Innovations in Testing: Issues and Implications for WAEC and WASSCE Candidates

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ABSTRACT
The study is poised to critically examine the innovations of the West African Examinations Council employed in testing the 2017 May/June West African Senior School Certificate Examinations candidates. It bothers on the essay part of the examination cutting across all subjects. The new system is designed to accommodate both questions and answers in the same paper with a sizeable amount of space provided after each question for the examinee to write his answer(s) thereby constraining him to limit his ideas within the framework of the few lines made available by the examiner. This paradigm shift from the usual calls for a critical appraisal. It is exciting to find that there is a significant improvement in the performance of the 2017 WASSCE candidates. Specifically, 59.22 percent obtained minimum of credits in five subjects and above, including English Language and General Mathematics when compared to 38.68 percent and 52.90 percent in 2015 and 2016 respectively. The new approach among other factors is believed to have contributed largely to the level of success recorded in the examinations. This paper is a positioned paper, recommendations were made.

Keywords: Essay, Assessment, Psychometric, Optical Mark Recognition, Examinations

INTRODUCTION
Over the years, the West African Examinations Council has conducted the Senior Secondary Certificate Examinations (SSCE) across the West African coast using its usual paper-pen/pencil medium for answering essay and objective questions. For each paper, the examination basically consists of two sections: section A (objective test) and section B (essay test) apart from some selected subjects which involve practicals. For the Multiple-Choice Objective test, candidates are expected to read the stem, choose only one of the options and shade the selected option in the Optical Mark Recognition (OMR) sheet. The essay test requires candidates to put down their responses by drawing, solving and or writing extensively enough as to earn the marks allocated to each question. In each question, all necessary details of working, include rough works, must be shown with the answer (WAEC, 2016). This shows that one major essence of essay test in the WASSC examination is to test the ability of the candidates to express their thoughts and answers in details.

This explains why more time duration and marks are allotted to the essay part of every subject compared to the multiple-choice objective tests. For example, most multiple-choice papers last for one hour while essay papers last minimum of two hours after which the answer booklet is collected. The nature of the subject determines the appropriate use of the language some of which are enumerate, express, justify, exemplify, explain, derive, juxtapose, compute, deduce, find, draw, sketch, discuss, simplify, calculate,
determine, list, define, describe, highlight, state, what is, mention, identify, expand, compare and contrast, examine, factorize, integrate, differentiate, distinguish, tabulate etc in WASSCE essay questions. Explain **five ways Civic Education** can help eradicate drug addiction among youths (WAEC, 2017).

However, the Council introduced a new system in the essay part of the West African Senior School Certificate Examinations in the November/December 2016 diet of the test. Before then, a separate answer booklet with many pages is made available to WASSCE candidates for their answers. A candidate by right is entitled to extra sheets apart from the one previously made available to all. Such extra sheets are meant to be attached together with the initial answer booklet before submission to the WAEC supervisor. Hence, a candidate is at liberty to articulate his responses in the essay questions as much as possible within the duration of time for the paper. Thorn hijo and Hagen (1977) posit that one major characteristic of essay test is that it allows a student to organize his own answers with a minimum constraint. But the new system adopted by the Council is a paradigm shift from the aforementioned. It involves both the questions and answers in the same paper with a sizeable amount of space provided after each question for the examinee to write answer(s) thereby constraining him to limit his ideas within the framework of the few lines made available by the examiner. This, on the other hand has a way of enhancing a candidate to filter his ideas and write key facts as to earn maximum marks. Moreover, the question paper which contains examinees responses is submitted back to the supervisor. This implies that the WASSCE past questions will no longer be easily accessible to upcoming private candidates since WAEC supervisors are under obligation not give out any copy of the question paper to candidates or the school authority where the examination was conducted.

The scenario became of research interest as the same system was employed in testing the May/June 2017 WASSCE candidates. One would have expected the sudden change without prior notice and orientation to have impacted negatively on candidates' performance as it deviates from what was obtainable. However, the 2017 WASSCE records an appreciable improvement in the performance of candidates who obtained credit and above in at least six subjects by seventy percent as compared to the previous years; about eighty percent of these candidates obtained credits and above in five subjects. It is worthy of note that English Language and General Mathematics are included in the success story. Adenipekun (in press), stated that a total of 923,486 candidates, representing 59.22 percent, obtained minimum of credits in five subjects and above, including English Language and Mathematics, adding that the percentage of candidates in this category in the WASSCE for school candidates in 2015 and 2016 was 38.68 percent and 52.90 percent respectively. The new approach among other factors must have largely contributed to the ease with which the marking of candidates' scripts for the may/June 2017 WASSCE was conducted in just three weeks. This consequently enhanced early release of candidates' results compared to the previous years.

