

INTER-RELATIONSHIP AMONG ACADEMIC PERFORMANCE, ACADEMIC ACHIEVEMENT AND LEARNING OUTCOMES

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Abstract

The constructs, "academic performance", "academic achievement" and "learning outcomes which are often used in manners that create confusion refer to the different levels of measurable and observable behaviour of learners. An attempt is made In this paper to review and critique the variety of ways they have been used and suggest ways for their appropriate use. The suggestions are based on the observed consensus on the distinguishing relationship among performance, achievement and outcomes, as they apply to educational research studies.

Introduction

It is hardly surprising that there seems to be a lack of consensus among researchers regarding the similarities and differences among the constructs: academic performance, academic achievement and learning outcomes. Hence, the confusion created in the use of these terminologies when carrying out or conducting research

studies. One of the major conceptual problems of these measurement constructs, that is, academic performance, academic achievement and learning outcome, in educational research is that on one hand they mean different things to some researchers and to others they mean the same thing. To those who view them as the same, they can be used inter-changeably. The different positions held by various researchers can be attributed to the problems of measurement of performance and achievement in the United States of America public schools (Lawrence, 1998). The reason behind this problem derives largely from the fact that researchers entered into research studies through different orientations; and many were specialists in a variety of academic fields of study. These developments called for different dimensions and understanding regarding the perception and the ways each of these constructs were used in relation to certain variables. Thus, the difference gave rise to a variety of schools of thought regarding their use in research studies including educational studies.

Jimoh (1998) defined educational research as an activity designed to evolve theories, guiding the principles and practice of education. He elaborated that educational research attempts to use the method and procedures made popular in the physical science to find answers to problems facing education. According to Daramola (1992) educational research may be defined as an organised and systematic attempt to provide solutions to educational problems and to resolve

issues or uncover facts relating to teaching and learning situations in all its ramifications.

The need to carry out investigation on the many sided problems facing education and evolve new theories in education has become an important function of researchers in the society. This is due to the fact that research is undertaken to provide educators with efficient strategies of attaining worthwhile educational pursuit. Probably, this is why research has been given and put in place of prominence in an attempt to develop the country's education system.

Research is as old as human and what is dynamic in it is the approach and method employed in particular research activities Akuezuilo (1997) identified the features that characterise every research to include:

- (i) research aims at solving problem(s);
- (ii) research is based upon accurate observable experience and description;
- (iii) research is conducted in a systematic objective manner; and
- (iv) research emphasises the development of generalisation, principles or theories that will be helpful in predicting future occurrence.

There are different types of research. This is because educational problems differ and also the setting in which they occur differ. Daramola (1992) supported

this view when he stated that research involves the elements of observation, description and the analysis of what happens under certain circumstance. Probably that is why Akuezulo (1997) used a three- point analysis to classify educational research into historical, descriptive and experimental research studies. Educational research is a means to ends. In other words, research is used as one of the important vehicles towards the establishment of the relationship which exists among the various "variables" which characterise the world of education and resolve the uncertainties in it.

Variables in educational studies are those characteristics of research elements which are susceptible to manipulation according to prevailing condition imposed on the variables. These variables may be independent, dependent or moderator variables. For the purpose of this paper, efforts shall concentrated on the aspect concerned with academic performance, achievement and learning outcomes and the ways they are used in the title of research studies. The use of any of these terminologies will affect the expectations of the studies.

However, in looking at these expectations, there seems to be no agreement and uniformity in the terminology being used and the terms "performances", "academic achievement" and "outcomes" are commonly used differently by researchers and sometimes used interchangeably. For instance one may find academic performance and achievement being used interchangeably in the same

research work. Often their use has frequently created confusion among research experts and students alike. It is on this basis that effort is made in this paper to consider what the three terminologies "academic performance', academic achievement" and "learning outcomes", are all about, clarify their relationship along the way they are used with reference to research studies.

