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From Closed-book Examinations (CBEs) to Open-book Examinations (OBEs): An Introduction to a Desirable Transition

By

IDAKA IDAKA, Ph.D.

*Department of Educational Foundations,
Guidance and Counselling
University of Calabar,
Calabar.*

And

I. AKUBUIRO, Ph.D.

*Department of Educational Foundations,
Guidance and Counselling,
University of Calabar,
Calabar.*

Abstract

This paper recognizes the contributions of closed-book examinations (CBEs) in sustaining educational evaluation and its potential in the foreseeable future. In response to the skepticism of organizations, companies and society at large regarding the quality of graduates in terms of knowledge and skills; and the preponderance of cheating in CBEs, this paper is a call for a transition from closed-book examinations to open-book examinations (OBEs) or at best an integration. The paper posits that if University education is to keep pace with constructivist pedagogy and effectively prepare its beneficiaries for the competitive global market, then this transition is imperative.

Examination is a formal written, spoken or practical test, especially at school or college to see how much you know about a subject, or what you can do. Educational examination is used to assess educational candidate's level of assimilation of series of educational instructions and/or the extent to which a given concept or skill has been

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mastered (Iredia, 2002). Examination may also be defined as a formal test administered by a teacher or paid agent in order to measure the examinees' knowledge and skills in a given subject or course of study. Examination often results in a score or grade and this score is supposed to be an accurate reflection of the quantity of trait possessed by the student. Of course, examination is not a new idea; it has been in use since time immemorial. Teachers have always tried to measure the outcomes of their teaching efforts in order to see the progress of their pupils towards desired educational goals. Examination is therefore, used for the purpose of selection, placement, promotion, classification, diagnosis, counseling, certification, etc. Examination is thus inevitable as long as there is teaching and learning. In other words, where there is instruction, there will always be an examination.

A literature search reveals that there are two examination styles that can be used by teachers to measure the outcomes of their instruction. These are closed-Book Examinations (CBEs) and Open-book Examinations (CBEs). Unfortunately, while CBEs is very popular and almost the norm, the other, OBEs is a novel style gradually gaining acceptance in a growing number of higher institutions around the world.

Closed-Book Examination

A closed-book examination may be defined as an assessment style or format in which the examiner is expected to rely solely on his/her memory to provide answers to the questions. In Nigeria, like in most other countries, CBE seems to be the norm at all levels of education. The teacher uses it; and it is the only format available to examination bodies such as WAEC, NECO, JAMB, etc. Although, all these stakeholders meant well for the educational system, the practitioners or operators of the system i.e. the students, teachers, parents, examiners and educational supervisors have advertently or inadvertently jeopardized the entire examination systems and have rendered it ineffective (Iredia, 2002). Consequently, the products of our educational system, particularly, at the tertiary level have been described as half baked, ill-trained, ill-equipped, of poor quality and poor standard (Obanya, 2002). At every level and in particular, the University level, some teachers engage in preparing students for examination or high score, instead of teaching for life-long education or for the development of the citizenry. Corroborating this assertion, Naibi (1969) in Iredia (2002) opined that, at present our school education aims at examination, from primary school to the highest level of education, instead of aiming at, fitting the children for the life in an independent 20th Century Nigeria engulfed in the space age.

Since education has become examination-conscious instead of productive-conscious, rote learning and memorization of facts which are to be regurgitated on the examination day, has become the norm. The result is that students pass examination without understanding the concept and without the ability to apply the knowledge in solving real-life problems. With the skewed emphasis on high scores, students do every thing possible to aid their memory in the examination hall. Hence, cheating via the use of unauthorized resource materials, lecture note, phone, writing on clothing, chairs and even on the human body has become a preponderance feature of CBEs in Nigeria.

Among students, cheating has therefore, become another way of obtaining one's desired grade. The situation has become so endemic that almost in every examination, a high percentage of students come with the intention to cheat through the acquisition of unauthorized materials to aid memory.

Benefits of Closebook Examination

Despite the aforementioned malpractice that has caused far much bleeding in our educational system, there are seemingly convincing reasons why some people believe we must continue with this format of examination. Some traditionalists among us in the educational circle quickly pontificate that CBE is:

(i) Administratively Convenient and Efficient

With CBEs, hundreds or even thousands of students can be packed into one hall and within an hour or two, the examination is over. In our Universities, that is exactly the situation with general courses. Unfortunately, most of these examinations that are conducted under terrible conditions still contribute 60% of the total marks. Of course, while it may be convenient and efficient, it may not be effective!

(ii) Final Result

Teachers want to know at the end of the course, whether students have fulfilled the learning outcomes set and then reward them with grades based on their responses. Of course, this makes sense if final examinations really measured what they are supposed to measure.

(iii) Content Validity

It is very possible to cover the essential components of the course curriculum during the final examinations, particularly if objective tests are set.

(iv) Reliable and Objective

All things being equal, examination results are often predictable and we can be quite objective especially where closed-ended questions are used. Of course, an 'A' student will mostly get 'A' or 'B', while an 'F' student will mostly fail. Yes, that is what we call consistency or better still, self-fulfilling prophesy!