Background on Assessment

An assessment is mainly a process for making inference or conclusions about individuals or a group of individuals. It is an evaluation scheme used to assess skills, ability, intelligence, knowledge, aptitude, attitude, achievement, interest, attention span, motivation and competence (Asuru, 2015). Sometimes these inferences take the form of measurement like — we want to be able to conclude that this student A understands the Upper Basic Mathematics curriculum than that student B. However, evaluating the amount of knowledge a student possess in the Upper Basic Mathematics is not as simple as measuring the weight of an object on a scale or determining air temperature by observing the expansion of mercury in a thermometer. In the world of assessment, measurement is not direct — we may not be able to directly examine what is ongoing in a student’s head. However, in making inferences, classifications may be used rather than measurements. We may also deduce that when a student has satisfactorily mastered basic 7 mathematics hence he/she proceeds to basic 8, while another has not. Even though such inference could be based on a measurement, it could also be based on a cautious comparison of a number of things the student is capable of doing, and what the student is expected to be capable of doing to thrive in Basic 8 Mathematics.

**Formative Assessment:** The definition of formative assessment built up in 2006 posits that “Formative assessment is a process used mostly by teachers and students at a time instructions are given and feedback
expected so as to amend ongoing teaching and learning, hence to improve students’ achievements of anticipated instructional results”. Asuru (2015) opines that this type of evaluation (assessment) is very important for the success of any programme and the realization of instructional objectives in the classroom.

**Summative Assessment**: This type of assessment is designed to give detailed information vis-à-vis the level of a student, the success of a school or an academic program at a well-defined end point in time. This test is administered at the end of a course with a view to find out how much of the instructional objectives have been achieved (Ubolor, Uzoeshi, Amini and Vipene, 2011). The results are used to pass judgement, to assign grades, for promotion, for certification and other value judgements as to the extent to which the instructional objectives or programme goals have been achieved (Asuru, 2015).

**Diagnostic Assessment**: This method of assessment involves evidence-gathering actions that giving clear indications sufficient enough to know which sub-skills or bodies of enabling knowledge a student possesses or otherwise — thereby providing the information necessary to teachers who decide and embrace the most appropriate design or modify instructional activities to deploy. These assessment methods are only used for the division of students recognized as not making satisfactory progress mainly because of the time intensive and its specific nature.

Ubolor *et al* (2011) proposed that diagnostic test is helpful in any attempt to find out the learning difficulty few learners encounter despite all efforts to get them better. The purpose of the diagnostic assessment process is to present adequate information to teachers about what is not being learned and understood especially if students are not making progress. Such assessment information is very useful as it point out certain tips to teachers or students on what better to be done to advance learning.

**Prognostic Assessment**: This is otherwise called “Placement assessment” which is usually administered before the commencement of an instructional programme in order to decipher the intending learners’ level of readiness and place such accordingly. This type of test is designed to find out the learners’ entry behaviour for a lesson to be taught (Ubolor *et al*, 2011).

According to Gronlund (1976), the placement tests are pre-tests that:

- (i) measure whether the pupils have the necessary knowledge and skills that will enable them succeed in the planned instruction or
- (ii) measure how much or the degree to which the pupils have already achieved the pre-specified objectives of the planned instruction or course.

It is worthy of note that placement tests used to determine prerequisite skills are usually limited in scope and content and are of low difficulty level (Asuru, 2015).

In summary, a test in its broad term as perceived by Ali (1986) is a systematic method of monitoring an individual’s behaviour and describing it by means of a numerical scale or a category system. An unabridged understanding of formative assessment is important to educators, teachers and trainers so as to receive the needed assistance to learn how this essential process can be effectively incorporated so as to better their instruction and consequently encourage student’s learning. This specialized knowledge is important to ensure that excellent formative assessment practices are maintained in our classrooms to improve student’s achievement. Although, the target of this study is the summative assessment.