Review on Performance, Achievement and Learning Outcomes

Performance is defined as the observable or measurable behaviour of a person an animal in a particular situation usually experimental situation (Simpson and Weiner. 1989). This means that performance measures the aspect of behaviour that can be observed at a specific period. To determine performance, a performance test is conducted. Singer (1981) defined performance test as the type of mental test in which the subject is asked to do something rather than to say something. Performance test is the type of test which throws light on the ability to deal with things rather than symbols (Drever, 1981).

In relation to educational research, academic performance of a student can be regarded as the observable and measurable behaviour of a student in a particular situation. For example, the academic performance of a student in social studies includes observable and measurable behaviour of a student at any point in time during a course. In social studies students' academic performance consists of his

scores at any particular time obtained from a teacher- made test. Therefore, we can equate academic performance with the observed behaviour or expectation of achieving a specific statement of or statement of educational intention in a research. Academic performance of students consists of scores obtained from teacher-made test, first term examination, mid-semester test. And so on.

Achievement is defined as measurable behaviour in a standardised series of tests (Simpson and Weiner. 1989). Achievement test is usually constructed and standardised to measure proficiency in school subjects. In most cases, according to them. "accomplishment" is sometimes used in place of "achievement". According to Bruce and Neville (1979) educational achievement is measured by standardised achievement test developed for school subjects. What this means is that academic achievement is measured in relation to what is attained at the end of a course, since it is the accomplishment of medium or long term objective of education. What is important is that the test should be a standardised test to meet national norm. For a test to be standardised, it must be valid for over a period of time

Achievement is regarded as action of completing or attaining by exertion. It subsumes anything won by exertion, a feat, a distinguished and successful action. Simpson and Weiner (1989) contended that achievement test intends to measure systematic education and training in school occupation towards a conventionally accepted pattern of skills or knowledge. Several subjects may be combined into an

achievement battery for measuring general school proficiency either in point score or achievement age and perhaps achievement quotient.

Studies have shown that outcome is a generic word which can be used for both performance and attitude or achievement and attitude. In other words, outcome measures the general statement which provides for both academic performance/achievement and attitude. Learning outcome also provides for measurement of specific actions designed to achieve some future behaviour. However, learning outcome is more of curriculum content than measurement.

Researchers have confusedly used these terms and this is not restricted to any particular group. This is due to the fact that literature has not provided a definite clarification on the difference existing among the terms. For instance, Richard (2000) and Tony (2000) used the three terms: academic performance, achievement and outcomes interchangeably in their studies. However, Mark and Ainley (1999) were careful in the use of the terms. They distinguished among academic performance, achievement and outcomes in their words. In fact, academic achievement and labour market outcome were clearly differentiated. They observed that achieving well in school had significant influence on employment and learning outcome for young people many years after leaving school. What this suggests is that academic achievement improves or brings about outcome.

In the United States of America (USA) to qualify for recognition of undergraduate academic achievement, a student must have completed successfully certain courses achieve certain grade-point average for given semesters. In other words, it is not just one-point observation of measurable behaviour of a person that constitutes his academic achievement. In order to evaluate students' academic achievement, there should be an assessment of how well he accomplishes the programme's goals; a summary of his cumulative academic programme performance up to the point of graduation. For instance, students' academic achievement includes their accomplishment at SSCE, JSCE, among others.

It is also observed that people often refer to school academic achievement as students' graduation rate. Probably that is why it is rare to see school academic performance in relation to national education norms.

Lawrence (1998) distinguished achievement from performance when he stated that academic is a long-term ('end") while academic performance is measurable at any point in time (continual). In other words, achievement can be measured as stagnating, falling or improving over a long period.

Lawrence (1998) further classified activities that occur in performance as academic performance index. For instance, students' performance based on reading, selection of one or more schools within each district, among others.

According to him, satisfactory academic achievement award is given to recipient who maintains satisfactory academic performance and progress towards, the attainment of a degree or certificate in line with the United States Department of Education regulations This is to suggest that academic achievement is cumulative and progressive It means that academic achievement cannot be attained within a short period or at a slot.

