
PROSPECTS OF UNIVERSITY EDUCATION THROUGH ADEQUATE EVALUATION OF SECONDARY EDUCATION INSTRUCTIONAL ACTIVITIES

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Abstract

University education in advanced countries of the world equip her products with theoretical and applied skills to function as fulcrum upon which the achievement of the dreams of the society rests. The reverse is seen in our society. Our university education system is breeding graduates who lack dedication, pay only lip service and cannot properly man the economic sector of this country. This study intended to determine how proper evaluation of secondary education instructional activities can produce good, efficient and dedicated manpower who are skilled enough to man the nations' economy in order to face the challenges of the 21st century. Some of the hindrances to the proper evaluation of secondary education towards revamping higher education were discussed, finally recommendations are made that measurement expert should be trained and sent to schools, central examination bodies established and teachers should be sponsored to conferences, workshops and seminars on item development.

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Measurement is the process of using a test to arrive at a score. Joshua (2005) opined that looking at measurement in the traditionally way is the assignment of members to object or events according to rules. Thus during this measurement process numeral or number is assigned to person, objects or events in a systematic way; however measurement process will result in a numerical description of the degree to which and individual possess a particular characteristic (i.e attribute, construct, variable etc). During the process of assigning numerals error is involved. This shows that there is no measurement process that is devoid of error. Traub and Rowley (1991) stated that no measurement is perfect. For some measurements, a source of imperfection is obvious. They further said that even measuring procedures with finely graded or calibrated devices may foster the impression that the measurement obtained using the procedures will be very precise, but repeated application of such measuring devices to the same person or object may reveal quite startling fluctuations. This is easily noticed in clinical measurement of heartbeat and blood pressure.

The foregoing discussion shows that measurement even in areas of physical sciences, psychological or education, errors always upset the measure. However, measurement error can be instrumental (systematic) or human ie (random) (Nunally 1978 in Akpan and Ekpo 2008). Although systematic error contributes to the mean score of all subjects, but it is not important in studies of individual differences and in most psychological experiments. Thus random errors are important in all studies especially educational studies. The extent these random errors are present, in such measurement, limits are placed on the degree of lawfulness found in nature. These random errors therefore tend to jumble up any form of lawfulness that exist in nature (Nunally, 1978). Suffice one to note that, the influence of random errors during measurement process especially in education can be noticeable if the test contains not well prepared only small number of items in which students' performance will depend on luck.

Secondly, if student can guess some of the answers in a true false test, once half the answer is known, an element of randomness is added to the overall test. Some expert called such element of randomness unreliability (Joshua, 2005). And finally, if different test instruments are used, errors of measurement could be introduced into the measure. However, random errors of measurement can not be completely eliminated but can be reduced for the result to portray nature in its ultimate lawfulness. It can therefore be said that the extent to which a measurement error is slight, a measure is said to be objective and valid (Nunally, 1978 and Guilford, 1984 in Akpan and Umoinyang 2010). And reliability quoting from Kerlinger (1986) is the extent to which test scores shoes consistency across forms, items and time. Guilford (1984) stated that, it means repeatability of scores. It can be said that even if different persons make the measurement on different occasions with supposedly alternative instrument, the circumstantial small variations should not influence the result. It is worth saying that

~~Prospects of University Education Through~~ measurement reliability represents a classic issue in education. This is because: – educational measurement supposes to be stable over variety of conditions if it is objective. The case in our secondary educational system is that the evaluation of instructional activities is carried out by the teacher. This however is one of the policies of education of the Federal Government (FGN 2994) Do the secondary school teachers carry out objective evaluation of the instructional activities of the students in their care?

