

Education without Test

OBILOR, Ezezi Isaac, Ph.D.
Department of Educational Foundations,
Faculty of Education, Rivers State
University Port Harcourt.

***Abstract:** This paper reviewed the effects of testing on education. It x-rayed the purposes of test, benefits of test, drawbacks of test, and the effects of test and testing on education. Without tests, schooling (in fact education) is meaningless. Test is what gives meaning to education. If every learner goes through a programme of study without being tested and they are awarded certificates or degrees, then people will simply stroll into and out of educational institutions without learning a thing. In this circumstance, it will be very difficult, if not impossible to know who has mastered the objectives of instruction and who has not. It is test that makes possible certification, classification of learners and programmes, and identification of strengths and weaknesses of learners and institutions. Testing identifies gaps in knowledge; causes students to learn more from the next learning episode; produces better organization of knowledge; improves understanding; and enhances the monitoring of the teaching-learning process. On the whole, without test education will not be meaningful. Thus, all educational programmes should be certified through appropriate testing. There should be no exceptions. The tests should be properly constructed with requisite psychometric properties of validity, reliability, usability, and appropriate difficulty, discrimination and distracter indices; tests should be administered in “examination ready environments” with proper sitting arrangements and adequate supervision; and the scoring and grading of these tests should be standardised for apt interpretation and general acceptability of the certificates and degrees therefrom.*

***Key words:** Achievement, assessment, intelligence, knowledge, test, testing*

Introduction

What is a Test and Why Test?

Test is an instrument or systematic procedures for measuring samples of behaviour by posing questions that will elicit the needed information or data. It is an instrument designed to measure level of excellence, ability, skill, mastery, or knowledge. A test is a set of tasks, questions, situations, intended to elicit particular types of behaviour; it is an

evaluation instrument used to measure skills, knowledge, intelligence, achievement, ability, aptitude, attitudes, interests, attention span, motivation, competence, and the like (Asuru, 2015).

Test is the most common method used in education for the assessment of learners. For instance, at the end of a given unit of study, week, month, term, semester, or year, a test is administered to the learners to find out how well the learners have mastered the learning objectives. Tests are usually given by teachers, schools, institutions, or states/regions. It may be administered verbally, on paper, or on computer. Tests vary in style, rigor or requirements. A test is used to find out if respondents (testees) have acquired the relevant skills or mastered some given instructional objectives. For instance, a test is needed to ascertain if a trainee tailor can put pieces of clothes together to make a dress; if a student can type accurately 80 words per minute; if a learner can solve simultaneously two equations in two unknowns. The purpose of a test, therefore, is to elicit samples of behaviour that indicate that the learner has mastered the given instructional objectives.

In all the levels of education, test is used to promote learning and bring about purposeful desirable changes in the behaviour of learners. Tests assist the teachers to know the extent of change in the desirable behaviour of learners and extent of the learners' mastery of the objectives in the programmes of study. Test may occur at the beginning of a unit of study, during the study, at the end of a unit of study, or whenever information about teaching and learning is useful. Test is used to find out what students know and can do; identify students' strengths and plan instructions which build on and extend the strengths of students; identify students' difficulties and plan instructions to meet the difficulties; monitor students' learning and provide feedback to students and parents; motivate students and provide incentives to study; and determine the knowledge, skills, and attitudes students have developed over a period of time.

Test is what gives meaning to education. If every learner goes through a programme of study without being tested and they are awarded certificates or degrees, then people will simply stroll into and out of educational institutions without learning a thing. In this circumstance, it will be very difficult, if not impossible to know who has mastered the objectives of instruction and who has not. Imagine the crisis that could be caused if medical doctors or pilots who strolled into and out of classrooms without mastering the objectives of instruction (no test to show whether or not they have mastered the objectives) are given patients to operate on, or planes to fly. Image the damage to the "tomorrow" of any nation whose teachers are not certified (not qualified) and they raise children and young adults as leaders. The destruction from a test-free education system will surely be colossal. This is why it is pertinent to properly understand what a test is and how to use test in education.