**Achievement Test**

According to Asuru (2015), a measure of what a person can do is a measure of ability which could be subdivided into aptitude and achievement, while a measure of what he will do falls under personality measurement. An achievement test is the type of ability test that describes what a person has learned to do (Thorndike and Hagen, 1969). This test is designed to assess how much of the content of a course an individual has learned over a period of time. Downie (1983) defines an achievement test as any test that measures accomplishments of an individual after a period of training or learning. Hence, it is based on what the testee has learned or been instructed on. It is actually based on what the candidate is expected to have learnt based on a given syllabus. Horrocks and Schoonover (1968) posit that the term achievement indicate the degree of success attained in some general or specific area within the school context. Its construction and design is based on the knowledge commonly taught at different grade levels of the instructional process. This explains why the results of achievement tests are used for selection, placement, diagnosis, promotion, certification, counselling, research and other related uses in schools (Asuru, 2015).
Essay Test

The word essay is a derivative of the French word ‘essayer’ which means ‘to make an attempt’ or ‘to give something a trial’. It refers to any test that requires the examinee to structure a rather long written response up to a sentence, a paragraph or longer passages. The testee here is allowed to organise, integrate, synthesize and present his answers in series of inter-connected sentences (Asuru, 2015). He is allowed to produce his answers having all degrees of competence and accuracy using his own words and style of writing. Hence, essay tests are called free answers tests. There are basically two types viz; restricted-response and extended-response questions.

Restricted-Response Questions: The restricted response question usually limits both the content and the scope of the given concept to be discussed. For the restricted-response test, the tester structures the questions in such a way as to limit the responses of the testee (Ubulom, Uzoeshi, Amini and Vipene, 2011). Other means of limiting responses in essay tests is to base the questions on specific problems. For example, identify three ways of promoting national integration in Nigeria.

Extended-Response Questions: This type of test permits the testee to demonstrate his ability to call upon and evaluate his factual knowledge, organise his ideas and present them in a logically coherent fashion (Mehrens and Lehmann, 1978). The testee is not restricted to the kind of answer he has to provide for a given question. He is equally free to present his answers in his own words and discuss the concept to any substantive length. For example, global warming is the next step to disaster. Explain.

It is worthy of note that extended-response questions attract more marks than the restricted-response type. For instance, the 2017 Civic Education essay question has the 15 marks of its second question allocated thus:

2 (a) Define traffic regulation [3 marks]
   (b) Outline six reasons why inspection of vehicle documents is necessary in Nigeria[12 marks]

Some Characteristics Features of Essay Test

1. Content Validity: It means few questions can be included in a given test. Essay examination only samples restricted area of the content domain of the subject being examined (Ubulom et al, 2011).
2. Subjectivity of scoring: There is usually inconsistency in the marking of essay tests. Markers of the same question with the same marking guide seldom come up with the same score. This bothers on the problem of reliability of essay tests and the predilection of the individuals involved in the marking.
3. Halo effects: This is a type of cognitive bias in which an observer's overall impression of a person or thing influences the observer's feelings and idea about such entity. Here, it means the examiner knows a particular student so well and has a predetermined impression of his writing skills. This consequently influences his marking and scoring process.
4. Elimination of Guessing: Essay test makes it absolutely difficult to gamble with the questions unlike multiple-choice objective tests where the tendency for guessing is high. The chances of guessing is higher if the question is a true-or-false/yes-or-no type. Ubulom et al (2011), opine that essay test eliminates the incidence of faking and guessing.
5. Ambiguous wording of the question: Sometimes essay questions are so worded that students do not know the exact implications of the questions (Hema, 2011). This is quite obvious in many of the word problems in Mathematics.
6. There is the problem of comparing the performance of testees, especially when all of them do not answer the same questions (Ubulom et al, 2011). This can only be forestalled when all the questions are compulsory for all. Answer four questions in all, choosing at least one question from each section (WAEC, 2015).
7. It requires an excessive time on the part of students to write. Reading and marking essay questions is very time-consuming and laborious.
8. Extraneous factors like quality of language, lexis and structure, lettering etc which are irrelevant to intended objectives of the test may affect a testee score either favourably or otherwise (Asuru, 2015).
9. The speed of writing can influence the performance of candidates too. This results in low scores slow writers even if the candidates know the correct answer to all questions. This is one major demerit of speed test.
10. Essay test discourages rote learning among students since it requires them to have an in-depth understanding of concepts and a high level of thinking. This is because it basically tests higher order cognitive domain of knowledge.

11. It motivates and encourages students to adopt different study strategies like making of summaries, outlines and listing of ideas for examination purposes (Asuru, 2015). In a bid to master concepts and enhance recall of facts, students develop songs, rhymes and acronyms like MR NIGERDA encoding the basic characteristics of living things, 'My Very Eye May Just See Under Nine Planets' encoding the nine planets in our galaxy and many more.