Evaluation Activities of Secondary Education Instructions Operational in Our Educational System

Secondary education according to National Policy on Education (FGN, 2004) supposed to prepare her product for useful life and higher education, but such objectives are not realizable in Nigerian society. This is one of the major reasons why unemployment rate is so alarming today in the Nigeria society. Although our educational policy is reviewed from time to time, the practicability of the so called new educational policies is only on paper. Let it be noted that our secondary educational system still operates the former policy of education handed down to us by our colonial masters; and such policies provided for terminal evaluation. Putting this measurement of ability in retrospect shows that, it was only the raw scores taken at the end of the term or in most case twice during the term that was used, and the test was only the pencil and paper type, such test typed was only designed to measure mainly cognitive aspect of human behaviour while skills such as character and industry of the children were and are neglected. Again, most of the information about the performance of the child were in raw score form, scanty and even distorted. This does not allow for the task of secondary education to be achieved which according to Ojong (2002) is the total development of her product so that he/she can exploit his/her potentials as human being. Most Nigerian secondary school graduates can not exploit their potentials. The secondary education evaluative system is weak. The true ability of the child can not be properly determined. If it is properly determined, why should a secondary education graduate with 8 credits or 7 alphas and 2 credits not be able to pass aptitude test to gain admission into university? Why should a secondary education graduate with A₁ in agricultural science not being able to obtain agricultural loan from the federal government to start a small scale farming? Why should a secondary school graduate with A₁ in English not being able to write a letter that was perfectly done by a primary 6 holder of those days? Why are teachers teaching our students to be dunces even with good O'level result?. Taking a cursory appraisal of the entire system shows that something urgently must be done. The issue associated with the secondary school evaluation system is that the score does not reflect true ability of the child under measurement or did not pull out the child's latent trait. The unfortunate situation is that the products of secondary education system are turned out into universities. The institutions of higher learning are at the receiving end of such poor products. Let it be emphasized that Federal Government in collaboration with measurement experts deduced from the true score theory, the need for incessant measurement of students ability and incorporated this into the National Policy on Education.

However, government philosophies, objectives and intentions as far as assessment in secondary school setting is concerned could be achieved through continuously assessing the students. Continuous assessment according to Nenty (1991) is a systematic determination of a pupil's comprehensive gains from schooling in terms of knowledge, intellectual and physical skills, industry and character development based on his cumulative and progressive performance on variety of tests and exercise which enable a more valid indication of the pupil's true ability. Assessment must be done to determine how well a student, as a total person progresses towards achieving the goals of education (through self-actualization of his identified potentials) as this would mean success in reaching it.

Most students in our secondary schools are not led to identify their potentials not to talk of actualizing them. Furthermore, it calls for continuous updating of cumulative records and the use of such records to help the child improve his achievement through guidance.

The comprehensive gains from schooling could be reached out through accurate measurement procedure. Series of scores generated during measurement process must be interpreted based on established internal standard in order to ascertain the level and value or worth of progress made. Thus during assessment and according to the National policy on Education (2004), a repeated number of measurements must be made with valid and objective instrument. The teacher must employ a variety of measuring techniques of ability, feelings, skill etc; such measuring techniques include test, assignment, class work, practical, etc. Teachers in our school system do not show commitment and dedication towards the success of the educational policy (Akpan and Umoinyang 2010). Some of them just wake up from their slumber to scribble a piece of paper in the name of a test. They do not observe due process of test construction, administration and scoring. In some cases, some teachers give a single test or assignment and use such as apparent determination of the child's ability or as the child's true score.

The Concept of True Score Theory

This theory assumes that each person has a true score that would be obtained if there were no errors of measurement ie with error, $X = \infty$, where X is the observed score and ∞ is the true score (ie in the absence of error, observed score equals true score). This is quite impossible because Kerlinger (1986) stated that each person's obtained score has 2 components namely a true score component and an error score component. Warm (1978) supports the above statement by saying that true scores are not observed score. Furthermore, Lord (1969) reasoned along the same vain when stated observed score is true score plus error score. Harvill (1991) also maintained that a true score represents that part of an examinee's observed score uninfluenced by random events. Thus observed score is equal to true score and error score;

ie $x = \infty + e$ where x is observed score, ∞ (infinity sign) represents true score and "e" is error score.