Functions of Tests in Education

A test is a very useful instrument in the teaching-learning process. As a matter of fact, it is test that gives meaning to teaching and learning. Some functions of test are outlined below:

1. Testing identifies gaps in knowledge: Taking a test permits students to assess what they know and what they do not know, so that they can concentrate study efforts on areas

in which their knowledge is deficient (Henry, Adam & Megan, 2011). Students may take a practice quiz, realize which questions or items they got wrong, and then spend more time studying the items they missed. When students receive opportunities to restudy materials after a test, they spend longer time on restudying items that were missed than those that were correctly retrieved. Teachers use the results from tests to know where students need assistance and where they teachers have to place more emphasis. Results from tests also enable teachers know where they are deficient and work towards amelioration. Conscientious teachers pay attention to how students performed on tests and use that knowledge to inform their teaching in the future. If many students fail a particular topic on the test, it may be a sign to spend more time covering that material next time or use a different approach to teach the material. Testing determines the adequacy or otherwise of instructional materials. A good teacher makes use of a variety of teaching aids for illustrations and demonstrations. Effective use of these instructional resources helps to improve students' understanding of the lesson. Topics which look abstract can be brought to concrete terms by the use of these teaching aids. Thus, testing helps in identifying gaps in knowledge both for the teachers and the learners and helps determine the most appropriate teaching aid to facilitate the learning of students.

2. Testing improves the awareness and understanding of one's own thought processes: Another function of testing is improvement of metacognitive accuracy relative to restudying. Testing informs students of what they know and what they do not know. Testing permits students to have better comparison of their knowledge with the standard or objectives. If students only study material repeatedly, they may think that their familiarity with the material means that they know it and can retrieve it when needed (Karpicke, Butler, & Roediger, 2009). This is not always true as such familiarity can be misleading, but testing reveals the true position. Therefore, instead of students simply restudying, teachers should administer quizzes, tests, and students can self-test to determine what material they know well and what material they do not know well. Thus testing helps teachers to monitor students' understanding of their own thought processes and knowledge. From students' feedback on tests, the teacher is able to know the direction of the students' thinking processes, what the students know and what they do not know and how to guide them and redirect those in the wrong direction.

3. Testing prevents interference from prior materials when learning new materials: Testing creates a release from proactive interference (Henry, Adam & Megan, 2011). Proactive interference occurs when sets of materials are learned in succession and the previously learned materials influence the retention of new materials in a negative manner. Thus, proactive interference refers to the poorer retention of material learned later, caused by prior learning. Elongated study sessions may therefore cause a build up of proactive interference. But when testing is done between study episodes, it causes a release from proactive interference and enables new learning to be more successful. Therefore, testing does not only help in the retrieval of learned materials but it also inhibits the negative interference on old materials on new materials. The implication of this is that tests are not only necessary but should be made regular to create appropriate release from proactive interference.

4. Frequent testing encourages or motivates students to study: Having frequent quizzes, tests, or assignments motivates students to study. Every teacher/student knows that many students procrastinate and often do not study until the night before an examination, implying that without tests, no study will take place until the final examination. A teacher who does not give quizzes, tests, and assignments can be likened to a Priest in the Church or Mosque who preaches the gospel to the congregation without subjecting them to any written or verbal test on the substance of the preaching. The effect is that a great percentage of the congregation may not pay attention. Thus whether members are sleeping or paying attention to the Priest is left to them and them alone. But in education, in the school system, the situation is different. In the school situation, the teachers need to verify their efforts and the efforts of the students as soon as possible and the tools used are quizzes, tests, assignments and end programme examinations. Tests should therefore be used regularly to motivate students to learn. When they study hard towards their weekly, terminal or end of the year promotion tests, their performance is enhanced and optimal achievement of instructional objectives obtained. This is so because receiving tests greatly slows down forgetting (Karpicke & Roediger, 2008). Without test, many of the students would be reluctant to make out time for private studies while some of them would be less likely to be attentive when the teacher is teaching, no matter how interesting and lively the teaching may be. Obviously, listening to a teacher who does not give tests is like listening to the preacher in the Church or Mosque: the result is lackadaisical attitude to learning by students with attendant poor mastery of instructional objectives and possible examination malpractice.

