34. Science has discovered a mutant form of insulin that lacks a signal peptide. What will be the final cellular destination of the mutant insulin?
A. Cytosol B. Endoplasmic reticulum C. Extracellular space D. Golgi apparatus
E. peroxisome F. Plasma membrane Cite evidence for your selection in the space provided below. -----
35. The principal value of a balanced diet is that it- - - -
A. increases our intelligence B. cures disease C. promotes mental health
D. promotes physical health E. improves self-discipline What evidence did you use to choose your answer? ----- We can also use case history in multiple choice items to assess higher order thinking process. In presenting case history, a clear and concise style is urged. The following case history describes a patient with hemophilia, but the word "hemophilia" does not appear anywhere in the question. The student must, however, know about hemophilia in order to respond correctly to the three mutually independent questions that follow the case history.
- A 14-year-old boy is admitted to the hospital with a nose-bleed which followed slight trauma and which has persisted for four hours despite nasal packing. He has had repeated nosebleeds since early childhood. He had spontaneous hematuria on one occasion, and has ankylosis of both knees and the left elbow as a consequence of hemorrhage into these joints following injury. A maternal uncle was also a bleeder, but his mother, father, and two sisters have not had abnormal bleeding. He has a blood-soaked pack in his nose and ankylosis of both knees and his left elbow. His spleen is not palpable. There is no evident lymphadenopathy; no petechiae or telangiectases are seen. The following laboratory data are reported: hemoglobin 13 gm per 100 ml; erythrocyte count 4,500,000 per cu mm; leukocyte count 12,000 per cu mm; differential count normal; platelets 460,000 per cu mm; urine shows no protein, red blood cells, or other abnormalities in the sediment.
36. Which of the following tests is most likely to show an ab-

- normality?
- (a) Tourniquet test (b) Bleeding time (c) *Clotting time (d) Clot reaction
(e) Bone-marrow examination
37. An abnormality would be expected in
(a) one stage prothrombin time (b) *thromboplastin consumption test (c) plasma fibrinogen content (d) platelet fragility (e) none of the above
38. The most efficacious of the following therapeutic procedures would be:
(a) local applications of thrombin-soaked packs to the nose
(b) intravenous administration of a suspension of fresh, normal platelets in saline
(c) *intravenous administration of fresh plasma
(d) intravenous administration of fibrinogen and calcium gluconate
(e) intravenous administration of vitamin K

True-false tests

The true/false test is the simplest form of selected response formats. True/false test item is also called the alternative response test item. The true/false option consists of item with declarative statement to which the examinee is asked to give either of the two options concerning the item. The two options could be true or false, right or wrong, correct or incorrect, yes or no; and agree or disagree. Some examiners who use true-false questions add an "explain" column in which students write one or two sentences justifying their response. A major advantage of the true/false test is its efficiency as it yields many independent responses per unit of testing time. Therefore, teachers can cover course material comprehensively in a single test.

An apparent limitation of the true/false test is its susceptibility to guessing. For the fact that random guessing will produce the correct answer half the time, true-false tests are less reliable than other types of objective examinations.

Rules for Writing True-False Items

1. State the item precisely so that it can be judged unequivocally true or false
2. Ask questions on important ideas rather than trivial.
3. Don't present items in easily learned pattern.
4. Don't copy sentences directly from textbooks and other written materials.
5. Use negative statements sparingly and avoid double negatives.
6. Keep statements short and use simple language structure.

Examples of true \ false items are:

39. One of the assumptions of McGregor's theory -X assumptions about human nature is that most people must be coerced, controlled, directed and threatened with punishment if organization is to achieve its objectives. True \False
40. A seismograph is an apparatus for measuring earthquake waves. True \False
41. Nurture used in psychology refers to environment True |False
42. Mnemonic devices are techniques used for organizing information so that they can be remembered easily True |False
43. Prolonged malnutrition can cause forgetting True |False
44. The theory of needs in motivation was propagated by Abraham Maslow in 1954 True |False
45. The law of readiness entails that a student can only learn when they are prepared. True \ False
46. Thorndike believed that animals including people solve problems by trial and error learning True \ False

Completion Test Format or Fill-in-the-blank or short-answer-test or restricted response format.