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The error in score is some increment or decrement resulting from several of the factors responsible for errors of measurement. (Nenty 1986; Akpan and Ekpo 2009). Consider for instance guessing or copying by the examinee; if the guesses or copying are lucky, the obtained scores will be above true score and the error score will be positive, whereas if guesses or copying are unlucky, obtained score for such individual will be below true score and the error score will be negative (Harvill, 1991). It is quite reasonable saying that there is some error in the score obtained for a person on a particular occasion, as such obtained scores would differ from true scores on a random basis. Let it be noted that, there is no measurement of ability that is devoid of error, adjusting our observed score in line with nature means trying to reduce random errors as much as possible. Lord and Norvick (1968) summarized that true score especially in educational and psychology measurement is the expected value of an observed score, which can be interpreted as an average score an individual would obtain on infinitely many independent repeated measurements.

$$\text{ie } X_T = \frac{X_1 + X_2 + X_3 + X_4 \dots + \infty}{\infty}$$

In other words, true score determination which gives real trouble in educational measurement can be considered as the means of large number of administration of test to the same person ie $X_\infty = (X_1 + X_2 + X_3 + \dots X_n) / n$ (Kerlinger, 1986). Furthermore, Traub and Rowley (1991) reasoned with Kerlinger that scientists have learned to repeat their measures several times when it is important to obtain result in which they can be confident; thus averaging such collected set of repeated measures provide a more precise estimate of what is being measured than using a single measurement procedure. However, reduction of random errors in educational measurement especially at the primary and secondary school levels can be achieved through the administration of many different reliable and valid test constructed by the same procedure. It is the average of such test scores that would closely approximate true score. This level of education is where the determination of the child's true ability is quite pertinent and this is the issue that this paper is poised to address.

There should be a radical change from the present assessment procedure (being operational in our school system) to the making of a repeated number of measurement with valid instrument in order to arrive at the true ability of the children. Consequent upon the change in educational policy, examination bodies such as West African Examination Councils, National Examination Councils and even state ministries of education demand from teachers in secondary school a commutative record of each student's performance in test, exercise, project, term paper and terminal evaluation in the form of raw scores. This is used to compile the 40% continuous assessment.

“The question is how many teachers in this country maintain professional ethical conduct, waste time and develop test or project questions that are valid and objective and use them to measure the student's ability and send such measures of

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student's ability to examination bodies? How many of them are honest and do not inflate the scores for one reason or the other? The situation is quite deplorable and Nenty (1996) in Abiam (2003) noted this disturbing situation in Nigerian schools when he indicated that, people now look down on result from public examinations much as the ability of the product of secondary schools could not be inferred from their test scores. This is due to the unseriousness attached to test items development and the apparent lack of encouragement by the government. In fact, this made the realization of the objective of continuous assessment a far cry. The scores so generated should be valid and objective so that upon standardize action and used in making judgments suppose to be used to determine the value or worth or effectiveness of the curriculum, course, performance, student performance, students ability and can be a set of relative or absolute ability of the student's involved in the programme (Payne 1974 and Stake 1967).

Other factors militating against the proper assessment of secondary education instructional activities are: -

Assessment Instrument are Not Valid and Reliable: - All careers show some forms of competencies through some of measurement or other e.g professional dexterity of the soldier is measured against the background of the number of different types gun and other weaponry he can handle and operate with precision. Similarly, the extent of professionalism of and quality assurance of the teacher can not only be ascertained by lesson notes and recording work but by the evaluation of the validity and reliability of his constructed test.