Several studies, according to Theodore (1995) conducted in such diverse states as Maine. Florida and Washington have directly or indirectly compared academic performance of home schooled students to national norms. It was discovered that home schooled students who perform well also do well in the standardised achievement test. What this indicates is that academic performance culminates and influences academic achievement.

In addition, we can talk of academic performance or academic achievement in a subject. Stevenson. Shin-Yin and James (2001) while comparing Chinese, Japanese and American children academic achievement in mathematics' measured performance in perceptual speed, coding skill, spatial abilities vocabulary, verbal memory and general information discovered that Japanese and Chinese performed than their American counterpart. The results in these different aspects of performance affect academic achievement in Mathematics. The reason for the low

student academic achievement in Mathematics is not within the confine of this paper.

In what may look like further clarification, Illinois School Report Card Kingsley Elementary School (1999) observes that when interpreting the achievement data of small schools or districts, it should be noted that performance of a small school number of students can substantially affect schools achievement data. Thus, changes from one year to the next may be due to changes in the performance of a small group of students. Eventually, students' academic performance influences students' academic achievement.

Glass (1994) in his study on the academic performance of New Jersey's public school children, stated that data from the 1992 National Assessment of Education Progress (NAEP) were used to compare the performance of New Jersey Public School Children with those from other participating states. The comparisons were made with the raw mean scores and after standardising all states scores to a common (National US) demographic mixture. It was argued that for most plausible questions about performance of the public schools the standardised scores were more reliable and useful for knowing the academic achievement of students. This is an indication to support the earlier submission that academic performance is short term and can be teacher made test scores, while achievement are medium or long term and standardised achievement test scores.

The most critical measure of any educational system is the assessment of its students. The aim of any research is to determine the extent to which this objective is achieved. If not, why and what can be done to achieve it? The fact that modern education has different levels of aims suggests that we must measure the extent of its success in a variety of ways (Wainer, 1994). The implication of this is that it is the level of objective that goes a long way to determine the term to use. In other words it is the time frame that determines whether it is academic performance or achievement. Wainer (1994) elucidated further that the performance of more than 645000 children in 4000 public schools derived their education achievement through their performance scores over a long period of time.

Learning outcome can be measured by academic achievement and accountability (Steve. 2000). Mission and goals of the education system usually determine learning outcome. This suggests that learning outcome transcends cognitive assessment. It includes attitude and values. In research, learning outcome dwells on academic achievement and attitude of the students For example, among the purpose of Northern Michigan University (2000) outcome assessment plan for students is to obtain quantitative and qualitative information for use in evaluating and ultimately improving the quality of teaching and learning to meet its stated goals in academic programs. Also, NMU (2000) had as its outcome the ability to write, interpret, develop positive attitude and speak clearly and effectively which

will enhance their learning as undergraduate and throughout their lives after graduation.

Thus, it is becoming very clear that learning outcome is a comprehensive plan for measuring both academic performance/academic achievement and attitude. It is observed that majority of studies avoid the use of outcome. This (may be due to its generic nature or vagueness.

NCA (2000) provided ways of measuring students' learning outcomes. These are:

- (i) assessing learning gains through pre-test and post test measures;
- (ii) questionnaire and self report measures.

Measurement of outcome is considered most effective means of finding out information about students. Probably that is why Outcome Based Education (OBE) is developed in USA. Mueller (1992) stated that OBE is developed in response to the deteriorating performance of students in public examinations. OBE, according to Mueller (1992) is easy to identify by phrases that go along with it namely, performance outcome, learning outcome, exit behaviour and whole-child development, authentic assessment, learner outcome certificate of mastery, holistic education, critical thinking and lifelong learning.

