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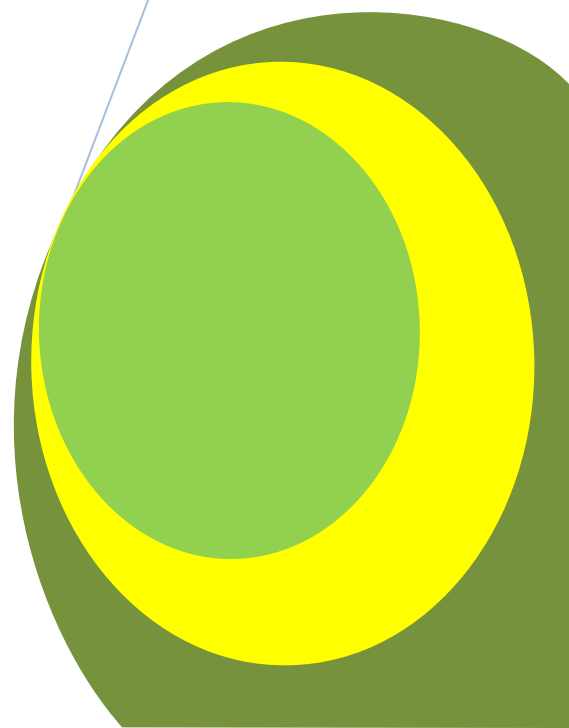
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The Use of Psychological Testing in Diagnostic, Formative and Summative Evaluation: Counselling Implications to the Present Day Educational System in Nigeria

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ABSTRACT

This write up examines the use of psychological testing in diagnostic, formative and summative evaluation. Attempt was made to highlight some principles of psychological testing, types and advantages of formative and summative evaluation. It concludes by stating the counselling implications to the present day educational system in Nigeria.

Keywords: Psychological Testing, Counselling Implications, Educational System.

INTRODUCTION

Everyone has had an experience with test. A test is a measurement device or instrument used to quantify behaviour in the cognitive, affective and psychomotor domains. It is useful in the understanding and prediction of human behaviour. A test can be defined as a critical examination, observation or evaluation of traits, objects, people or events (Alonge, 2004). It can also be said to be an ordeal or oath required as proof of conformity with a set of beliefs. Testing is a procedure or techniques intended to establish the quality performance or reliability of something especially before it is taken into widespread use. Psychology is the scientific study of the human mind and its functions especially those affecting behaviour in a given context. It can also be defined as the mental characteristics or attitude of a person or group. Therefore, psychological test is defined as an instrument designed to measure unobserved constructs, also known as latent variables. Psychological tests are typically, but not necessarily, a series of tasks or problems that the respondent has to solve. This can strongly resemble questionnaires but this type of questionnaire was designed to measure unobserved constructs i.e. asks for respondent's typical performance. According to Mellenbergh (2008), a useful psychological test must both be valid (i.e. there is evidence to support the specific interpretation of the test results) and reliable (i.e. internally consistence or give consistent results over time). It is important that people who are equal on the measured construct also have an equal probability of answering the test items correctly. Mellenbergh (1989) in his journal 'Items bias and item response theory' sighted for example, an item on a mathematical test could be "In a soccer match two players get a red card; how many players are left in the end?", however, this item also requires knowledge of soccer to be answered correctly refers to the administration of psychological tests. Hence, psychological test is "an objective and standardized measure of a sample of behaviour". Anastasi and Urbina (1997) defined sample of behaviour as an individual's performance on tests that have usually been prescribed beforehand. For instance, the sample of behaviour that makes up a paper and pencil test on a series of items produce a test score. A score on a well-constructed test is believed to reflect a psychological construct such as achievement in a school subject, cognitive ability, aptitude, emotional functioning and personality etc. Differences in test scores are thought to reflect individual differences in the construct the test is supposed to measure. Therefore, the technical term for the science behind psychological testing is psychometrics (Shultz & Schultz, Duane 2010).