Avaricious Attitude of School Teachers and their Heads:-

In the past, school administration were custodians of accurate school records, but nowadays most school administrators exchanged falsified records of students performance for money and dispatched same to examination bodies. Some of them are working against successful implementation of the continuous assessment programme. Non committed on the part of government on her part does not show commitment to the success of the fine policy so formulated. There is inadequate preparation on her part before introduction of the policy (Nwagwu 2003). No need assessment was carried out before the policy came into being. This policy requires a central test development unit, regular workshop, seminars and conferences on test development, administration, scoring and interpretation of the result.

How Secondary School Education Instructional Activities Should Be Done

Much of formative than summative evaluation should be done in our secondary school system if factors' affecting the learners' academic growth is to be determined and fed back into the instructional system as this is the sure way of increasing the students' propensity of his attaining educational goals. There suppose to be frequent interval of testing whenever instructions on a new skill or concept is introduced and completed. This interval of testing must be monitored for effective implementation. It is worth saying here that measuring instruments even for final term evaluation are usually

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constructed, administered and interpreted by teachers with only a minimum amount of training in measurement. The result of the whole scenario is that scores from such teacher-made test have been used in decision taking that have had far reaching effects on the placement of students on their probable areas of inclination (Abiam 2003). Let it be agreed here that objective evaluation according to (Nenty 1991) is to aid decision making on promotion or withdraw, graduation, selection or rejection, classification among others. The process should be progressively or cumulatively if the objectives of the programme must incorporate scores from 4 sources of either test, exercise, projects, term papers and the terminal examination for a term. The assessment should not only be cognitively done. This is the only way the secondary education evaluation can be effectively used to determine the child's true ability. It is pertinent to emphasize that, it is the only way of taking care of the cognitive, psychomotor as well as the affective domains of behaviour in a systematic way. Such assessment system must require conscientious effort on the part of the teacher. The question according to Abiam (2003) is teachers well equipped to handle this all-important components of our educational system? The deplorable situation shows that majority of the teachers have little training in measurement and evaluation and in most cases a different language is used in the teaching community and another in the testing community. Our education system needs good assessment instruments that do not just happen. Instruments that do not just place the child on either unnecessarily advantageous or disadvantageous position. Assessment instruments that produce scores which are valid, reliable and usable. Instrument that could portray the true level of knowledge of the testes. Instrument which outcome of their administration and scoring should not be misinterpreted and instrument which instructions about it must not aid inappropriate decision bound to be made about the respondents. The inappropriate decisions definitely are bound to have negative effects either temporary or lasting on the students. (Abiam 2003). The situation is so disturbing such that having inadequate information may be worse than having no information at all since the higher the error of measurement, the more faulty are our scores. This shows that the intakes of the university education are the products of the secondary education.

Prospects of the University Education Trough Proper Evaluation of Secondary Education Instructional Activities

What is university education?

University education is the last stage in the educational system of any nation. This education is sometimes called the tertiary level of education. The Federal Policy of Nigerian education (2004) says it is received in post secondary institutions. This shows that the intakes of the university education are the products of secondary education. The function of this level of education according to Tonwe (2007) is to produce relevant manpower for the economy. This means that university education was to play an important role in the development of the nation's economy. It is the aspect of education that deals with the acquisition of theoretical, applied and practical skills in their respective areas of specialization. It was not established to function just to produce graduates but produce graduates that are well equipped to handle the mass of cultural and structural features both of the educational system of which it is most individually

linked and of the society and economy to which it owes its existence. The responsibility of propounding, preserving, promoting and propagating knowledge fall squarely on the university system by ways of teaching, carrying out research and provisions of extension and community services (Babalola, 2008). Brubacher (FME, 2003) puts it this way that the fundamental mission of universities is to promote the life of the mind through intellectual inquiry and to generate, store and transmit specialized knowledge and sophisticated expertise, higher forms of cultural and ethical basis of conduct.