(v) Indicator of What is Known

It is often argued that CBEs need to be retained because it is the only means of ensuring that a student's work is his and his alone and also an indicator of what he knows.

(vi) Quantitative Subject-Friendly

For subjects like Mathematics and those with scientific formula it makes sense to use CBEs (Zaidlearn, 2010; Williams, 2006).

Some Weaknesses of Closed-book Examination

Closed-book examination has potentially serious side effects to authentic learning and constructive learning habits. Imagine if you were asked to retake all the examinations you took during your undergraduate days, would you be able to do as well as you did? If your answer is in the affirmative, wonderful and good but if in the negative, then what did closed-book examination actually measure?

Of course, most CBEs measure what students have memorized or understood before the examination (temporary memory) but not necessarily what students understand, know and can do after leaving school (long-term memory). The question that may suffice at this juncture is:- What is the point allocating 60% of the course evaluation on something so shallow or better still, snapshot learning? Is it that education is simply business, and examination, a ritual or is it perhaps because we do not know better? Now let us turn our attention to more plausible reasons why we should 'Rethink' our CBEs. These reasons according to Zaindlearn (2010) are:

(i) Encourages Cramming

In Nigeria, educational achievement is measured purely on the basis of examinations passed. In the University, 60% of the course evaluation is allocated to examination; so many students simply cram heavily before the examination and "vomit" the snapshot learning experience in the examination in order to obtain the 60%. Perhaps, this is one of the reasons why students graduate from a bachelor programme without reading a single course-related text. Unfortunately, some undergraduate students do not see anything wrong with this unscholarly attitude until they graduate and attend their first job interview. Some have realized very late that they just wasted their time learning nothing. With CBEs, we seem to be saying 'who cares' what you learn, as long as you get an 'A'.

(ii) Anti-real Life Situation

In real life situations, when one is given a task, resources are provided to tackle the problem. This, of course, is common sense. However, in CBEs one is expected not to look beyond memory to find the answer. This being so unnatural, students are tempted to do what is realistic by looking for unauthorized resources to solve the problem at hand. It will be better if we focus on applying our knowledge and skills to solve problems, make better decisions and be more creative and innovative about how we do things.

(iii) Does not Measure the Right Attribute

Certainly, not in all cases! But how does one explain a situation where a student scored 'B' in a research method course but is unable to write what can minimally be regarded as a project? Perhaps accusing fingers will be pointed at cheating in the examination hall, i.e. illegally aiding his/her memory through the use of unauthorized course materials or replicating another examinee's responses. So where does this leave us? From the foregoing, it is tempting to argue that CBEs may be

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traditional and efficient method but certainly not the most effective and valid approach to selecting geniuses and potentials destined for habitation in outer space!

Open-book Examination

This is an assessment style that allows one to take notes, texts or resource materials into an examination situation (Sidhu, 2005; Williams & Wong, 2007). In OBEs, therefore, an examinee is evaluated on understanding rather than recall and memorization. He/she will be expected to: (i) apply materials on new situation; (ii) analyze elements and relationship; (iii) synthesize and (iv) evaluate using one's materials as evidence (Williams, 2004; National University of Singapore, 2007). In other words, OBEs test an examinee's ability to find and apply information and knowledge. This novel examination format is already gaining the patronage of many higher institutions abroad, particularly in subjects requiring direct reference to written materials, like law statutes, statistics or acts of parliament, etc.

Types of OBES

OBEs usually come in 2 formats.

These are:

- (i) Traditional sit-down, limited time examination, with varying degree of access to resources and references.
- (ii) Take-home examination-The one that examinees do at home. In this case, questions are usually handed out to examinees. The responses are provided without help from others and the script retained within a specified period of time (often the next day). The only restriction here is that there must be the examinee's.

Rationale for OBES

OBE has come to be known as the Educational agenda of the modern age (NUS, 2007). Of course, the nature, purpose and meaning of education has undergone radical changes in a dynamic world. Hence, according to (NUS, 2007) education is now seen as:

- (i) **Ensuring "Fitness for Use"**
In a rapidly changing age, 'raw recruits' are no longer acceptable to employers of labour. 'Fitness for use' in the workplace demanded the possession of skills that can be readily applied. For e.g. The ability to find and use state-of-the-art information rather than reproduce memorized and possibly obsolete knowledge
- (ii) **Enabling Viability**
Education for life-long learning presupposes independent mediated learning. To continue to be viable in a constantly changing age, one needs to develop process skills, the ability to think and function autonomously. Accordingly, graduates are empowered for life-long learning which extends beyond the

limited years of formal education to whole-life informal and non-formal learning.

(iii) Educating for Success

The increasingly competitive global market requires graduates who are agile, open-minded, innovative and analytical; and able to adapt to changes in circumstances around them. That is graduates who are well rounded and culturally aware.