5. Testing produces better organization of knowledge: Testing improves the conceptual organization of practiced materials, especially on tests that are relatively open-ended (such as free recall in the lab or essay tests in the classroom). Testing leads to increased retention of taught materials and causes students to organize information better (Zaromb & Roediger, 2010). As students actively recall materials, they are more likely to notice important details which will enhance their present performance and improve transfer of knowledge to new contexts. Transfer may be defined as applying knowledge learned in one situation to a new situation. This exposes students to learn more during the next learning episode, during future study sessions. That is, when students take a test and then restudy the materials, they learn more from the presentation than they would if they restudied without taking a test. Testing also facilitates the retrieval of materials not tested while studying for a test or restudying the materials tested. Test does not only enhance retention of the individual items retrieved during the initial test, taking a test also produces retrieval-induced facilitation (Chan, McDermott & Roediger, 2006). In other words, testing also improves retention of non-tested but related materials.

Types of Test

Tests are used to measure intelligence, aptitude, interest, personality, attitude, achievement, and many more. While it is necessary to briefly highlight the meaning and uses of the various types of test indicated above, it must be borne in mind that the focus of this paper is on the test that gives meaning and life to education, which is the achievement test.

(a) Intelligence Test

Intelligence tests are psychological tests that are designed to measure a variety of mental functions, such as reasoning, comprehension, and judgment. The purpose of intelligence tests is to obtain an idea of a person's intellectual potential. The tests centre around a set of stimuli designed to yield a score based on the test maker's model of what makes up intelligence. Intelligence tests are often given as a part of a battery of tests. Intelligence tests come in many forms, and some tests use a single type of item or question. Most tests yield both an overall score and individual subtest scores. A measure of intelligence is called Intelligence Quotient (IQ). Regardless of design, all IQ tests attempt to measure the same general intelligence. Component tests are generally designed and selected because they are found to be predictive of later intellectual development, such as educational achievement. Intelligence Quotient also correlates with job performance, socioeconomic advancement, and "social pathologies".

Intelligence Quotient (IQ) is a measure of intelligence that takes into account a child's mental and chronological age and it is given by

$$\text{Intelligence Quotient (IQ)} = \frac{MA}{CA} \times 100$$

Where:

MA = Mental Age typically given by intelligence level found for people at a given chronological age represented by a test score.

CA = Chronological age, which is the actual age (in years) of the child taking the intelligence test.

People whose mental age is equal to their chronological age will always have an IQ of 100. If the chronological age exceeds mental age, the IQ is below (below 100). If the chronological age is less than the mental age, the IQ is above-average (above 100). Some of the well known and widely used tests of this category are, Stanford-Binet Intelligence Scale, Wechsler Intelligence Scale for Children, Wechsler Pre-School and Primary Scale of Intelligence and Wechsler Adult Intelligence Scale.

Intelligence tests aid in correctly placing the child in school. The pupil who enters one school system from another is a case in point. Such a pupil nearly always suffers a loss of time. The indefensible custom is to grade the newcomer down a little, because, forsooth, the textbooks he has studied may have differed somewhat from those he is about to take up, or because the school system from which he comes may be looked upon as inferior. The present treatment accorded such children, which so often does them injustice and injury, should be replaced by an intelligence test.

Intelligence tests are used for determining vocational fitness. Industrial concerns doubtless suffer enormous losses from the employment of persons whose mental abilities are not equal to the tasks they are expected to perform. The present methods of trying out new employees, transferring them to simpler and simpler jobs as their inefficiency becomes apparent, is wasteful and to a great extent unnecessary. A cheaper and more satisfactory method would be to employ a psychologist to examine applicants for positions using the intelligence test.

Intelligence tests are used in the study of the factors which influence mental development to help guard the child against influences which unfavourably affect mental development. Are any races intellectually inferior to others? Only intelligence tests can answer this question and grade the races in the right perspective. All other claims of one race being intellectually superior to another are farce without the use of intelligence test. In all fields of human endeavour, intelligence tests are playing ever-increasing roles. With the exception of moral character, there is nothing as significant for a child's future as his grade of intelligence. Even health itself is likely to have less influence in determining success in life. All classes of intellects, the weakest as well as the strongest, profit from intelligence tests. When the lessons from intelligence tests properly sink in, no body shall blame mentally defective workmen for their industrial inefficiency, punish weak-minded children because of their inability to learn, or imprison and hang mentally defective criminals because they lacked the intelligence to appreciate the ordinary codes of social conduct.