Learning at the university level of education could be described as being effective if it results in bringing about the expected transformation in the attitude, skills and knowledge over a period of time. Moreover, Babalola and Jaiyeoba (2008) opined that effective learning should result in producing graduates who are adequately informed, technically equipped and morally prepared to become productive workers, self-reliant, entrepreneurs, responsible parents, good citizens, selfless leaders among others in the 21st century. The Nigerian educational system is faced with problems of ineffective teaching, learning and evaluation. The secondary education is the worst hit and these products of the inefficient system are then absorbed into the tertiary level of education. The outcome is that such tertiary education graduates who acquire less skills in their respective discipline and such deficient skills are neither met up nor demanded by the labour market nor by the growing economic sectors such as petroleum, gas, agriculture, manufacturing among others. Again, there is increasing scientific evidence that complaints about the poor graduate preparedness as evidence by Dabalén and Oni (2000) survey of skills of Nigerian graduates in various public enterprises in this country.

Prospects of University Education through Proper Evaluation of Secondary Education Instructional Activities

Secondary school graduates whose abilities are not accurately determined could not be properly guided into their areas of probable inclination at the university education level. Let it be noted that such graduates would be incompetent and intellectually not sound. The graduates of such university education system will not be professionally competent to make any meaningful impact in the society upon leaving school. This is in line with the observation of Tonwe (2007) who stated that a major challenge facing the university education today is the issue of the quality of students (intake) among other things. The university education can only produce good and competent graduates if the products of secondary education are properly evaluated.

Prospects of university education with proper evaluation of secondary education instructional activities are as follows: -

- There will be qualified graduates of engineering who can man the existing industrial sector of the nation.
- There will be competent agricultural scientist who upon graduation can be self-reliant and even an employment of labour.
- There will be morally bound and dedicated administrators, policy makers and leaders who expose the course of accountability and shun corruption.

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- Competent medical doctors will be produced to diagnose sickness and treat patients in our hospital system to stay alive.
- Competent teachers will be produced to teach our children to discover their potentials; and
- Sound economist and ethical practices will flourish the financial system of this country, among others.

Conclusion

Despite the government new educational policy on ability determination, our secondary education system still operates the traditional assessment technique. This assessment practice does not provide for a holistic approach to the determination of the student's ability. This assessment is purely on the cognitive, one slot and only the paper and pencil type. It is a week system that does not take cognizance of the benefit derivable from the true score theory. The true score theory advocates that accurate ability determination can only be carried with the application of series of valid and reliable assessment instrument whose average gives a closer approach to true ability than the traditional assessment practice. This accurate determination of the child's ability in order to give appropriate guidance into such child's area of probable inclination is an issue that must be tackled with all amount of sincerity if university education is to be revamped to take its place (as it is in advanced countries) as the fulcrum upon which the societal goals could be achieved.

Recommendations

The realization of the dreams of the society through education call for the adoption of the following recommendations:-

1. Test and measurement expert should be trained and sent to all schools in the country. This calls for establishment of examination unit (to be headed by such measurement expert) in each school. This unit will then face validate teacher made test before administration to the students.
2. Central examination unit should be established and equipped to function in the coordination of classroom and terminal assessment in all the classes (not for only SSS2).
3. Item banking should be encouraged to be carried out by these examination units.
4. The state Education Board of the various state government should set up continuous Assessment Monitoring Committee with measurement experts and equip them to go round schools specifically to monitor continuous assessment records of teachers in their teaching subjects.
5. Government and other stake holders in education should sponsor teachers to attend workshops, seminars and conference on development of test instruments. This will help them embrace the new evaluation technique with enthusiasm.
6. Examination bodies should spend time to compare student's performance on their final achievement examinations and the continuous assessment scores.

7. Prospective student's teachers be according to Bassey (2009) be aptitudely tested in terms of interest, attitude, intelligence, achievement, moral height and communication fluency.
8. Finally, continuous assessment instrument must only be on test alone but project, long essay, practicals etc and 4 administrations of 2 weeks interval plus a final examination is advocated.

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