Moreso, researches have indicated some positive findings:

- (a) Students like OBEs better perhaps due to the fact that they experience less stress with the reduction in the need to recall factual information.
- (b) There was better study preparation
- (c) Students were less prone to cheating (i.e looking for aid to memory)
- (d) Test real understanding and mastery, requiring demonstration of higher-order cognitive skills, such as critical and creative thinking, ability to innovate and create knowledge.
- (e) Examinations were found to have increased validity, variance, and reliability over CBEs.
- (f) Teachers generally agreed that there was improvement in the quality of work throughout the course.
- (g) There was close correlation between effective performance and ability
- (h) Recall is not found to be an important indicator of student learning (Sidhu, 2005; NUS, 2007).

It is also important to mention that, in line with educating for the dynamic IT age, OBE is in tandem with the paradigm shift:

- from teaching to enabling learning;
- from school building to knowledge infrastructure (Ubaru, 2005)
- from prescriptive to the provocative (i.e., arousing interest, stimulating thinking and nurturing intellectual curiosity)
- from providing knowledge to empowering students to acquiring knowledge (assuming responsibility for their learning)
- from furnishing students with finite and sometimes obsolete body of knowledge to equipping them with higher order cognitive skills for real life problem-solving (NUS, 2007; Sidhu, 2005; Osisoma, 2011).

Teacher Roles in OBEs

If learners are to be trained to find their own solutions, then the teacher should no longer focus on providing “the right solution” and being the final arbiter of truth but rather serves as: facilitator, trainer, consultant and assessor.

Teaching Methods Required in OBEs

In the University, the lecture method has traditionally dominated teaching; with the advantages of better control and cost effectiveness. However, its didactic nature has encouraged a monologue rather than dialogue between teacher and students. A

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literature search reveals that teaching should be student centred and participatory approaches such as project work, written assignments and small-group teaching (e.g tutorials, practicals, etc) greatly facilitate learning.

Nature of Curriculum

With the knowledge explosion and changes in knowledge domains, “covering the scheme” has become less relevant Curriculum revisions should now reflect the new emphasis:

- from transmitting a body of knowledge to developing the ability to source for and process knowledge;
- from discipline-based to competency-based curriculum.

Demands on Training

OBE being a relatively novel idea would require that students be prepared for it. In otherwords, students are trained on the expectations and desired learning outcomes. These include:

- i) clarifying for the students the aim and objective of an OBE;
- ii) effecting changes in students’ mindsets and perceptions of their role from:
 - passive recipients to active participants in their own learning,
 - authority-centred to independent thinking and judgmental,
 - from dependency to taking ownership of the learning experience.
- iii) A “learning contract” which stipulates the respective roles and responsibilities of teacher and student may be helpful as it makes things explicit;
- iv) Providing students with sample OBE questions and mock examinations to give them some practice in writing this novel examination format

Some Potential Benefits

- Realistically, especially where the knowledge base is extensive and changing, it makes sense to relieve students of unnecessary information storage
- It will discourage rote learning as that will get scant credit
- It creates a more conducive environment for the development of higher-order cognitive skills.
- Examiners will be forced to set more thought-demanding questions.
- By reducing or eliminating purely knowledge items from the material to be examined, more time is left for more mentally challenging items.
- By allowing access to computer-based resources, more complex questions can be set.
- More accurate and in-depth answer can be expected.
- Freed of the ‘no coping’ rule associated with CBEs and the limitation on resource materials, questions in OBEs can approximate real life scenarios more closely.
- Helps to de-mystify examinations and hopefully, contributes to correcting the obsessive preoccupation with grades and exams.

Possible challenges in Implementing OBEs

i) Cultural resistance

In Nigeria, as in some other local educational culture, there may be confusion and difficulty in implementing this 21st century paradigm shift basically because of traditionalists in the educational circle who may not be ready to be circumsised of their old ways of doing things.

ii) Administrative complications

- (a) The logistics may be problematic where there are limitations as to what may be brought into the examination.
- (b) With notes permitted to be brought in, it may be less easy to detect note-passing, the same way they exchange calculator, eraser, ruler, etc in CBEs.

iii) Unfairness

- (a) In focusing on thinking and application skills, justice may not be done to examinees, who may not be good at these skills, but nevertheless deserve some credit for having acquired a body of knowledge
- (b) It may be difficult to ensure a level playing ground. For e.g. where there is no restriction on what materials may be brought into the examination, those with the means would be at advantage.

iv) Insincerity

With take-home examination, an important aspect of OBE, ensuring that the work is the examinee's own may prove difficult.

Conclusion

It must be appreciated that CBEs have sustained educational evaluation for long and is likely to remain in the foreseeable future. However, consequent upon the dynamic nature of knowledge, OBE has become the 21st century paradigm shift in evaluation in schools abroad, which is more in keeping with authentic assessment and in consonant with the constructivist pedagogy. Hence, if our university education is to produce graduates who shall be "fit for use" in a global competitive work place (market) and be endowed with the necessary life-long skills, then this transition is imperative or at best an integration in our educational evaluation.

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