(b) Aptitude Test

Aptitude test measures specific abilities, such as clerical, perceptual, numerical, or spatial. It measures the potential of performance in a person. The Minnesota Clerical Test, which measures the perceptual speed and accuracy required to perform various clerical duties, is an example of an aptitude test. Other examples of widely used aptitude tests are Careerscpe, Differential Aptitude Test, Wonderlic Test, Armed Services Vocational Aptitude Battery, and Bloomberg Aptitude Test.

Aptitude tests are used for instructional purposes to adapt students to courses, or curriculum to student groupings, or to design assignments for students who differ widely in ability in the same class. Aptitude test scores can help teachers form realistic expectations of students. Knowing something about the ability level of students in a given class can help a teacher identify which students are not learning as much as could be predicted on the basis of ability scores (Gronlund, 1985).

Aptitude test scores are useful in educational, personal and vocational guidance. In vocational guidance, the educational requirements of some jobs require considerable general ability. In vocational and personal guidance, the measurement of differential abilities may facilitate self-understanding. Students will be able to understand themselves as individuals and as members of a group. They can be helped to set realistic goals based on their abilities, strengths, and weaknesses (Gronlund, 1985).

The results from aptitude tests can be used to gain supplementary information for curricula planning and evaluation. An idea of the general ability level of a school is helpful in determining how much emphasis should be made on college preparatory programmes. Aptitude tests are used to help identify students for early admission to kindergarten or for acceleration at different grade levels. Aptitude test data is used for research, development, and employment. Using modern statistical tools researchers have found that ability tests do quite consistently predict subsequent job and job training performance (Mehrens & Lehmann, 1978).

(c) Interest Test

Interest tests are psychological tests to assess a person's interests and preferences. These tests are used primarily for career counselling. Interest tests include items about daily

activities from among which applicants select their preferences. The rationale is that if a person exhibits the same pattern of interests and preferences as people who are successful in a given occupation, then the chances are high that the person taking the test will find satisfaction in the occupation. A widely used interest test is the Strong Interest Inventory.

(d) Personality Test

A personality test is a method of assessing human personality constructs. Most personality assessment instruments are in fact introspective (i.e., subjective) self-report questionnaire measures or reports from life records such as rating scales. Attempts to construct actual performance tests of personality have been very limited. One exception however, was the Objective-Analytic Test Battery by Raymond Cattell in 1940s and 1950s, a performance test designed to quantitatively measure 10 factor-analytically discerned personality trait dimensions. Personality tests are used to measure the types and traits of the individual's personality. Personality tests diagnose personality disorders, like anxiety, depression, aggression and cognate personality dysfunctions, exceptional students, and many more. Studies of personality play outstanding roles in education by influencing social interactions in the classroom, teacher-student rapport, students' self-esteem, prosocial behaviour, motivation and classroom conduct, and cognitive performance (Matthews, Zeidner & Roberts 2006). It also predicts something about how a job applicant will act in some workplace situations. For instance, a person who is high in conscientiousness will ordinarily be less likely to commit crimes against the employer.

(e) Attitude Test

Attitude test assesses an individual's feelings about an event, person, or object. The individual's attitude towards the environment, other people or places is judged in this kind of test. In education, the right attitude enhances learning and academic performance. It is attitude that determines whether a child learns or not and to what extent. Thus, attitude test in education enables the teachers and counsellors help the child develop the right attitude for effective learning. Attitude scales are also used in marketing to determine individual and group preferences for brands, or items.

(f) Achievement Test

Achievement tests measure the degree to which an individual has mastered certain instructional objectives or specific learning outcomes. An achievement test is a test developed to measure skill or knowledge. Achievement tests assess the proficiency of students (Obilor, 2019). Proficiency is the amount of grade-appropriate knowledge and skills a student has acquired up to the point of testing. The most common types of achievement tests are the standardized test and the classroom (or teacher-made) test developed to measure skills and knowledge learned in a given grade level, usually through planned instruction, such as training or classroom instruction. Achievement test scores are often used in an educational system to determine the level of instruction for which a student is prepared. High achievement scores usually indicate a mastery of grade-level material, and the readiness for advanced instruction. Low achievement scores can indicate the need for remediation or repeating a course.