Principles of Psychological Testing

There are some principles expected of psychological testing, which include;

- **Standardization:** All procedures and steps must be conducted with consistency and under the same environment to achieve the same testing performance from those being tested.
- **Objectivity:** Scoring such that subjective judgments and biases are minimized, with results for each test taker obtained in the same way.
- **Test norms:** The average test score within a large group of people where the performance of one individual can be compared to the results of others by establishing a point of comparison or frame of reference.
- **Reliability:** Obtaining the same result after multiple testing (consistently).
- **Validity:** The type of test being administered must measure what it is intended to measure (accurately).
- **Psychological Assessment** is similar to psychological testing but usually involves a more comprehensive assessment of the individual. Psychological assessment is a process that involves checking the integration of information from multiple sources, such as test of normal and abnormal personality, tests of ability or intelligence; tests of interests or attitudes, as well as occupational, or medical history, such as from records or from interviews with parents, spouses, teachers or previous therapists or physicians
- **Psychological Evaluation:** This is a way of testing people about their behaviour, personality and capabilities to draw conclusion using combinations of techniques (American Psychological Association 2010). According to Gregory (2010), Psychological evaluation over the years, has developed from unethical methods of locking people up for tests to marry different strategies seen today. We currently see evaluations being used in several different settings for multiple purposes, such as diagnostic, formative and summative to mention a few. Evaluation draws on one's judgment to determine the overall value of an outcome based on the assessment data.
- **Diagnostic Evaluation**
 - i. Diagnostic evaluation helps to identify the student's current knowledge of a subject, their skills sets and capabilities and to clarify misconceptions
 - ii. Diagnostic evaluation helps to know students' strengths and weaknesses, so that the teacher plans better what to teach and how to teach it.
 - iii. Diagnostic evaluation is concerned with persistent or recurring difficulties left unresolved through the prescription of the formative evaluation.
 - iv. It leads to remediation or rectification (Adebule & Oluwatayo, 2011).

There are some types of diagnostic evaluation

- (a) Pre tests (on content and abilities)
- (b) Interviews (brief, private, 10-minute interview of each student).

Formative Evaluation

Formative evaluation provides feedback and information during the schooling process. Formative evaluation of an individual learner used to help individual improve performance; identification of arrears for improvement and specific suggestions for improvement. Formative evaluation can also help to provide feedback on the instructional methods and progress of a teacher. For example, at the end of the third week of the semester, the teacher can informally ask students questions which might be on a future examination to see if learning really took place. An exciting and efficient way to survey students' grasp of knowledge is through the use of clickers. Clickers are interactive devices which can be used to evaluate students' current knowledge on specific content after polling students you see that a large number of students did not correctly answer question or seem confused about some particular contents. At this point in the course the teacher may need to go back and review that topic or present it in such a way to make it more understandable to the students. It is a good practice to incorporate this type of evaluation to "test" student's knowledge.

Types of formative evaluation

- i. Student feedback collected by periodically answering specific question and their self-evaluation of performance and progress.
- ii. Reflections journal that are reviewed periodically during the semester.
- iii. Home work exercises, periodical tests examinations.

Advantages of formative evaluation

- i. Feedback to the students
- ii. Feedback to the teachers
- iii. Helps in assessing teachers' methods of teaching
- iv. It aids and guides a course to success
- v. It modifies and corrects course and programme objectives
- vi. It helps to know the areas that need remediation, rectification and modification.
- vii. It reduces anxiety about course achievement
- viii. It reduces fear of one short examination. (Alonge, 1989 & Oladunni, 1996)

Summative Evaluation

This is defined as the evaluation of an individual learner after the commencement of the instruction or the programme has been fully developed, adopted and implemented. The result is used for judgments on the overall effectiveness or to make decisions about the individual's.

- i. Verification of achievement for individual
- ii. Motivation of individual to maintain or improve performance
- iii. Certification of performance
- iv. Grades
- v. Promotion
- vi. Selection

Summative evaluation takes place after the learning has been completed and provides information and feedback that sums up the teaching and learning process (Adebule & Oluwatayo, 2011). Grades are usually an outcome of summative evaluation. They indicate whether the student has an acceptable level of knowledge-gain? Is the student able to effectively progress to the next part of the class?

Types of summative evaluation

- Final Examinations (i.e. Senior School Certificate or National Examinations)
- Projects (Thesis).