12. Since every candidate is expected to be original in his response, cheating and other forms of malpractices can be checked and controlled. Where it occurs, it can easily be detected during marking and scoring.

**Implications for the West African Examinations Council**

The newly introduced system has the following implications for the West African Examinations Council.

- The new system is a cheaper means of assessment since the Council does not have to produce answer booklets separate from question papers.
- To be considered alongside other psychometric parameters is the amount of space (specifically number of steps and lines) required to conveniently attempt a given question.
- It has a way of curtailing examination malpractices since extra sheets are not expected to be attached nor any part of the paper torn off. The instruction says 'Do not tear off any part of this booklet'. It is an examination malpractice if you do so (WAEC, 2017).
- It makes the examination materials lighter and more mobile for WAEC supervisors to convey to the various examination centres.
- It affords the Council the ease of management of its data base, past questions and candidates' answer booklets.
- For WAEC examiners, marking and scoring become very much easier, faster and effective since candidates are expected to go straight to the point. According to Adenipekun (in press), the coordination and marking of candidates' scripts for the 2017 WASSCE for schools was successfully held between May 24 and June 11 at eighty-three marking venues across the country.

**Implications for WASSCE Candidates**

The newly introduced system has the following implications for the West African Senior Secondary Certificate Examinations candidates.

- The system constrains a WASSCE candidate to filter his ideas and thoughts and limit their responses only within the space provided by the examiners. Do not write answer(s) outside the spaces provided for the question(s) (WAEC, 2017).
- Candidates with big lettering may be largely disadvantaged owing to limited space provided for answers.
- Before now, inappropriate numbering of questions attempted is a factor contributing to candidates' failure but the new system has taken care of this challenge.
- A candidate who made a mistake in the course of attempting a question may not be able to correct such error owing to space constraint.
- A candidate may have more facts to include in an extended-response essay type but with the very limited space provided, it may be pretty difficult.
- With the new system, an intelligent candidate who wishes to attempt more questions than the rubric allows in order to maximize his scores may be denied the opportunity to do so. This rule implies that for candidates answering more than 5 questions in part 2, consider the best 5 questions and ignore the remaining question in that part by writing 'MQA' through ('MQA' denotes 'More Questions Answered' than the rubric allows) (WAEC, 2015).
- The question paper which contains examinees responses is submitted back to the supervisor. This implies that WASSCE past questions will no longer be available to upcoming students since
WAEC supervisors are under obligation not give out a copy of the question to the school authority where the examination was conducted.

CONCLUSION
Considering the level of success recorded already in the May/June 2017 WASSCE, it is evident that the new system of essay assessment will go a long way in enhancing the performance of West African Senior Secondary Certificate Examination candidates. This innovation in testing is equally of immense benefits to the West African Examinations Council as a foremost examination body within the West African coast. Therefore, the West African Examinations Council should do more in its consideration of the space provided for answering essay questions as an all-important psychometric parameter. Also, necessary sensitization and orientation for teachers and candidates will go a long way in reducing failure to the barest minimum in the West African Senior Secondary Certificate Examinations.

RECOMMENDATIONS
For continuous use of the newly introduced system of answer booklet by the West African Examinations Council, the researcher wishes to make the following recommendations.

- In its pilot trial-testing of the essay questions, the Council’s examiners and psychometricians should take cognizance of the average space or number of lines used by the sampled candidates in attempting a given question.
- If a question is attempted more than once, mark all and record the marks for which...(WAEC, 2016). Hence, remedial extra booklets (or at least sheets) of about four or five pages should be provided considering the fact that a candidate might have answered a question wrongly and later see the need for remedy.
- Hence, the instruction 'Do not write answer(s) beyond the spaces provided for the question(s)' should be made a bit flexible thus; 'If you must write answer(s) beyond the spaces provided for the question(s), do so on the designated extra sheets with appropriate numbering'.
- Unless otherwise stated, equivalent methods not specified in the Marking Scheme should be accepted and given appropriate marks (WAEC, 2016). In the light of the aforementioned provision in the marking scheme, WAEC examiners are to note that some equivalent methods of problem-solving in the calculation oriented subjects like General Mathematics, Physics, Chemistry, Accounting, Basic Electronics etc may require more space than the method employed in the Marking Scheme.
- School teachers, evaluators and other examination bodies like NECO, NABTEB etc are to sensitize and assess their testees using this new style employed by the West African Examinations Council.
- It is also pertinent for the Council to borrow a leave from other international examination bodies making use of the same style of assessment particularly University of Cambridge International Examinations (CIE).

REFERENCES