When writing achievement test items, writers usually begin with a list of content standards (either written by content specialists or based on state-created content

standards) which specify exactly what students are expected to learn in a given school year. The goal of item writers is to create test items that measure the most important skills and knowledge attained in a given grade-level. The number and type of test items written are determined by the grade-level content standards.

Achievement test is useful and used in many ways, which include that it helps the teacher to know whether the class is normal, average, above average or below average (Obilor, 2019). This knowledge enables the teacher to appreciate the level of language to use to deliver his instructions, what teaching method is appropriate and which teaching aids will serve the purpose of ensuring that the entire class benefits from his instructions. He formulates different strategies to cater for different levels of the class, those above average, normal, average and even those below average. Without a test the teacher would treat every member of the class the same way causing especially those below average to be frustrated and possibly drop out of school.

A well-designed achievement test used which covers the entire subject matter of instruction measures students' academic achievement in a given course. It assesses how much the specified instructional objectives for the course or programme have been achieved. The result of the test enables the teacher know areas that have been properly grasped, areas of difficulty, and areas that require special attention. The import is that the teacher uses the results of achievement tests to ensure that all willing members of the class achieve the instructional objectives specified for the course or programme.

Achievement tests help teachers and students know the efficacy of learning experiences. Learning is not done for its own sake but is aimed at preparing the learner for future challenges and opportunities, for good living and ability to be able to surmount obstacles and move on in spite of all odds in life (Obilor, 2019). Thus tests help students to optimise their learning in a given course or programme; tests also enable teachers to succeed even when students are not prepared to learn by redirecting their attention and making them realise the consequences of failing the course or programme. Tests further make students to do extra to learn in spite of teaching that is not adequate.

It diagnoses students learning difficulties and to suggest necessary remedial measures to ameliorate the situation. Through the use of formative and diagnostic tests, teachers uncover students' special difficulties and design lessons and teaching aids to take care of such difficulties. Tests enable teachers know the strengths, weaknesses, and existing knowledge level of students before and during instructions. Thus, test results enable teachers render guidance and counselling services to students by guiding them take measures to develop their competencies and potentials, thereby improving their learning and performance.

The most important uses of tests in education are classification and certification. Test results are used to grade learners and put them in classes, grades, or groups. They are used to rank learners, certificates and degrees. Very importantly tests are used to certify whether or not learners have mastered the objectives of the course or programme they have undertaken. This holds sway for teachers and for students. The certification of teachers through testing is a prerequisite for them to teach any learner. Imagine the level of disaster that would occur if someone who did not go through the "furnace" of education and was not certified "learned enough" goes to teach the students; and imagine that those he teaches without testing also leave and become teachers, doctors, engineers, and more. We shall have a world of doom, pain and unhappiness, to say the least.

Drawbacks of Tests

Tests have some drawbacks when they are not properly constructed. Such tests are not able to measure the different levels of learning outcomes. Some classroom tests do not cover comprehensively the topics taught. One of the qualities of a good test is that it should represent all the topics taught. Others lack clarity in the wordings: The items of these tests are often ambiguous, not precise, not clear, and most of the time carelessly worded. Most classroom tests fail item analysis test. They fail to discriminate properly and not designed according to difficulty levels.

Conclusion

There cannot be any education without tests. Test is a vital component of education. Any education without test is a total disaster: Certificates and degrees awarded will be worthless without test as even those who did not go through the “crucible of education” will also have certificates and degrees. It will be like pastors of one-man churches who did not write any tests to become priests and they rose from priests to pastors to bishops and to arch-bishops within two to three years. It is one of the reasons for the confusion in Christianity which needs correction: Having teachers who were not properly trained and certified through appropriate testing.

Proper education and testing should be applied in all spheres of life. It must be noted that in this paper, the tests referred to, are tests that have the requisite psychometric properties of validity, reliability, usability, and appropriate difficulty, discrimination and distracter indices; tests that are administered in “examination ready environment” with proper sitting arrangements and supervision.

Recommendations

All educational programmes should be certified through appropriate testing. There should be no exceptions. The tests should be properly constructed with requisite psychometric properties of validity, reliability, usability, and appropriate difficulty, discrimination and distracter indices; tests should be administered in “examination ready environment” with proper sitting arrangements and supervision. The scoring and grading of these tests should be standardised for apt interpretation and general acceptability of the certificates and degrees therefrom.

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