Similarly formative evaluation measures progress periodically throughout the year using formal tests as well as observations, quizzes, class discussions, notebooks and journals, reports, homework and other informal evaluative techniques. It allows the teacher to give students constant feedback to help focus and improve learning. It also allows the teacher to gain sights into how to adjust the teaching program to make it more effective and efficient. Summative evaluation measures the end result of the instruction and helps the teacher to determine if the students have mastered the course objectives. Summative evaluation often takes form of a standardized or teacher prepared "end – of – the –term or-S year" test.

However, tests are quantitative measures of student's performance and some can be used to compare students to other students and measure improvement over time. All these processes of evaluation are carried out via testing the ability, skills of an individual or students.

The counselling implications of Psychological Testing to the present day educational system in Nigeria

Testing is indeed one of the essential elements of psychology. In today's educational system, the relevance of the principles, applications and issues of psychological testing extend far beyond the field of psychology. Even if you do not plan to become a psychologist, you will likely encounter psychological tests. The more you know about psychological test, the more confident you can be in your encounter with them.

Today, one type of testing that has become central to educational advancement is academic aptitude (Russo 2011). According to Cronbach (1970), aptitude test is a proficiency test that measures ability to perform some task significant in its right. There many types of aptitude tests such as engineering, musical, reading, clerical, spatial, numerical and dexterical.

As a psychological tool, aptitude tests serve both diagnostic and prognostic functions in counselling relationship such as preparing evidence of data that will guide the counselling interview, helping to build realistic self image among counselees, setting educational and vocational goals that need to be achieved and providing significant data and vital information that could help in placement and making reasonable decision and realistic occupational choices.

Every year, millions of students take tests that are designed to measure academic progress or suitability. The testing process begins early in students' lives, some nursery or primary schools require certain tests, and thousands of children take them each year.

When these students become adolescents and want to get into college preparatory schools, thousands of them will take a screening examination. Students who want to go to a 3 – year Junior or Senior school can't avoid taking a placement tests or entrance examinations. In fact, in Nigeria, the Educational Testing Service such as WAEC, NECO, NABTEB, JAMB administers millions of tests annually. Candidates seeking admission into any of Nigeria tertiary institutions must sit for and pass UTME and PUME.

Graduate are exposed to different aptitude or recruitment tests before they are qualified for job. As sources of information about human characteristics, the results of these tests affect critical life decisions.

Psychological testing is very much a product of modern society with its unprecedented technology and population growth and unique problems. Conversely, by helping to solve the challenges posed by modern developments, psychological tests have played an important role in Nigeria education system.

Another important function of psychological test or educational and guidance use is to enhance self understanding and personal development. Test scores given to counselees serve as aids to personal decision making process.

Schools use tests in the classification of students with reference to their ability to benefit from different types of school instructions. The identification of intellectually gifted, mentally retarded, the diagnosis of academic failures and other counselling uses are possible because of psychological testing.

Researchers, teachers, school administrators, counsellors, parents, students and policy makers in Nigeria have access to data generated through psychological testing.

REFERENCES

- Adebule S O & Oluwatayo J.A. (2011); Vocational evaluation and career testing, Lagos, Gold Print Publishers.
- Alonge, M.F. (2004): Measurement and Evaluation in Education and Psychology 2nd Edition, Ado Ekiti, Adebayo Publishing Company Ltd.
- American Psychological Association (2010): Standards for Educational and Psychological testing Washington, D.C. American Educational Research Association.
- Anastasi A & Urbina, S. (1997): Psychological Testing (7th Ed.) Upper saddle River, New Jersey: Prentice Hall.
- Cronbach, L. J (1970): Essential of psychological testing: Halstead Press.
- Gregory R.J. (2010): "The History of Psychological Testing" Psychological Testing: History, Principles and Applications (PDF) Allyn & Bacon, A (i).
- Mellenbergh G.J. (1989): Item bias and item response theory international Journal of Educational Research; 13(2), 127-143.
- Mellenbergh, G.J. (2008): Chapter 10: Surveys in H.J. Ader & G.J. Mellenbergy (Eds.) Advising on Research Methods: A Consultant's Companion 183 – 209 Huizen, the Netherlands: Johannes Van Kessel Publishing
- Russo, G.S. (2011): Psychological testing Principles Applications & Issues. Boston, M.A: Pearson A & B.
- Shultz & Schultz; Duane (2010): Psychology and Work Today, New York: Prentice Hall, 99-102. ISBN 0-205- 68358-4.

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