Completion test item format is a typical example of a con-

structed-response format which asks examinees to supply a word, phrase, or number that answers a question or completes a sentence. Completion test format is called fill-in-the-blank test or short-answer tests. Short-answer test item does not require the development of plausible distracters. Short-answer test items are not susceptible to guessing like selected-response format items. Depending on the intention of the examiner, completion test questions can call for one or two sentences or a long paragraph. One of the advantages of short-answer test is that it is easier to write than multiple-choice test. It also gives teacher some opportunity to see how well students can express their thoughts. Completion test item format takes longer time to score than multiple-choice test.

Rules for Writing Completion Items

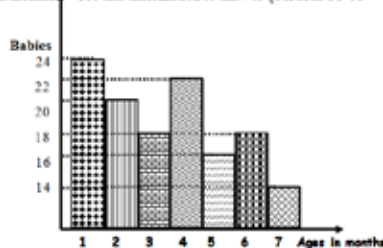
1. State the item so that only a single, brief answer is possible.
2. Start a direct sentence and switch to an incomplete statement only when greater conciseness is possible.
3. Place the blanks at the end of the statement if possible.
4. Word the items to avoid irrelevant clues or specific determiners.

Examples of completion test item are provided below:

Complete the sentences by writing the correct word or words in the spaces provided.

47. The magnitude of the change associated with an electron is -----
48. Plagiarism can best be described as -----
49. A vector whose magnitude is zero but does not have a direction is called ----
50. The intervention of a third party and a voluntary process in which parties retain control over the outcome is called-----
51. The smallest unit of data on a digital computer is called -----
52. The cross product of vectors $A = i-2j-4k$ and $B = 4i-3j-2k$ is-----
53. The definite integral of $\int_2^4 (ti + t^2j + t^3k) dt$ is -----
54. If the eccentricity of a conic is equal to one, the conic said to be
55. Three ways of conflict resolution are: i.ii... ..-iii
56. A memory size of 2MB equals in KB
57. The circuit elements that store charges are called -----

The histogram below represents a record of babies taken to a hospital for vaccination against polio in months. Use this information to answer questions 58-61



58. The number of babies who were at most 4 months of age is -----
59. The number of babies who were vaccinated altogether is-----
60. Among the babies vaccinated, the number of them above 3 months of age is-----
61. The number of babies who were below three months of age is-----

The Matching Test Items

The matching format is an effective way to test students' recognition of the relationships between words and definitions, events and dates, categories and examples (Thorndike, 1997). It usually consists of two parallel columns. One column contains a list of word, number, symbol or other

stimuli (premises) to be matched to a word, sentence, phrase or other possible answer from the other column lists. It is essentially used to relate two things that have some logical basis for association.

It is adequate for measuring factual knowledge like testing the knowledge of terms, definitions, dates, events, references to maps and diagrams.

Rules for Constructing the Matching Test Item

- i. There should be more options than items. This will reduce the effectiveness of elimination and guessing.
- ii. It is better if some groups of items are designed to use some options more than once and some options not at all. This will nullify the process of elimination completely. If this is done, it must be explicitly stated in the directions. For example: "Answers may be used once, more than once, or not at all."
- iii. Items and options should be ordered in some logical arrangement. Correct answers should form no discernable pattern.

Merits of Matching Type Item

- i. Matching test makes it possible to measure a large amount of related factual material in a relatively short time.
- ii. It enables the sampling of larger content, which results in relatively higher content validity.
- iii. The guess factor can be controlled by skillfully constructing the items such that the correct response for each premise must also serve as a plausible response for the other premises.
- iv. Since each item has the entire set of options as answer possibilities, a student may become overwhelmed with the amount of choices from which to select the correct answer.
- v. It is compact in size. An individual item usually takes only a fraction of the space occupied by one conventional multiple choice item.

Demerits of Matching Type Item

- i. It is restricted to the measurement of factual information based on rote learning because the material to be used lend themselves to the listing of a number of important and related concepts.
- ii. Many topics are unique and cannot be conveniently grouped in a homogenous matching cluster.
- iii. It requires extreme care during construction in order to avoid encouraging serial memorization rather than association.

Examples of Matching Type Item

Match the items in Set A with those in Set B

Set A	Set B
62. March- 8	World animal welfare day
63. December- 1	World Ozone day
64. August – 6	World disabled day
65. March – 15	Hiroshima days
66. October – 4	International women's day
67. September -16	World AIDS day
68. May -1	Workers' day

Match each discovery/invention from list A with scientist associated with it from list B.