Conclusions

An attempt has been made in this paper to highlight the interrelationship among academic performance, academic achievement and learning outcome so that a consensus can be reached among researchers on the appropriate use of these terms. These terms serve as the basis of making decisions on the direction of research, the methods to adopt in a study and instruments to employ so that conclusions will be valid. A good example of such direction can be illustrated:

- (i) Effect of a teaching method on academic performance of students in social studies:
- (ii) Influence of family background on academic achievement in social studies;
- (iii) Effect of learning strategies on learning outcomes of students in social studies.

The good use of these terms rest on the intention of the researcher and what areas or levels of objective he/she wants to cover. In Wanner's (1991) view, learning outcome can be satisfied only if the research study cover measurement of cognitive aspect of behaviour and attitude. He stated further that a research will satisfy academic achievement and performance if the study is limited to standardised achievement test and teacher made test respectively. That is, if a researcher wishes to conduct research study of learning effectiveness using teacher or researcher

made test score, it is considered good practice to make use of the term academic performance. Why is it helpful to make use of the term? This is based on the fact that the scores are obtained from non-standardised performance index. The term achievement can be used when we are dealing with scores obtained by students from standardised test called national norms by Wainer (1994). It may be suggested however that learning outcomes may be used when conducting studies, that is, looking for performance or achievement an attitude of students towards a particular subject.

References

Akuezuilo, E. O (1997). *Research methodology and statistics*: Awka: Nuel Centi (Nig) Publisher.

Andrew, J C. (1998). Schooling and literacy overtime. *Research in the Teaching of English*. 30, 311 - 327

Bressler, M. (1991). A teacher reflects. *Princeton Alumni Weekly*. 93 (5), 1 -14.

Bruce, H. C. & Neville, P (1979). *Evaluation in education*. Oxford: Pengamon Press.

Daramola, S. O. (1992) *Research method and statistical analysis in education*. Ado-Ekiti. Petoa Educational Publisher

Drever, J. (1981). *The penguin dictionary of psychology*. Middlesex: Penguin Books Ltd.

Gene, V. G (1994). Education policy analysis archives. *Electronic Journal*, 2.(10), 18-29.

Howard, W. (1994). On the academic performance of New Jersey's public school children (4th ed.). Eight Grade Mathematics in 1992. *Educational Policy Analysis Archives*, 2(10), 229 -311,

Harold, S.; Shin-Yin L. & James. S. (2000). *Review of academic performance of American children*. Science Magazine, 17, 6899.

Illinois School Report Card Kingsley Elementary School (1999). *Standard achievement and goal assessment program*. EMS Home.

Jimoh, S. A. (1998). Educational research in Nigeria: Some local forces inhibiting progress and the way forward, *Ilorin Journal of Education*, 18,213-220.

Lawrence, C. S. (1998). *Review of the manufactured crisis*. ACC-VE 2001.

Mark, G. & Arnley, J. (1999). *School achievement and labour market outcome* Australian National University - Center for Economic Policy Ugam. IDEAS RePEC data.

Mueller, A. T. (1992). *Outcome based education*. Westminster Education Week September. <http://www.evergreen.edu/user/stuaduhb/evalacad.htm> (25/6/01).

Northern Michigan University (1993). *Plan for assessing students and achievement in liberal studies*. NCA Concern 2.

Richard, R. (2000). *The way we were: The myths and realities of Americas student achievement*. Economic Policy Institute/acs - VT 2000.

Singer, J. (1999). *Opinion gap: Measuring Public School Academic Performance*. ACS - VT 2000.

Simpson, J. A. & Weiner E. S. C. (1989). *The oxford English dictionary* (2nd ed.) vol. 1. Oxford: Clarendon Press.

Steve. U (2000). *Measuring academic programme performance and accountability*. Florida. Macmillan

Theodore, E. W. Jr (1995). Academic achievement in the home school. *Gazelle Publication* (pp. 25 - 26)

Tony, S (1999, January 19). The test under stress. *The New York Times*, pp. 30.

U S. A Today (2000, September 20) NCAA foundation: Academic Award MBP.

Wessel, J. (1991). *Outcome base culture* <http://www.south.wind.net/~educate/obe-crithml>. (12/3/2001).

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