List A - Discoveries/Inventions	List B — Scientists
69. Use of chloroform as an anesthetic	Nobel Bell
70. Manufacture of dynamite	Simpson Watt
71. Development of the steam engine	Darwin Baird
72. Invention of television	Faraday

For objective test to be used effectively in the measurement of examinee's ability, few issues ought to be addressed namely test item banking and proper test administration

Proper Examination Administration

It is advisable that the same care which has gone into the preparation of objective test should be carried over into the test administration and scoring. It is desirable in any test administration to give all examinees a fair opportunity to demonstrate their optimum ability of the learning outcomes measured. To ensure this, there is a need to provide a physical and psychological environment such as quiet environment, proper lighting condition and good ventilation conducive enough for examinees to demonstrate their abilities.

It behoves on the examiner to reduce factors that create excessive tests anxiety in examinees. Factors such as threatening students and stressing the ugly consequences of failures during examination should be avoided. Also interruptions during examination should be reduced to a barest minimum. It is imperative to hang a notice that reads "SILENCE, EXAMINATION IN PROGRESS" on the outside of the door to scare away students who are not participating in such an examination. Above all, it is imperative to discourage cheating, at all cost by providing proper seating arrangements and careful supervision. Every academic staff should be deeply involved in examination supervision to forestall examination malpractice.

Test Item Banking

For effective use of objective test, there is the need for the maintenance of test item banking. Item banking is a process of maintaining a collection of test items and associated answers. The primary aim of item banking is to remove from test constructor the burden of constructing tests each time questions are needed. Millman (2011) sees question banks, item pools, item collection, item reservoirs, and item libraries as being synonymous with item bank, which he defines as a relatively large collection of easily accessible test questions. By relatively large it means that the number of items exceeds by several times the number to be used in any one test.

For a successful assessment, there is a need to develop and maintain a collection of a relative large number of tested, calibrated, reliable and easily accessible items. It will thus enable the lecturers to satisfy the frequent testing demand in universities. With a bank of calibrated items, it is easy to submit test items at any short notice (Nitko, 2010). Availability of a large collection of items decreases the concern about item security and even examination leakages. With the introduction of item banking, the labour of writing new items is saved.

Scoring of Objective Test and Correction for Guessing

The objective test can be scored manually or mechanically using optical mark readers (OMR). In scoring objective test, an examinee's score is simply the number of items answered correctly. In order to discourage guessing, standard examination bodies like JAMB, WAEC, NECO use a correction formula, based on the assumption that the examinee who does not know the answer, will resort to a random guess. The scores after correction will represent real attainment which does not include lucky guesses.

Though the examinee's success in guessing right after thoughtful consideration is usually a good measure of his achievement, the argument that scores uncorrected for guessing will be too high carries some weight. The logical objective of most guessing correction procedures is to eliminate the expected advantage of the examinee who guesses blindly in preference to omitting an item. This can be done by subtracting a fraction of the number of wrong answers from the number of right answers, using the formula $S = R - \frac{W}{k-1}$ where S is the score corrected for guessing, R is the number of right answers, W is the number of wrong answers, and k is the number of choices available to the examinee in each item.

Conclusion

Examining the examinees is not a simple business. Constructing good objective test items requires much skill and effort.

Since the scoring of essay test is to some extent subjective to scorer's judgment and time consuming in terms of scoring, attention is currently shifting to the use of objective test items in the measurement of ability. It is expedient that the items of objective test be arranged in order of increasing difficulty. For objective test to be used effectively there should be existence of test item banking and proper test administration.

An examiner can combine the different formats of objective test in an examination for effective measurement of ability. Objective tests are especially appropriate when there is a pressure for a speedy reporting of scores as often witnessed in universities in the recent time and when the group to be tested is large as occasioned by the 21st century population explosion in tertiary institution.

To make our higher-level multiple-choice questions more effective, it is imperative that we can use justification to assess reasons behind an answer. We can ask students to specify why they choose their answers. This allows students to demonstrate knowledge at higher order level.

To obviate examination malpractice, it is essential to provide proper seating arrangements and careful supervision and this can be effective if every academic staff be deeply involved in examination supervision.

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